

Late Onset Offending: Fact or Fiction

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Abstract

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This research focuses on a detailed exploration of late onset offending. Using the National Youth Survey (NYS) I seek to answer three-questions. First, is late onset offending a real phenomenon, second, if late onset does exist, is the evidence for it conditioned by how we define crime and delinquency? Finally, is late onset offending an artifact of measurement methodology? Most literature evidencing late onset relies on official police contact and arrest data. Propensity or control theories in general posit that late onset should not exist. Propensity, namely self-control, should be instilled early in life and if absent, result in early initiation into crime and delinquency. Research in developmental psychology seems to support this notion. The findings from this study indicate that late onset offending is almost nonexistent when self-reported measures are used leading one to conclude that contemporary evidence for late onset is heavily conditioned by how we measure crime and delinquency. A comprehensive discussion includes future directions for research, implications for theory development and methodology, and policy implications.

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Dedication

Dla Was wszystkich

You know who you are.

Chapter 1

Late Onset Offending: Fact or Fiction

Introduction:

Late onset of offending is an ignored topic in criminology. Despite repeated calls for attention to the issue, little interest is shown in understanding this phenomenon.

Sampson and Laub's (1993) life-course perspective on crime and criminality clearly posits the merits of studying this neglected group. Not only do Sampson and Laub (1993) assume late onset exists, they argue that "it is important to analyze the factors accounting for the late onset of crime and deviance" (p. 58).

The proposition that individuals can be non-delinquent and non-criminal during adolescence and experience criminal onset at later stages in the life-course is seen as suspect by some (e.g. Gottfredson and Hirschi, 1990; Moffitt, 1993). It is assumed that propensity for crime is established in adolescence, peaks through early adulthood, and subsides with age. Criminology generally posits the etiology of crime and delinquency is rooted in the formative years of childhood and early adolescence and ignores the possibility of criminal onset at life stages outside of these years. Gottfredson and Hirschi, (1990) for example, state that self-control is established early in life and when absent will lead to a lifetime of criminality and behaviors analogous to crime. Theories that address adult populations focus on desistance from crime but largely assume the initiation of criminal behavior in younger years (Laub and Sampson, 2003; Sampson and Laub, 1993).

Research on late onset is all but absent from criminology. Some, however, have entertained the idea and published works on this topic. For example, Elander, Rutter, Simonoff and Pickles (2000) explored late onset criminality in a high-risk sample of

children. Their research revealed that although a small group of people (about 6%) begin criminal offending after their 22nd birthday, these individuals were also likely to engage in a variety of antisocial, delinquent, and criminal activity during adolescence and simply avoided being formally processed through the justice system. In addition, many suffered from mental conditions such as depression, bipolar disorder, and low cognition (Elander et al., 2000). Eggleston and Laub's (2002) extensive review of longitudinal data does indeed demonstrate that a sizable population (in some cases over half of all offenders) of late/adult onset offenders exists. Unfortunately, the data used in their review (as well as their own research) relied on official records of offenders and therefore failed to capture the nature of early patterns of delinquent and anti-social behavior (see also Blumenstein, Cohen, Roth, and Visher, 1986). Gomez-Smith and Piquero's (2005) research is perhaps the most robust examination of adult onset offending to date but only scratches the surface. It is limited to the examination of four group differences: adult onset offenders versus everyone else, adult onset offenders versus non-offenders, adult offenders versus juvenile limited offenders (desisters), and adult onset offenders versus life-course persistent offenders. The study included a host of demographic, individual, and maternal characteristics to examine where group differences appear, and found that males, children of mothers who smoked cigarettes during pregnancy, and those who performed poorly on achievement tests were more likely to be adult onset offenders. The major drawback of the study is its use of the Philadelphia portion of the National Collaborative Perinatal Project (NCPP) (Niswander & Gordon, 1972). The NCPP uses official records from the Philadelphia Police Department and potentially misses a large variation of offending.

The dearth of research on late onset offending likely results from the tenable assumption that it might not exist or its presence is so infinitesimally small that it does not warrant investigation. Robins (1978) stated “adult antisocial behavior virtually *requires* childhood antisocial behavior” (p. 611, emphasis in original). Eggleston and Laub (2002) pointed out Robins’ (1978) research was very broad in her definition of antisocial behavior. Her conclusions pointing to the absence of late onset deviant/criminal behaviors were based on self-reported measures which included fighting, dropping out of school, and early marriage, in addition to crime in childhood and job trouble, multiple divorces/separations, financial trouble and criminal acts in adulthood. Eggleston and Laub (2002) and Gomez-Smith and Piquero (2005) therefore justified the use of official criminal behavior as appropriate measures of late onset criminality.

This approach is problematic from a criminological basis because it forces the assumption that official criminality is somehow unique from adolescent delinquency. Clearly, car theft is distinct from cigarette smoking in the context of the criminal justice system (CJS), but from a criminological *propensity* perspective it may be more similar than we think. In this vein, opportunity certainly matters but only in the sense that it limits the likelihood of a specific event occurring, but it has no effect on criminality (Gottfredson and Hirschi, 2003). For example a poacher in Idaho is very unlikely to be arrested for illegal elephant hunting but is more likely to be nabbed with an illegally caught trout. Although most people may find the killing of an elephant abhorrent in comparison to a trout, the motivation of the offender is likely to be constant. This individual either does not respect regulations set forth by departments of fish and game or lacks the restraint to follow proper procedures and takes the easy route instead. Similarly,

a 14 year old individual may have limited opportunities to handle the sale of large amounts of drugs or be invited to events where he or she can engage in serious violence, but the same individual may be able to procure affordable amounts of drugs and be involved in school fights.

Taking these issues into account, Robins' (1978) assessment of antisocial/deviant/criminal behavior may well have been correct and any attempt to define a "breaking point" where delinquency crosses over to criminality is potentially based on specious reasoning. This escalation may be the result of propensity at a constant within an opportunity framework which is not. If this proposition is indeed correct, any evidence of late onset presented in current research is an artifact of the use of official arrest and police contact data. Individuals in these data sets are likely to exhibit serious criminality and therefore these data miss the large variation of less serious offending and analogous behavior throughout adolescence and the life-course.

Understandably, this is a significant charge to make and empirical data-driven evidence must be presented to substantiate this claim. As of yet, there is no research that demonstrates in a meaningful manner the nature of late onset offending in individuals with no substantial prior delinquent/criminal behavior (but see Robins' work in general for a psychological perspective on this issue).

Identifying the Potential Late Onset Offender Population:

Moffitt's (1993) dual taxonomy of antisocial behavior offers insight into the enigma that is late onset offending. She specifically identified two groups of offenders, the life-course persistent and the adolescent limited offenders. The former is likely to begin exhibiting signs of antisocial behavior early in adolescence as a result of

neuropsychological deficits coupled with exposure to criminogenic environments. The latter experiences a contemporary maturity gap which “encourages teens to mimic antisocial behavior in ways that are normative and adjustive” (Moffitt, 1993, p. 674 see also; 2003; Moffitt, Caspi, Harrington, & Milne, 2002). Moffitt’s work in general suggests that most adolescents will engage in criminal or socially unacceptable behavior at some point during their development, but allows the possibility for abstainers from crime. Indeed, there is evidence that some youths do not engage in criminal offending. Farrington (1986), for example, found that seven percent of youths in a sample reported no past criminal behavior at their eighteenth birthday.

Moffitt (1993) suggested that individuals who abstain from adolescence limited delinquency likely do so for several reasons, they either do not experience a maturity gap due to late puberty, or are initiated into adult roles early enough to skip the maturity gap. In addition, some delinquents may lack structural opportunities for mimicking the behaviors of delinquent peers, either through school environment or geographic isolation such as residence in rural communities. Finally, some teens that have structural opportunities for delinquency and suffer from a maturity gap and nevertheless abstain from delinquency are likely to be “overcontrolled” (Shedler and Block 1990, p. 618). A point not raised in the literature is the possibility that individuals who have the propensity for early onset and persistent antisocial behavior as well as adolescent limited delinquency refrain from such actions as a result of extreme parental control (see Baumrind, 1968). This group may exist but is likely to be very small since children with neuropsychological deficits tend to be raised by parents with similar traits which make the parents poor disciplinarians and non-persistent youths with overbearing parents may

be limited in their exposure to peers (Aseltine, 1995; Baumrind, 1968; Cunningham and Boyle, 2002 see also Tittle, 1995; Wright and Cullen, 2001). To summarize, Moffitt would likely agree with Robins' and Gottfredson's and Hirschi's assertions that late onset offending is a very unlikely occurrence, although each may have a different take on the matter. If presented with a late onset offender as defined by official records Gottfredson, Hirschi and Robins would ask the individual, and his/her teachers, siblings, and peers about their past behaviors and likely point to the myriad of delinquent and criminally analogous acts the individual committed. Moffitt would likely argue the individual was a low-level persistor from childhood who finally got caught. All three would find it hard to believe someone actually committed their first antisocial act later in life.

The focus on crime and delinquency from a developmental psychology perspective has almost reached a consensus with regard to the assertion that antisocial behavior follows at least two major patterns, (i.e. life-course persistent offenders who exhibit criminal tendencies early and adolescence limited offenders who engage in low level criminality during their contemporary maturity gap) (Moffitt, Caspi, Dickson, Silva, and Stanton 1996). There is, however, no such consensus in criminology (Eggleston and Laub, 2002). Identifying different groups of offenders who persist in crime versus those who experiment with it briefly is a valuable finding for theories of childhood development. It is nevertheless important to mention that, despite the assumption that almost all adolescents will engage in *some* level of anti-social behavior, much of this behavior is relatively trivial in nature. Truancy, cigarette smoking, light drug experimentation, staying out past curfew, and sexual promiscuity may be concerns for parents, but less so for policy makers, administrators, and law enforcement. From a

criminal justice perspective, the onset of more serious deviant and criminal behavior is a greater concern. This is perhaps one reason existing studies justified the use of official crime data which is more likely to tap into behaviors that bring up concern.¹

According to Moffitt's interpretation, adolescent limited deviance is mimicked behavior of the criminally persistent peer groups or from a Sutherland (1947) perspective "learned" behavior. The delinquent behavior ceases when the maturity gap is closed. From a propensity perspective, as described by Gottfredson and Hirschi, the early onset offenders lack self-control which has to be learned early; they do not mention neurological deficits as the culprits unless one is to argue low self-control is a neurological deficit (see Barklay, 1997; Polakowski, 1994).

Social learning, opportunity, and life-course theory proponents base their tenets on the fundamental assumption that "context matters." Sampson and Laub (1993) believe late onset can occur and will likely occur with a turning point in life. A person who was previously employed and loses his or her job may turn to crime for example because they may lose the social capital and bonds to society which meaningful employment provided. Similarly, young persons who change their social environments by attending college, for example, may also alter their structure of social capital and bonds to conventional society. Going to college may seem to most as a step toward building more social capital and strengthening social bonds, but there is research suggesting college is at least initially a disruptive time in ones life which is met with

¹ See Chapter Two for a discussion on the use of official versus self-reported data. It should be noted that Eggleston and Laub (2002) Gomez-Smith (2004) and Gomez-Smith and Piquero (2005) all acknowledge the limitations of using official arrest data and suggest future research should focus on both official and self-report measures. Gomez-Smith (2004) Gomez-Smith and Piquero (2005) do point to Kratzer and Hodgins' (1999) study which compared official and unofficial records of those labeled as adult offenders and found that most of the individuals labeled as late onsets had no unofficial records of delinquency.

some anxiety, restructuring on peer networks, and establishing a new self-concept (see Horowitz, 1987; Moffatt, 1991).

Social learning theories propose behavior is learned and normative to those who engage in it; this applies to all behavior including crime. If these theories are correct, the late onset should exist to some amount and should be evidenced within specific environments that support some degree of criminal or deviant behavior. College can be such an environment. It is a significant turning point, social learning processes support many behaviors in a college setting that would otherwise be considered antisocial, and college environments provide opportunities for a plethora of legitimate as well as deviant behaviors.

The Case for College Level Onset:

The college experience is a unique event in the life-course of many Americans. In the fall of 2007 it is estimated that 17.6 million new freshmen began their college careers at campuses around the country (U.S. Census Bureau, 2007). For most students this is a time to grow intellectually, experiment socially, and prepare for future employment. For some, college is a time to hunker down with course materials and study while for others it is a chance to “go nuts” and live life to the fullest while doing the bare minimum to stay in school. For the majority, reality lies somewhere in between. Although college stirs popular culture images of parties, sporting events, scholarly debates, and carefree fun, in reality, college campuses and their cultural environments are not isolated from everyday life.

Crime on the college campus exists as it does elsewhere in society. A national student self-report survey shows that during a semester roughly six percent of students

were involved in a fight, four percent were the victims of physical assault, over five percent of women and almost two percent of men were victims of attempted or completed sexual assault, and over eight percent used illicit substances in the past thirty days (American College Health Association, 2007).² There is empirical evidence which shows that students do engage in criminal activity and are the victims of crime just like individuals in their age group outside of college populations (Fisher, Sloan, Cullen, Lu, 1998).

In academic and media outlets, portrayals of crime on campus have a limited focus. The media typically ignore campus crime unless it is particularly heinous or controversial such as the Virginia Tech shooting or the alleged rapes by the Duke University lacrosse team (Brantingham, Brantingham, and Seagrave, 1995; Lively, 1997). With exceptions (see Fisher et al., 1998), academic research on college crime focuses on particular types of offenses such as sexual assault or hazing-related violence within fraternities (Schwartz and DeKeseredy, 1997; Sanday, 2007). Sexual assault on campus and within fraternities in particular has generated a considerable amount of theoretical work which helped explain why these crimes occur under specific circumstances in college environments. Criminal justice literature treats other campus crime including status offenses, drug related offending, property crime, and violent crime by narrowly focusing on the extent to which these particular events occur and the nature of victimization (Fisher and Sloan 1995; Seigel and Raymond, 1992; Schreck, 1999). As a result, there is a significant amount of literature examining campus crime in the context of routine activities and opportunity, but there is limited research examining if and what

² It should be noted that this percentage might be low since sexual assault is defined narrowly by the American College Health Association. When broader definitions of sexual assault, are used this figure tends to increase substantially (See Franklin, 2008; Sanday, 2007).

it is specifically about the college experience that leads to offending. Stated more directly, there is limited research on the college offender.

A likely explanation for this lack of research is the assumption that most crimes committed by college students can be explained by existing theories which do not compartmentalize motivations for offending to a specific environment. This is likely true insofar as one can reasonably expect the effects of peers, levels of self-control, social control, strain, and so on, to influence *all* individuals' behavior in a similar way. College crime may not need its own criminological theory (but see Sanday, 2007; Schwartz and Dekeseredy, 1997). As mentioned, there is empirical and qualitative work on causes of specific offending such as sexual assault, yet one important question never asked is: to what extent does college as a social experience relate to the initiation of criminal behavior? In other words, does college facilitate the onset of criminal or deviant behavior?

Theoretical examinations of college culture are relatively rare. There is considerable research in higher education on subjects such as teaching, matriculation, student health, and campus safety, but college culture receives much less systematic attention. Moffatt's (1991) two-year observational study into college culture and behavior suggests that colleges are indeed unique cultural entities where "modern college life—not the 'student life' of college catalogues, but an earthier set of mentalities and behaviors" is invented and passed down by American undergraduates themselves (p. 44). Moffatt (1991) argued college life in the twentieth century aims to preserve adolescence and fosters an environment entirely unique from the grayer realities of the real world, he writes:

“In the early twentieth century...American social psychologists invented the modern concept of adolescence (Gillis 1974, pp 133-183; Kett 1977, pp215-244), and the burgeoning American college administration invented specialists in college adolescence, deans of students. These borrowed the notion that college was about late-adolescent development from late nineteenth-century[sic] undergraduates, making the older students’ ‘college life’ their own professional specialty, ‘student life’” (pp. 50-51)

The concept of college life as an extension of adolescence might have specific implication for the onset of a variety of behaviors including ones that are criminal, deviant, and antisocial. Whereas persons entering the workforce at around the age of eighteen are faced with the “real world,” college students have the opportunity to delay this experience for several years.

In her historical examination of more than a century of college culture Horowitz (1987) identified many subgroups within college environments. She too saw the prevalence of adolescent behaviors among college students especially in their quest for autonomy. Although her book lamented the transformation of classical liberal education into a production line process, she also argued a tenet of college culture is “the permissive social environment [where] hedonism...continue[s] to support communal cheating, violence, and rape” (Horowitz 1987, p.p. 20-21). Although Horowitz (1987) specifically applied this example to certain segments of the college population to which she referred to as *college men*, she generally supported the cultural assumption that for many individuals there is a time and place for everything and that time and place is college. Considering the numbers of individuals attending college each year, it is important to explore if and to what extent college contributes to the onset of criminal and deviant behavior.

Dissertation Research Question

This dissertation focuses on one specific question: Does late onset offending exist? This is an important question to answer for several reasons. Primarily, there are competing theoretical camps that lend support for the existence and absence of late onset offending. As the next chapter will show, this is a small question with big implications for future theoretical developments in criminology. In addition to determining if late onset exists, this research also intends to clarify whether the current evidence for late onset offending is the result of how we define crime and delinquency and/or whether it is conditioned by the use of official records versus self-report measures.

First, it is necessary to explore late onset in a general population sample to determine whether it exists at all or whether researchers have been searching for the criminological equivalent of an elusive leprechaun. If late onset does exist in the general population, the next logical step is to explore it within the college context. Specifically, looking at late onset among college populations allows for an exploration of a potential phenomenon like late onset offending within a specific homogenous local life circumstance (LLC) (McGloin, Sullivan, Piquero, and Pratt, 2007).

This research also has significant implications for social policy. If college or other turning points in life bring about onset of criminality, then it is important to provide services, support, and interventions for individuals who experience these events in order to keep them on non-criminal trajectories. If, however, propensity is established early and most or all adult offenders have histories of crime and delinquency, then our approach to crime must take a different route. Perhaps removing opportunities for some deviant behaviors which cause the most damage to others and burden our criminal justice

system is a useful solution. After all propensity theorists like Gottfredson and Hirschi argue low self-control leads to crime and analogous behaviors, but most people and in turn our criminal justice system are more concerned with crime than analogous behaviors.

It should be made clear, the goal of this research is not to provide an explicit test of two competing theoretical perspectives. As will become clear in the next chapter, there is no shortage of research offering support for social learning or self-control theories. The debate over whether crime and delinquency should be approached from a psychological versus sociological perspective predates the formal creation of these two academic fields. It is, therefore, my intention to explore late onset within the context of these competing theoretical spheres, but in no way do I intend to proclaim one perspective superior to the other. If anything, great progress could be made in criminology if we stopped treating the multitude of theoretical perspective as inherently discrete from one another.

Dissertation Layout

The following chapters will address several topics pertaining to the aforementioned research question. The next chapter focuses on the theoretical framework for explaining late onset criminality. Specifically, chapter two examines existing literature on the competing theories; those which suggest late onset should exist and those which suggest the opposite. Social learning theory is relied on heavily to explain potential late onset of criminality in college populations. Specific aspects of social learning theory are particularly germane to the present research questions, particularly the assumption that behavior is learned throughout the life-course within

social environments. Within the context of late onset offending, the next chapter includes anthropological and historical research on college culture and student life.

Chapter three discusses methodological issues and considerations. National Youth Survey (NYS) data is used to test the current research question. This data set is well suited to this investigation because it contains longitudinal self-report accounts on a variety of behaviors. The self-report nature of the data allows for a more nuanced examination of behavior which is absent from current studies that use official arrest and police contact data. The sixth wave of the NYS contains information on individuals ranging in age from 17 to 26. Identifying individuals who are in college and have committed a crime during this wave will test the late onset hypothesis. Since the data is longitudinal, both college and non-college, individuals can be traced back to their childhoods, and their histories can be explored. If individuals in college or the entire population show signs of offending where no prior history exists, then late onset offending may be real indeed. If, however, all adult offenders have prior deviant/criminal histories then propensity theories may be correct, and the issue of late onset offending can either be put to rest or generate new debates. Chapters four and five present, discuss, and sum up the research findings in terms of theoretical and policy implications.

Chapter 2

Theoretical Framework: Late Onset Offending

Introduction:

This dissertation focuses on late onset offending; specifically, the main question seeks to answer whether late onset offending is a real phenomenon or a criminological ghost. This is an important question to investigate for at least two reasons. First, criminology typically ignores the late onset offending topic; therefore, finding theoretical explanations which address this neglected group can enrich our theoretical knowledge as well as address policy implications for dealing with this particular population. Second, there are competing theoretical perspectives in criminology that suggest that late onset offending both should and should not be observed. Using the college environment as a test-bed with a host of situational factors which should impact criminality and deviance, it is possible to explore this hypothetical phenomenon within two competing criminological perspectives.

In criminology, the debate between propensity and opportunity perspectives of criminal and deviant behavior is often heated with lines drawn between the two camps (see Cohen and Felson, 1979; Farrington, 2005; Gottfredson and Hirschi, 1990; 2003; Paternoster and Brame, 1998).³ There is evidence, however, suggesting the truth lies somewhere in between (see McGloin et al., 2007; Sampson and Laub, 2000; Winfree and Bernat, 1998). As a result, some researchers advocate a cease fire between the two warring theoretical perspectives in favor of a more integrated approach (see Cullen, 1994; McGloin et al, 2007; Nagin and Paternoster; Piquero and Tibbetts; 1996).

³ This debate is often less concerned with theory *per se* and instead takes on an air of epistemological incongruence, i.e. it often centers on what we believe we know about human nature rather than criminality.

Theoretically, these divergent approaches to crime have far reaching implications for future research and policy. From one perspective, propensity theories lead one to believe late onset is a myth since the context in which crime occurs is irrelevant to criminality (i.e., situational factors matter only in the types of offenses committed) (Gottfredson and Hirschi, 1990; 2003). Propensity theories, which often assume an ontogenetic and/or static pattern of human behavior, leave little room for change over the life-course (e.g. Gottfredson and Hirschi, 1990; Moffitt, 1993). Control theories, biological theories, and classical assumptions about human behavior in general see individuals' behaviors as more or less temporally invariant (see Gottfredson and Hirschi, 1990; Lombroso and Lombroso-Ferrero 1972[1911]; Beccaria, 1992[1776]). Indeed, there is support for this assumption not only in criminology but many other studies of human behavior. To give just a few examples, psychologists, consumer researchers, and medical doctors have long recognized that tracking individuals' mental health, market choices, and medical conditions longitudinally produces considerable autocorrelation; people tend to be more like themselves from day-to-day, year-to-year than others in their cohort. Not surprisingly, such a view of human action is troubling from a policy perspective. If people are unlikely to change, why invest significant resources and efforts to change them?

Conversely, an opportunity or situational perspective emphasizes that context is essential to explaining crime and criminality. Routine activity theory focuses entirely on opportunity and ignores the offender (see Cohen and Felson, 1979). Social learning theory allows for almost endless variation in human behavior depending on contexts for learning definitions for crime, situational occurrences across the life-course, and varying

opportunities across time and place (Akers, 1998). Proponents of this perspective would likely argue late onset may be very real if social learning factors, coupled with opportunities, lead an individual to identify specific situations as opportunities for normative behavior. To relate this perspective to the collegiate experience, there is sufficient evidence to suggest that college environments offer unique opportunities for at least some types of crime which are indeed socially and culturally presented as normative.

The college environment presents us with a unique laboratory for exploring the potential existence of late onset offending. The use of NYS data and the college context offers a partial test of the two aforementioned theoretical perspectives and a more lucid exploration of a mostly unexplored area of inquiry (i.e. late onset offending). Proponents of time-stable propensity theories need not read any further than the title of this dissertation to conclude that late onset is indeed fiction. After all, who is willing to believe that a person's opportunity for crime was so limited that only later in life the individual spontaneously offends given the chance?

Opportunity and Context: A Non-Static Approach to Criminality

Scholars have produced a significant body of research validating the proposition that context and opportunity play a significant role in crime and delinquency. Much of this research does not simultaneously include measures of propensity and opportunity in a unified analytic strategy (for exceptions see McGloin et al., 2007; Winfree and Bernat, 1998), but it does offer support for opportunity theories in general. Sampson and Laub's (1993) and Laub and Sampson's (2003) theoretical advances in life-course criminology have inspired many to investigate how and why changes in life-course trajectories matter (see Nagin, Farrington, and Moffitt, 1995; van der Geest, Blokland, and Bijleveld,

forthcoming). For example, marriage has long been believed to be a precursor to desistance from crime and empirical evidence shows that marriage does indeed affect criminality by influencing peer groups, routine activities, and social control (Farrington, 2005; Laub and Sampson, 2003; Reiss, 1986; Sampson and Laub, 1993; Warr, 1998). Changes in or cessation from criminal behavior are also tied to “turning points” in one’s life (Laub and Sampson, 2003; Sampson and Laub, 1993). Turning points, identified as life events that increase social capital, establish pro-social bonds, and shape one’s daily activities, are believed to dampen the effects of propensity for offending. Like Hirschi (1969), Sampson and Laub (1993) believed social bonds are key to a crime-free life, but they also believed changes in routine activities brought on by turning points are essential to the desistance process (see Horney, Osgood, and Marshall, 1995; Wright and Cullen, 2004). If context influences criminal behavior, then theoretically we are not bound to a static view of human propensity, and onset does not have to be fixed to adolescence or early teenage years. By integrating social learning theory with our current knowledge of routine activity and opportunity theories, it is possible to use the college experience as a unique microcosm for exploring the onset of offending at different points in the lifecourse.

From situational/opportunity perspectives, college as a life event should influence the onset of some types of offending by providing unique opportunities. For example, college students are more likely to be involved in fraternity related crimes such as hazing or sexual assault than those not attending college (Fisher, Sloan, and Charles, 1995; Fisher, Sloan, and Lu, 1998). From a social learning theory perspective, a rape supportive culture in fraternal organizations should lead individuals in these

organizations to engage in sexual assault because it is not seen as despicable but is instead positively reinforced by the supportive peer group (Boeringer, Shehan, Akers, 1991; Sanday, 2007). More permissive environments for drug experimentation may cause otherwise drug abstaining adolescents to try and use drugs (Palladino, 1996). On the other hand, college cultures do not typically support theft, arson, or serious physical violence (for exceptions see Horowitz, 1987; Palladino, 1996). As a result, the individual who perceives an opportunity to sexually assault someone as normative behavior in a particular environment should be less likely to perceive a vehicle as an opportunity for car theft. If college as a situational environment matters, college students may begin to commit specific criminal acts because they perceive existing opportunities as a result of a social learning process (Ackers, 1998).

Finally, to the extent that late onset criminality is real, its emergence in college should also exhibit some unique characteristics. Events such as meaningful employment, marriage, children, or graduation from college are occurrences in one's life which affect criminal tendencies (Sampson and Laub, 1993). If the collegiate experience allows for a certain amount of "freeing" from society's conventional bonds or is the result of learned definitions for particular behaviors, then college-appropriate behavior should cease once a person transitions out of this environment. Anthropological research indicates there are significant cultural cues, norms, and expectations that come with the end of the college experience (Magolda, 2003). If cultural influences matter in how a person behaves, and turning points in life affix an individual to pro-social institutions and beliefs, then college-onset criminality should also be college limited criminality.

Propensity Theories: A Static Approach to Criminality

Propensity theorists emphasize that focusing on the types of offenses committed in a specific social setting like college is a relatively pointless task since propensity for crime leads one to recognize opportunities which are omnipresent in any environment.

Gottfredson and Hirschi (2003, p. 10) explicitly stated as much:

“To say that everyone is capable of crime is not to say that everyone is capable of *every* crime. Indeed opportunities for particular crimes may vary immensely over time and place...Such shifts in opportunity structure for particular crimes say nothing about the relation between self-control [propensity] and crime” (emphasis in original).

This is a powerful indictment of social learning, routine activity, cultural, and life-course criminological theories. Such a charge dismisses the role of opportunity or social learning entirely with regard to criminal motivation and exalts the efficacy of control theories, and particularly self-control theory, as the key explanatory factor for crime and criminality. Propensity, often measured as low self-control, suggests that traits specific to criminal and analogous behavior are established early and remain stable over time (Gottfredson and Hirschi, 1990). Research supports the proposition that individuals lacking in self-control tend to demonstrate criminal and analogous behaviors (Pratt and Cullen, 2000). If propensity theorists are correct, then offenders should exhibit a variety of criminal and analogous behaviors beginning early in life and persisting in their behavior throughout the life-course. Situational factors may influence the opportunity structure for some crimes to occur, but college or any other environment should not impact criminal onset. In short, late onset does not exist.

If this is the case, any college-level offending is more or less irrelevant to the college environment. The sexual assaulter was likely indifferent to individual's corporal autonomy in high school, the thief stealing notebook computers likely did not recognize

property boundaries throughout adolescence, and the drug dealer is as indifferent to rules governing prohibitive behavior in a collegiate setting as anywhere else in society. All of these individuals are more homogenous in the underlying causes of their criminality and delinquency than they are different; their propensity for crime emerged early and continues to thrive.

Gottfredson and Hirschi (1990) pointed out “positive learning theories of crime are redundant and superfluous because they seek to explain something unproblematic—that is, the benefits of crime” (p.71). From this perspective, no one learns the positive rewards of criminal behavior because the benefits are self-evident. Furthermore, if individuals do learn through operant conditioning as Akers (1998) suggested in his revised general theory, they should learn to cease in their criminality. After all, even the most efficient criminal can rarely compete with a law abiding citizen for resources, money, safety, security, and a generally pleasant lifestyle in the long term. Criminality generally pays in the immediate, not along the life-course. One would therefore expect individuals to learn from their cumulative negative experiences (non-social punishers) that crime does not pay.

Many individuals, however, continue in their offending patterns instead of delaying their immediate gratifications for long term goals, leading one to believe that those who fail to learn from the negative consequences of their impulsive acts probably lack the self-restraint inherent in *A General Theory of Crime*. The only way social learning theory can dismiss this line of reasoning is to suggest that individuals learn to engage in these impulsive behaviors as well as learn to neutralize the frequently detrimental consequences of these acts (see Akers, 1998; Steffensmeier and Ulmer, 2003;

Sykes and Matza, 1957). To put it more simply, control theories assume that humans are rational and will act to maximize their benefits and minimize their costs; since crime generally does not pay in the long run, individuals with self-control will cease or abstain from offending. Conversely, learning theories suggest individuals are not necessarily predisposed to a hedonic calculus and will act according to their culturally prescribed norms even if those actions are not *rationally* beneficial. This is not to say that proponents of learning theories dismiss rationality, rather they tend to argue that what one perceives as rational is conditioned by culture and environment rather than pure self interest.

Social Learning and Self-Control: Further Discussion on the Divergent Views of Propensity⁴

Before addressing the specific application of social learning theory to late onset offending, it is important to clarify the fundamental assumptions about human nature made by both learning and control theories (see Armstrong, 2003). Primarily, the two approaches have opposing views of propensity. Learning theories in general suggest propensity is not a constant human trait and can vary over time and environment. Self-control theory views lack of self-control as synonymous with propensity for offending (i.e. individuals with low self-control will not learn it at a later stage in life and will continue to engage in crime and analogous behavior).

⁴ The word “propensity” is not synonymous with “propensity theories.” Propensity theories are those which propose an individual’s criminal propensity is constant and opportunity is more or less irrelevant when it comes to motivation for offending. Control theories or *A General Theory of Crime* is what “propensity theory” refers to in this dissertation. Learning, routine activities, and opportunity theories in general are not “propensity theories.” This is not to say that according to these theories individuals lack propensity or motivation for their actions, rather these theories either do not address propensity or see it as a variable (rather than constant) concept.

Kornhauser's (1978) review of social learning theory's predecessor, differential association, led her to conclude the theory proposes "man has no nature, socialization is perfectly successful, and cultural variability is unlimited" (p. 34). Such an assessment is in line with the *tabula rasa* interpretation of human nature. If there is motivation for crime, then it is surely learned and crime is not deviance but conformity to specific cultural norms. Human nature does not allow for deviance because all humans are socialized to their cultural environments and act according to the definitions learned in that culture (or subculture). Crime and deviance can only be seen as such by someone outside of that culture, but "criminal" individuals are acting according to the norms prescribed by their culture not the norms proscribed by an outside culture.

In advancing Sutherland's work, Akers' (1998) social learning theory built heavily on differential association theory but added psychological components; primarily, operant conditioning was included in the social learning process (see also Burgess and Akers, 1966). The newly conceptualized social learning theory now includes "all of the behavioral mechanisms of learning and operant theory... as well as Bandura's (1977) conceptualization of imitation" (Akers, 1998 p. 57). Sutherland himself was a champion of sociology and a decrier of psychology (see Cohen, Lindesmith, Shuessler, 1956). Akers' (1998) revision was nonetheless necessary. Kornhauser's vehement criticism of Sutherland's work and culture theories in general insisted "since behavior is always normative, and norms derive from cultural values, behavior and culture are the same thing" (Kornhauser, 1978 p. 190). Akers' (1998) revision, therefore, proposed individuals are conditioned by the perceived rewards or consequences of their acts.⁵ This

⁵ This is a particularly good example of how rational choice plays a role in social learning theory. Rational choice, however, is not confounded in objective self interest.

suggests the individual learns to recognize the benefit of the act itself. In this vein, all acts have utility, but in keeping with Sutherland's tradition, their utility is shaped by surrounding culture (see Armstrong, 2003). Naturally, the perceived utility of any act is not fixed to any specific age group, and nowhere does the theory state that cultural learning is exclusively tied to adolescence. In fact, learning is a lifelong process and changes in the environment, such as moving to a new country, exposure to different peer groups, or attending college, should influence behavior.

Social learning theory allows individuals the capacity to change their motivation (i.e., propensity) within a changing cultural environment. Armstrong (2003) stated:

“learned increases in positive definitions are equivalent to learned increases in motivation toward crime...Additionally, social learning theory allows that changes in definitions favorable to conformity may influence propensity, leading to an increase or decrease in criminal propensity depending on the nature of change in these definitions”(p.43).

This view of human behavior clearly allows for late onset offending or any varieties of behavior depending on social circumstance. Turning points and the presentations of new environments and social/cultural expectations matter.

Gottfredson and Hirschi's propositions regarding crime and human nature are disquieting to Akers and other learning theory proponents. Akers (1998) stated that Gottfredson and Hirschi “view self-control as a result of childhood socialization... If socialization is not a learning process, what is it” (p. 39)? This is a fair point, but in terms of what is relevant to the discussion on the rigidity or fluidity of propensity is how the two theories understand human nature.

Gottfredson and Hirschi followed Beccaria's (1992[1776]) and later Bentham's (1948[1789]) view of human nature, where individuals will always seek to maximize pleasure and avoid pain, or stated more crudely, humans are creatures of comfort.

Seeking pleasure and avoiding pain in the immediate, however, is not very advantageous to most humans and delaying gratification is necessary to live a productive, crime-free, and healthy life. Gottfredson and Hirschi repeatedly used terms like “socialization” when they refer to child rearing and do believe parents need to “teach” children self-control (Hirschi and Gottfredson, 2003 pp.156-157). Self-control is certainly learned through monitoring, recognizing, and punishing unwanted behavior (Gottfredson and Hirschi, 1990), but once in place self-control will always serve the purpose of reigning in human desires which are hedonistic and epicurean in nature. Self-control serves to regulate one’s natural wants, hence “self-control.”

This view is in sharp contrast with social learning theory, which places the emphasis on positive rather than classical assumptions of human behavior. From a learning perspective, humans have no predetermined qualities of nature; they are blank slates left to social forces. Crime is learned through culture within societies and is as normative as *any* behavior.

The Onset of Criminality in College and Non-College populations:

Since abstaining from criminal and deviant behavior until later stages in life is a gross exception to the norm, one might speculate whether it is possible for criminal propensity to either lie dormant through adolescence or form at a later time. As stated before, from extant research on propensity theories, such a proposition is highly unlikely. Gottfredson and Hirschi (1990) argued self-control is established early and, if not present, will lead to crime, deviance and analogous behaviors, all of which offer excitement and instant gratification.

Robins (1978) supported this notion, stating “adult antisocial behavior virtually *requires* childhood antisocial behavior” (p. 611, emphasis in original) and antisocial personality traits rarely or never spontaneously arise in adulthood. Robins, Davis, and Nurco’s (1974) and Robins, Helzer, Hesselbrock, and Wish’s (1980) work on heroin use and addiction among Vietnam veterans largely supported this notion. Their research revealed that the majority of veterans who became addicted in Vietnam as adults and remained addicted two years after returning from war was about twelve percent. What is important to mention, however, is that this group was mostly comprised of those who had experimented with heroin or other illicit substances prior to going to war. Such a finding lends strong credence to propensity theories. The brutality or boredom of war may lead one to resort to drug use as a way of coping, but it is very unlikely that an individual who abstained from serious drug use would spontaneously turn to heroin.

For those who manage to refrain from offending until later years, opportunity for offending must be a key factor for initiation. Although opportunities are omnipresent, empirical evidence supports the idea that social contexts, peer influence, and vicarious reinforcement have an impact on the individual’s perception of opportunities which are situation-specific (see Akers, 1992; 1998). The college environment can provide an unusual mix of peer influence and, in turn, perceived opportunity that has not presented itself up until that point. In the case of late onset offending, it is possible individuals may learn certain criminal and deviant behavior prior to and during college (Akers, 1985; 1990; Burgess and Akers, 1966; Sutherland, 1947). As already mentioned, this research does not allow for an explicit test of social learning theory, but it emphasizes social learning theory’s contention that “context matters,” be it college or any other LLC.

If late onset does exist, then social learning theory offers a logical starting point for investigating this behavior. The multitude of longitudinal studies that test social learning theory often provide relatively high levels of explained variance. As with other criminological theories, tests of social learning theory most often focus on adolescent deviance such as alcohol and drug use or teenage smoking (e.g. Akers, Krohn, Lanza-Kaduce, and Radosevich, 1979; Akers and Cochran, 1985; Hwang, 2000; Hwang and Akers, 2003; Lauer, Akers, Massey, and Clarke, 1982; Spear and Akers, 1998; Akers and Lee, 1996). Applications of social learning theory to populations outside of adolescence are also available. These tests do not control for previous delinquency, therefore, we can discern nothing about the onset of these behaviors, but they do explain novel behavior at later stages in life. Some of these tests include dependent variables like sexual coercion and rape among college students, terrorist violence, and alcohol abuse among the elderly (Akers, 1992a; Akers and LaGreca, 1991; Boeringer, 1992; Silverman, 2002). It is possible that, for some individuals, social learning factors contribute to the onset of criminal behavior at later stages in life but such a test has yet to be performed.

To understand how the college experience (or any LLC for that matter) might contribute to the onset of deviant or criminal behavior, one can explore it in the context of social learning theory. The theory offers four major concepts which explain the onset of criminal or deviant behavior—*differential association*, *definitions* favorable to engaging in some type of behavior, *differential reinforcement* of behaviors, and *imitation* of others' behaviors. All four of these concepts can be related to college, non-college, or

other populations (see Sutherland, 1947; Akers, 1998).⁶ As presented in the next chapter, college is but one of several subpopulations used in this research.

Differential association refers to both direct and indirect contact with individuals who engage in certain types of behaviors and support normative attitudes for engaging in said specific behaviors (Akers and Jensen, 2006). These associations may vary in their nature; for example, some primary associations are very direct and personal, such as those involving families, relatives, and close friends. Others may be more distant, such as culturally supported reference groups including mass media and other virtual groups (see Warr, 2002). Generally, the extent to which these associations influence one's behavior depends on the *priority* (those associations which occur early in life), *duration* (those associations which last longer will have greater influence), *intensity* (those which exert the most affect on the individual), and *frequency* (those most repeated).

For students entering college, *intensity* and *frequency* should prove to be particularly salient factors for learning behavior in a college setting. The influences of *duration* and *priority* should be less important once in college but should play an important role in the early lives of college-bound students. Literature on college culture and student behavior offers support for such assertions. Moffatt's (1991, 53) anthropological investigation into college life revealed that within one month of arriving at college the average freshman considered 5 to 6 persons to be "close friends," defined as those who the student considers close enough to discuss a serious problem with rather than seeking advice elsewhere. Others also supported the idea that for those entering college there is a desire and expectation of making many friends quickly and establishing

⁶ The goal of this section is to provide a concise framework for exploring social learning theory as it might apply to college and non-college populations. For a thorough explanation of social learning theory see Akers (1998).

college bonds (see Christie and Dinham, 1991). The same is not true for other post-high school populations, such as those gaining full time employment or those who choose to live with their parents and friends and engage in sporadic employment, because these individuals typically do not alter the composition of their peer groups (Creed, Muller, and Patton, 2003, Gore, Aseltine, Gölten, and Lee, 1997).

Research suggests the *intensity* of early college relationships is unique when compared to other groups and is likely to influence the scrutiny and discretion persons normally use when choosing peer groups. Whereas traditional arguments for criminal propensity cite the old adage of “birds of a feather flock together” as an explanation for deviant persons seeking out deviant peers, the same may not hold for college students who make many new friendships in an unfamiliar environment under less than discriminating conditions (Paul and Brier, 2001). Put differently, individuals who were not previously deviant or criminal might for the first time encounter friends who do exhibit the propensity toward said behavior but may not avoid such relationships because of either lack of discretion or a pretense of college safety (Paul and Brier, 2001).⁷

College also provides an environment where frequency of associations should be high once peer networks are established. Moffatt’s (1989; 1991) research revealed the majority of students (70%) have a significant amount of free time. After accounting for sleep, studying, class, and university bureaucracy, most students have roughly 10 hours of free time per day for fun which:

⁷ There is scant empirical evidence to support this notion but qualitative research suggests colleges are unique in that they offer a perception of a carefree continuation of adolescence where there is an expectation of safety and population homogeneity (i.e. every college student is unique but more alike than different) (see Moffatt, 1991; Palladino, 1996). This is not to say that individuals of a different “flock” will continue their associations indefinitely only that associations may occur which under different circumstances may not have.

“includes such easy pleasures as hanging out in a dorm lounge or elsewhere, gossiping, wrestling and fooling around, thinking up the odd sophomoric prank, going to dinner or having a light or serious discussion with friends, ordering out for pizza, visiting other dorms, going out to a bar, flirting and other erotic activities, and so forth” (Moffatt, 1991 p. 47).

Considering that situational factors make peer contact more frequent within college populations than other environments, contact with peers, some of whom are deviant, may also be more frequent.⁸ Social learning theory postulates that, as patterns of differential association become balanced toward greater exposure to deviant behaviors and peer-supported attitudes and behaviors, the probability the individual will perform those behaviors increases (Sutherland, 1947; Akers, 1998). This process is not quite as clear as once believed, for example Warr and Stafford (1991) found peers have more influence when they actually engage in behaviors rather than voice approval.

Matsueda and Anderson (1998) tested the “birds of a feather” or homophily hypothesis and found conflicting results which supported propensity and learning theories. Using a three-wave lagged-effects model, Matsueda and Anderson (1998) disentangled the effects of delinquency on peers and peers on delinquency. In doing so, they argued control theories should not allow for an effect of peers on delinquency and any effect peers have should lend support for learning theories. Their findings indicated delinquency had twice the effect on peers than the other way around, giving greater support to control theories. Nonetheless, they argued the effect is not total and peers’

⁸ Research indicates that post-high school populations vary in the amount of free time they possess, with those obtaining full-time employment having the least free time and those living at home and not working having the most. What is important to mention per this discussion on the nature of peer influence, is that those who gain full time employment are likely to establish some new peer networks but have less time to be influenced by them and those who remain at home tend to have more free time, but maintain many of the peer networks they established during high school. College populations, therefore, are unique in how peer networks form within them. For literature on these topics see Creed, Muller, and Patton (2003), Safran, Schulenberg, and Bachman (2001) and Zimmer-Gembeck and Mortimer (2006).

effect on delinquency is still significant; therefore, learning theories are supported. It is also possible the effect of peers on delinquency is not the result of *differential association*, *definitions*, *differential reinforcement and/or, imitation* as stated by social learning theory, but instead the result of greater exposure to opportunities (see Armstrong, 2003; Warr, 2002).⁹

These findings suggested that peer groups appear to cluster along similar interests and predispositions. The effect of peers on delinquency, be it a relatively small one, requires some explaining. From a social learning perspective exposure to peers should lead to an increase in definitions favorable to crime and in turn an increase in propensity. This interpretation leaves some promise for late onset offending whereby an individual increases his/her propensity through a socialization process at a point later in life (e.g. during college). Armstrong (2003) offered an explanation of Matsueda and Anderson's (1998) findings consistent with self-control theory by suggesting peers expose individuals to greater opportunities for offending rather than transference of attitudes, he went on to say, "an individual may 'learn' about these increased opportunities, increasing the likelihood of the occurrence of a criminal act without a change in enduring individual propensity" (p. 49). From this perspective, late onset is less likely to occur since peers may cause an increase in opportunities, but it is nonetheless unlikely that a person with propensity would spend their entire adolescence sheltered from opportunities.

Definitions are the next crucial component of social learning theory and play an important role in the onset of deviant and criminal behavior. Within the theory, *definitions* should be understood as an individual's attitudes which include justifications and social as well as personal orientations which affect how different behaviors are

⁹ Matsueda and Anderson (1998) did not control for opportunities in their study.

defined as right or wrong (Akers et al., 1979; Akers, 1998 see also Sykes and Matza, 1957). In the most basic terms *definitions* are learned at an early age and continue to be acquired throughout life. These *definitions* explain why people behave the way they do in given situations and can be adhered to by the individual with varying intensity. In most cases, *definitions* learned from socialization in common belief systems held by conventional society provide definitions unfavorable to law violation (Akers, 1998; Akers and Jensen, 2006 but for a different perspective see Hirschi, 1969; Kornhauser, 1978).

In exploring college-level onset of deviant and criminal behavior, understanding the role definitions play serves a dual purpose; it explains how popular culture supports some criminal behavior in college and explains the role opportunity plays in offending. Representations of the college experience in popular culture supports a wide variety of behavior which would otherwise be unacceptable (Boyer, 1987; Horowitz, 1987). Movies such as *Animal House*, *Revenge of the Nerds*, *Back to School*, *Van Wilder*, and countless television shows depicting the infamous *Spring Break* offer incoming freshmen the idea that college is as much about “going nuts” as it is about making the grade (see Kett, 1977; Palladino, 1996; Moffatt, 1991). It is important to mention that the activities depicted in these representations deal with criminal and deviant dependent variables of a less serious nature. Depending on location, many campus police departments may not view some of this typical college behavior as criminal *per se* and various college institutions such as student conduct offices and boards deal with students much in the same way other institutions of social control deal with adolescent malfeasance (see Bordner and Petersen, 1983).

Definitions learned from such outlets as media or popular culture, should cause some individuals to for the first time engage in criminal and deviant behavior which is often seen as synonymous with the college experience. Even though not everyone drinks and parties in college, there is enough support from external and interpersonal associations to learn *definitions* for engaging in activities such as underage drinking or drug experimentation. Furthermore, to the extent these *definitions* come from external sources such as media, they should be learned earlier in life (*priority*) especially for those who consider themselves college bound and looking forward to their rites of passage in the campus environment.

The *priority* and *duration* components of *differential associations* specified in social learning theory should also have a significant influence. *Definitions* learned early and persistently in life come not only from media but also from parents and older siblings who attend(ed) college (Horowitz, 1987). There seems to be a tapestry of college lore woven through oral histories of college legacies which embellishes the frivolity and hedonism of college life.¹⁰ It is possible as Akers and Jensen (2006) note that for some individuals it is not the *definitions* favorable for this behavior which cause one to act criminally, but rather *definitions* for some conventional behaviors during college are so weakly held they fail to promote non-criminal and non-deviant behavior.¹¹ Alcohol consumption for example, seems to fit this pattern of behavior where most individuals who attend college know what society deems to be appropriate consumption. It is

¹⁰ This type of cultural transference occurs most often in privileged families; Horowitz (1987) disdainfully attributed these behaviors and expectations to “college men” (fraternity members). It is likely first time college students, minority students, foreign students, and self-employed students have much different expectations of college.

¹¹ It should be pointed out that Akers and Jensen (2006) essentially reworded Hirschi’s (1969) concept of “beliefs” encapsulated in his original control theory.

generally appropriate to drink in moderation or not drink at all depending on social setting. The permissive college environment seems to shirk off such puritan approaches to intoxication by actually celebrating overindulgence (Horowitz, 1987; Paladino, 1996). From this perspective an individual who is socialized to perceive alcohol consumption through a moral lens where over consumption is inappropriate, may disavow their previous stance if they have been simultaneously socialized to view college as a period of time in ones life to cast off the social conventions of those outside of a college environment.

Definitions also explain how opportunity plays a role in offending. In particular *definitions* cause an individual to perceive opportunities in given situations. *Definitions* alone do not necessarily cause one to act on an opportunity rather they “are learned approving, justifying, or rationalizing attitudes...that facilitate law violation in the right set of circumstances by providing approval, justification and rationalization” (Akers and Jensen, 2006 p. 39). Whereas propensity theorists argue low self-control is sufficient for spotting opportunities, social learning theory requires favorable *definitions* to be present for an individual to act on an opportunity. Clearly this assumption applies to many behaviors and sectors of society but it may apply in a unique way to college populations in terms of onset. If some *definitions* learned prior to or upon entry into college apply specifically to the temporal realm of college years then it is reasonable to propose that at least some behavior will not be seen as acceptable and opportunities will not be provided until one becomes a student.

To complete the explanatory process by which onset of behavior occurs it is important to explain the role *differential reinforcement* and *imitation* play in college and

non-college populations as well as the types of behaviors which the two groups will exhibit. *Differential reinforcement* as conceptualized by Sutherland (1947) affects an individual's behavior by both rewarding it (*positive reinforcement*) and not punishing it (*negative reinforcement*). Put simply as the balance of reinforcement leans toward rewards from actions taken or sanctions avoided the more likely the behavior will occur and persist. Reinforcers can be social as well as non-social. Social reinforcers should have the greatest effect on behavior and consist of verbal and physical responses of others when behavior is displayed. Approving or disapproving remarks, body language, and social sanctions all play a role as reinforcers and punishers. Non-social reinforcers and punishers can include drugs and alcohol by way of the pleasant effects they bring or the unpleasant consequences they lead to. In the abstract, *differential reinforcement* does not provide a reason to believe that college and non-college populations should be affected differently in terms of onset of criminal behavior. After all alcohol or drug effects are not unique to college and there are a variety of direct and vicarious reinforcers in various social settings and media depictions. Taken with other theoretical components mentioned thus far, however, *differential reinforcement* should have an effect through the influences of *definitions* and *imitation*.

Finally, *imitation* is the last theoretical component which should be particularly important for the actual onset of some novel behavior (Akers, 1998; Akers and Jensen, 2006; Sutherland and Cressey, 1978). *Imitation* refers to engaging in behavior after either a direct or indirect observation of behaviors performed by others. These presentations of behaviors can include observing a peer (most direct) or a depiction in media (least direct). The impact of these observations on ones likelihood of imitating a behavior is influenced

by the reinforcement one perceives the actor receives. For example, if a peer's behavior is rewarded through approval by friends, one is more likely to imitate this behavior, because one anticipates similar reinforcement. To be clear, the temporal ordering of social learning theory's components as they relate to onset should flow as follows: The balance of *differential associations* will affect the balance of *learned definitions*, the *imitation* of peer or indirect individual's behavior will lead to onset as the anticipated balance of *reinforcement* shifts to an expectation of positive feedback or lack of sanctions from peers (see Akers, 1998; Akers and Jensen, 2006).

If we apply this temporal ordering to college examples, we can understand why social learning theory should predict the onset of college level criminality or more generally the onset of criminality in specific environments not anchored to enduring propensity or limited to onset during adolescence. For example, if fraternities or college parties cause an individual to binge drink they do so by influencing the individual in a specific way. For this individual, excessive drinking was perhaps *differentially reinforced* by parents or older siblings who attend(ed) college (*priority and intensity*) and movies and general media depictions of *wild* college behavior (*duration and frequency*). This process taught the individual *definitions* favorable to engaging in this behavior by encouraging *imitation* as a result of *differentially reinforcing* the expected benefits of such unruly mischief by way of pleasurable effects and peer approval and acceptance. This process can be applied to a host of college behaviors ranging from relatively benign to the more serious offenses.

As a result of this learning process, if opportunity and situational factors matter, we should see late onset offending to at least some degree. If college level offenders

exhibit a longitudinal proclivity to crime and analogous behavior, then context is likely irrelevant and propensity perhaps is the enduring key variable which explains the gamut of crime and criminality. Our binge drinker might have encountered the opportunity for unabashed drunkenness, but his or her behavior was not learned but rather the result of a lack of self-control which did not effectively restrain the individual from imbibing too much. This would help explain why many people congregate and party but only some drink to excess.

Measuring Crime and Delinquency: Self-Reports versus Official Records

One of the major claims proposed by the current research question is that evidence of late onset offending as currently defined is an artifact of measurement (i.e. the use of official records versus self-reported crime and delinquency). As stated earlier the goal of this project is first and foremost is to establish whether late onset offending is real. Establishing whether this reality is conditioned by our measurement and definition of crime is secondary but crucial. The debate in criminology over the utility or supremacy of one methodology over another has dominated several volumes of texts and journals. The roots of self-report methodology in the study of crime and delinquency are over a half century old and stem from the assumption that the best way to garner information on people's behaviors is to ask them about it. Yet this seemingly simple assumption has met its critics over the years. The next several pages will provide a brief history of self-report methodology and the major criticisms said methodology has weathered over past decades. Finally, the case for using self-report data to answer the current research questions is detailed with consideration for existing criticism and support.

Historically, investigations into crime and delinquency relied on official records such as juvenile court documents, arrests, convictions, or detention (Glueck and Glueck, 1950; Park, Burgess, and McKenzie, 1928; Shaw and McKay, 1942). Based on this data, crime became recognized as highly correlated with socioeconomic status (SES). Early scholars of criminology recognized the limitations of using official statistics and pointed to the real possibility that not all individuals receive the same amounts of official control from the state, resulting in systematic bias towards specific groups (see Gibbons, 1979; Merton, 1938; Sutherland, 1939). In fact, it was Sutherland (1949) who was one of the first to point out that upper classes were not immune from offending and crime was not a simple correlate of SES. Thornberry and Krohn (2000) credit Short and Nye's (1957; 1958) work as a turning point in how we measure and think about delinquent behavior. Theirs is one of the first systematic empirical bodies of research which challenged the long held belief that a direct relationship between SES and delinquency existed (see also Nye, Short, and Olson, 1958; Tittle, Villemez, and Smith, 1978). Many studies set out to confirm Nye and Short's findings by using self-report surveys to elicit responses across gender, different ethnicities, and a broader range of crime and delinquency as well as frequencies of these acts (Akers, 1964; Clark and Wenninger, 1962; Empey and Erickson, 1966; Gold, 1966; Voss, 1966). These studies generally supported Short and Nye's proposition that there was only a weak statistical correlation between SES and self-reported delinquency and any evidence of such a link is an artifact of official measures of criminality (Thornberry and Krohn, 2000).

Nonetheless, self-report data received considerable criticism. From a psychometric approach, the *reliability* and *validity* of these measures were scrutinized

(for a review, see Thornberry and Krohn, 2000). Thornberry and Krohn (2000) explored the current status of *reliability* and *validity* of self-report methodology and concluded “the available data indicate that the self-report method is an important and useful way to collect information about criminal behavior (p. 72).”

Any time we measure human behavior or attitude, some error in measurement is expected. For example, if we argue a measure is *reliable* we assume the measure will elicit the same response over multiple trials, but in reality the effects of testing will cause individuals to answer differently as they become more familiar with the instrument over repeated measures. Also, depending on data collection methods (e.g., telephone interview, face-to-face interview, or mailed questionnaires), it is likely the individual will respond differently (see Groves, 2005). These are just a few of the many concerns the field of psychometrics must contend with. To address some of these concerns, Huizinga and Elliott (1986) tested and retested panels of students with different time intervals ranging from less than one hour to over two months. They found the correlations ranged from .85 to .99 (1986, 300). Hindelang, Hirschi, and Weis’ (1981) work on measuring delinquency is one of the most comprehensive to date. Using data from Seattle schools, Hindelang and colleagues used a battery of 69 questions pertaining to official contacts with law enforcement, serious criminality, delinquency, drug use, and school and family offenses. Subjects were divided into face-to-face interviews and paper questionnaires. Some subjects remained anonymous while others were asked to provide a name. Furthermore, respondents included those with no records, police records only, and police and court records. Finally, the sample was stratified by gender, race, and SES among whites. Hindelang et al. (1981) found internal consistency to be high (Cronbach’s alpha

between .76 and .93) and test and retest correlations above .90. Although Hindelang et al. (1981) were cautious in their outright support of self-report measures because of concerns surrounding *validity*, they concluded self-report data was at the very least *reliable*. Ultimately their review concluded with general support for self-report methodology.

Hindelang, Hirschi, and Weis' (1979) major criticism of early self-report studies centered on the relatively trivial nature of delinquency measured by their instruments. The crux of their criticism rested on the unfortunate fact that many early self-report studies did not ask questions pertaining to serious offending, and therefore, it was impossible to verify whether the criteria measured in official records and self-reports were *valid* measures of crime and delinquency. Stated differently, official records could not be synchronized with self-report measures because, as the argument goes, the two were tapping into divergent constellations of criminality and delinquency. To demonstrate this potential problem, Hindelang et al. (1979) used self-report offense data, Uniforms Crime Report (UCR) data, and self-reported victimization data to assess which of these criteria related most accurately with one another. They found a much stronger link between the UCR and self-reported victimization than self-reported offending and UCR or self-reported victimization. This finding led them to conclude official reports were better at tapping into (serious) crime and delinquency than self-reports. It should be mentioned that more recent data sets like the NYS address this concern by asking respondents a wide variety of questions ranging from relatively minor offending to serious criminality.

Aside from the aforementioned tests of criterion *validity*, the most common method of assessing the *validity* of self-report data is to compare individuals' reported

behavior to their official records (e.g. Babinski, Hartsough, and Lambert, 2001; Hindelang et al., 1981; Huizinga and Elliott, 1986; Maxfield, Weiler, and Widom, 2000). The assumption being, that if self-reports are accurate we can isolate individuals who we know are criminal or delinquent and examine whether they will fess up to the offenses they committed. Any incongruence is the result of lying, forgetting, misunderstanding of instrument questions, or CJS error.

Hindelang et al. (1981) presented an exhaustive examination of the link between official records and self-reported offending and found that on average the correlation is high (around .60) but nowhere near 1.0. They found that, for white and African American females, the correlation is also strong (.58 to .65) but quite low (.30) for African American males. It is not entirely clear why this is the case (i.e. are the problems related to self-reports or official measures) (see Thornberry and Krohn, 2000). Since the official records in the Seattle study used both police contacts and court records, it is quite possible African American males were picked up by police and assigned a code for a specific offense the individuals really did not commit or did not think they committed. It is also possible the overall discrepancies in Hindelang et al. (1981) findings are the result of differential labeling of offenses by self-reporting respondents and official CJS actors whereby what might be labeled as gang activity by police officers may be seen as a simple altercation among acquaintances from the juvenile's perspective. Yet another possibility points to the relatively high level of criminal involvement among individuals who end up with official CJS records (Elliott and Ageton, 1980; Wolfgang, Figlio, and Sellin, 1972). Higher rates of involvement lead to greater chances of being caught and processed by the CJS, therefore, some individuals may be misreporting their criminal

involvement simply because they are committing many crimes and forgetting what it was they were busted for. Nonetheless, the criticism raised by Hindelang et al. (1981) and Huizinga and Elliott's (1986) research led to the inclusion of follow up questions on self-report questionnaires which allowed for greater clarity and accuracy in self-report data. For example, in addition to self-reported offending, the fourth wave of the NYS began asking additional questions regarding the nature of the offense, how others might have interpreted the offense, peer support for the offense, alcohol or drug use during the offense, specific perceptions of law enforcement, and motivation for the offense. The NYS is unique in that it asks about self-reported crime and arrests. In order to increase the *validity* of self-report arrest data, in all waves of the NYS, respondents were questioned in detail about the nature of their arrest. In addition to simply asking whether they were arrested in the past year, follow up questions include the specific details surrounding the incident, the exact time of the incident, what the charges were, and whether the respondent committed the act(s) they were actually charged with (for a general discussion, see Huizinga and Elliott, 1986).

What are the implications of these criticisms for the present research questions? The criticisms of self-report data are many, and some of the research listed above does make the case for using official statistics as accurate measures of crime and delinquency, but other researchers argue official records are inappropriate for investigating late onset offending. Moffitt, Caspi, Rutter, and Silva (2001) mentioned that onset of antisocial behavior should be extremely rare; therefore, studies which find a significant amount of late onset offending are flawed in their use of official reports instead of self-reports.

The role opportunity plays in propensity theories of crime as presented by Gottfredson and Hirshi (1990; 2003) suggests opportunities may vary but propensity remains constant. Opportunities for crime are not independent of age, meaning juveniles will be exposed to different opportunity structures during different ages. It is, therefore, imprudent to use official data which miss a large variety of crime and delinquency, especially for younger populations. The reason this variation is limited results from the definitional conceptualization of crime used by the formal CJS at the cost of excluding analogous behaviors which may not be criminal but given the age of the individual and context are nonetheless delinquent. It is very possible that young individuals whose opportunity structure for the type of offending which would pique the interest of police is limited by geographical and/or parental factors. Yet these individuals may well engage in activities such as smoking, drinking, or cheating at school. These activities are unlikely to be formally processed as crimes but point to the etiology of criminality and delinquency (see Bachman, Johnston, and O'Malley, 1992; Elliott, 1994 ; Elliott, Huizinga, and Menard, 1989).

Researchers have recognized the benefits of self-report data long ago (see Maxfield, et al., 2000). Junger-Tas and Marshall (1999, p. 292) described the problems presented by official records:

“Police statistics have a number of important drawbacks. First, police activity is mainly reactive, depending on the people’s willingness to report offenses. Police detection of offences is relatively rare. Many offenders such as shoplifters and burglars will never be arrested, and some types of crimes such as environmental or ‘white-collar’ crimes, are extremely hard to discover. Second there is much variation in victim reporting, depending on such variables as the nature and seriousness of the offense, insurance requirements, confidence in police effectiveness, and the hassle involved in going to the police station. In addition crimes where the victim is also the offender (such as drug dealing or prostitution) will not be reported at all. Third, recording of crimes by police is far from perfect and is influenced by offense seriousness, the probability of clearance by

arrest, definitional problems of offense qualification, police priorities, and organizational requirements.”

These criticisms all center on the *validity* of official records and insinuate these *validity* issues can be resolved through different measures of crime (i.e. self-reports). The goal of self-report surveys then is to establish a more accurate assessment of criminal activity and crime rates among specific populations which are more accurate and *valid* than official measures.

The Case for Self-Report Data: The NYS

Keeping the current research questions in mind, the NYS offers measurement of onset which is superior to official records. First, the NYS covers a wide range of crime and delinquency, from cigarette smoking to rape. This fact largely dismisses the criticisms pointed at early self-report instruments which mostly focused on trivial offenses. Second, research shows that individuals who have no official record of offending do engage in behaviors analogous to crime (Gottfredson and Hirschi, 2003). Patterson (1993) stated antisocial behavior is quite stable over time but manifests itself differently during the life-course (see also Wiesner, Capaldi and Patterson, 2003). For example by age five, behaviors such as impulsivity, noncompliance, disobedience, and aggression do seem to predict future delinquency, even though none of these children would be processed formally (Belsky, Woodworth, and Crnic, 1996; Campbell, 1987; Patterson, 1993; Richman, Stevenson, and Graham, 1982). By middle school, these behaviors escalate to lying, bullying, and blaming others for one's faults; all of these behaviors are analogous to crime and low self-control (Loeber, Stouthamer-Loeber, van Kammen, and Farrington, 1989; Loeber, Wung, Keenan, Giroux, and Stouthamer-Loeber, 1993).

Also, asking young individuals about their behavior appears to produce *valid* data. Loeber et al. (1989) asked parents and teachers to report behaviors of children to whom the self-report instrument was administered and found an overall high degree of correlation. For younger children, parents were more knowledgeable of their child's behavior while teachers were more accurate for older children in later years of elementary school. This finding minimizes fears that children are being systematically evasive or preternaturally deceptive in their self-reported activities.

The primary advantage of the NYS's broad range of questions is its ability to tap into a variety of behaviors which are age appropriate for studying onset and continuity of criminal and delinquent behavior. It has long been argued involvement in crime and delinquency is relatively time stable but the manifestations of these behaviors are temporally variant (Campbell, 1990; Gottfredson and Hirschi, 1990; 2003; Patterson, 1993; Thornberry and Krohn, 2000). Researchers have recognized that instruments must include age appropriate measures of crime and delinquency if they are to reflect accurate levels of involvement. If questions are inapplicable or misunderstood, then *reliability* and *validity* become serious concerns (see Campbell, 1990; Le Blanc, 1989; Patterson, 1993; Thornberry and Krohn, 2000; Weitekamp, 1989).

With these arguments in mind, it is easy to understand the benefits of self-report data for exploring late onset. As mentioned above, age and context matter when defining crime and delinquency. The reason they matter relates to the varying opportunity structures for individuals to engage in a variety of behaviors. An affirmative response to cigarette smoking is quite different for a twelve year old than an eighteen year old. Let us assume a twelve year old has a half-pack per day smoking habit. This individual is

likely committing a variety of offenses in order to smoke. He or she likely has to steal the cigarettes from a store, parent, or guardian, as well as conceal this behavior from most mainstream community members. In fact, the only persons who might approve of or ignore this behavior are other delinquent peers and inattentive adults. The same is not true for the eighteen year old who is given the legal right to smoke.

Similarly, running away from home at age twelve to fourteen is a telltale sign of problems at home and or school, whereas the same behavior may not be seen as “running away” *per se* if a sixteen or seventeen year old spends a few days away from home with friends. Skipping class is normative behavior for college students yet most K to 12 schools have formal policies against truancy. School fights in middle or high school rarely involve formal police sanctions and are dealt with within the school administration and in cooperation with parents. The same is not true for physical altercations in public areas such as bars, stores, restaurants, or parks.

Girls’ patterns of behavior differ from boys and are also treated differently by the CJS (Bloom, Owens, Deschenes, and Rosenbaum, 2003; Kempf-Leonard and Tracy, 2003). For example, girls are less likely to exhibit outwardly deviant behavior and instead tend to internalize their feelings which often leads to illegal coping behaviors such as drug and alcohol use (Simmons, 2002). Girls and young women also tend to have less formal contact with police unless they are violating their gender roles by engaging in such activities as gang crime or violent offending for example (Belknap, 1996; Chesney-Lind, 1997). Official records may miss the variation of hidden delinquency exhibited by female offenders or perhaps over represent some types of offenses which female offenders are targeted for disproportionately by law enforcement.

All of these reasons point to the benefits of using self-report measures. It may be fair to say that individuals with criminal records may or may not accurately report their past behaviors depending on a host of factors. But many individuals without official records still engage in a plethora of behaviors which are deviant and/or criminal once age and context are taken into consideration. To claim that as researchers we can pick some arbitrary point at which official arrest records or police contacts indicate a clear-cut moment of onset is wishful thinking. It is more reasonable to argue the etiology of criminal and deviant behavior comes much sooner. The large variety of criminal and deviant behaviors throughout adolescence may well have been harbingers of an initial arrest, but they were also acts of criminality and deviance.

Chapter 3

Methods

Introduction

The primary research goal of this dissertation is to establish the status of late onset offending. As mentioned in the previous chapter, there is considerable debate focusing on what constitutes late onset offending. How one defines “offending” results in different conclusions. When crime and delinquency are defined broadly there is a strong reason to believe late onset is nonexistent; virtually everyone commits some delinquent or criminal acts during adolescence (Gottfredson and Hirschi, 1990; Moffitt, 1993; Moffitt et al., 2001; Robins, 1978). Some argue this broad definition of crime is too nebulous and a precise breaking point should be picked at which we can separate real criminality from adolescent delinquency. This perspective justifies the use of official arrest data as a way of separating “real” crime from petty delinquency (Eggleston and Laub, 2002; Elander et al., 2000; Gomez-Smith and Piquero, 2005).

This distinction may, however, be baseless because official data usually captures offenders who commit serious offenses and does not include those who were not formally processed or those who avoided previous apprehensions (Moffitt et al., 2001). Furthermore, self-control proponents argue propensity should remain constant and any official crime designate is relatively meaningless. This is not to say that manipulations of opportunity structures will not affect one’s criminal activity, only that it will not affect one’s criminality. Such a stance rejects any escalation of propensity for delinquent or criminal behavior and explains variation in offending patterns as a result of changes in opportunity structures (see Gottfredson and Hirschi, 2003).

Yet other competing theoretical perspectives argue that learning processes coupled with life-course changes should exert an effect on crime and criminality and more importantly should show evidence of an effect on propensity irrespective of opportunity (Akers, 1998; Burgess and Akers, 1966; Laub and Sampson, 2003; Sampson and Laub, 1993). The current body of research on late onset offending is not only limited to a small number of studies but also to the bivariate categorization of late onset; either its existence can be proven through the fairly restrictive use of official records, which are likely to consist of more serious offending, or it does not exist because virtually *all* individuals commit some forms of crime and delinquency.

As is often the case, the world of criminology and human behavior is not bivariate. The void in current research can be filled with a nuanced exploration of late onset offending. Explicitly, the question to answer is under what circumstances does late onset emerge? To date no one has asked or explored this question, but there is available data which can address this subject in detail. By using the NYS's longitudinal self-reported data, which elicits responses on a host of behaviors ranging from the mundane to the outright criminal, this chapter discusses the methodology used to arrive at a better understanding of late onset offending. Furthermore, this research provides a test which can shed light on the proposition that current evidence of late onset is the result of official data provided by the CJS.

Data Source: The National Youth Survey Series

The National Youth Survey (NYS) is well suited to this investigation. It is one of the longest running and most extensive investigations into adolescent and young adult behavior in the world and consists of individuals in age groups pertinent to the research question at hand. Elliot (1983) describes the data as follows:

This research project, designed to gain a better understanding of both conventional and deviant types of behavior by youths, involved collecting information from a representative sample of young people in the United States. The first wave of this survey was conducted in 1976 (ICPSR 8375), the second in 1977 (ICPSR 8424), the third in 1978 (ICPSR 8506), the fourth in 1979 (ICPSR 8917), the fifth in 1980 (ICPSR 9112), and the sixth in 1983 (ICPSR 9948). For the final wave (ICPSR 6542), young adults were interviewed in early 1987 about events and behavior occurring in calendar year 1986. Data are available on the demographic and socioeconomic status of respondents, parents and friends, neighborhood problems, education, employment, skills, aspirations, encouragement, normlessness, attitudes toward deviance, exposure to delinquent peers, self-reported depression, delinquency, drug and alcohol use, victimization, pregnancy, abortion, use of mental health and outpatient services, violence by respondent and acquaintances, use of controlled drugs, and sexual activity.

This extensive battery of questions in the NYS includes information on behaviors which allow for a detailed investigating of late onset offending. It allows for the construction of several descriptive models which can examine onset under a variety of conditions and circumstances (i.e., depending on how crime and delinquency are measured).

Furthermore, it is possible to test whether college or any other LLC have an appreciable affect on onset.

Key Variables

The NYS inquires about five major categories of criminal involvement: physical/violent offenses including hitting or physical/verbal threats, sexual offenses ranging from rape and sexual coercion to prostitution, property crimes involving taking of and destroying things of value, a wide range of illegal drug use, and rule violations

such as underage drinking and smoking, being unruly, and public intoxication (see Appendix A for a complete list of items included in the following analyses).

The primary dependent variable in this research is a dichotomous measure of late onset offending where those who are considered late onset offenders are coded as 1 and all others are coded as 0. Defining what constitutes late onset, however, varies according to the analytic strategy detailed below. In some cases late onset is defined broadly while at other times the definition is more nuanced and constricted. Depending on which model is being constructed, the definition of late onset offending is free to vary.

This variation depends on which behaviors are counted as previous acts (i.e. all behaviors in Appendix A or specific types of offenses germane to college or general populations for example). Specifically, the analytic strategy identifies four specific groupings of offenses:

1. All offenses in Appendix A
2. Adolescent normative offenses
 - a. Lying about your age to gain entrance or to purchase something, for example, lying about your age to buy liquor or get into a movie.
 - b. Avoid paying for such things as movies, bus or subway rides, and food.
 - c. Skipping classes without an excuse?
 - d. Stealing or trying to steal things worth \$5 or less?
 - e. Being loud, rowdy, or unruly in a public place, disorderly conduct?
 - f. Making obscene telephone calls (such as calling someone and saying dirty things)?
 - g. Throwing objects?
 - h. Cheated on a test?
3. College normative offenses
 - a. Hitchhiked where it was illegal to do so?¹²

¹² This may seem like a strange category to include, since in recent decades hitchhiking has become increasingly rare and many states have effectively outlawed the practice. During the years in which the

- b. Been loud, rowdy, or unruly in a public place, disorderly conduct?
- c. Sold marijuana or hashish?
- d. Stolen or tried to steal things worth between \$5 and \$50?
- e. Bought or provided liquor for a minor?
- f. Been drunk in a public place?
- g. Drug use (select group of drugs only)
 - i. Used marijuana or hashish?
 - ii. Used hallucinogens, LSD, Acid, peyote, mescaline?
 - iii. Used tranquilizers such as Valium, Librium, Thorazine, Miltown, Equanil, Meproamate, etc.?
 - iv. Used amphetamines, uppers, speed, whites?
 - v. Used barbiturates, or downers, reds?
 - vi. Used codeine?
 - vii. Used cocaine?

4. Arrestable offenses warranting official sanctions

- a. Purposely destroying or damaging property that did not belong to the offender
- b. Stealing a motor vehicle
- c. Robbery
- d. Theft (more than \$50 worth)
- e. Arson
- f. Assault with intent to seriously harm or kill
- g. Serious drug dealing (heroin, cocaine, and LSD)
- h. Any previous offense for which the individual was arrested

Analytic Strategy

The NYS consists of seven waves of data which allows for tracing individuals' behaviors over time. Since this dissertation not only focuses on late onset in general but also on the onset of particular criminal/deviant behavior within a college population, it is important to pick a wave which is best suited to the college age range and also has the greatest number of previous waves to trace preceding behavior. This investigation is not limited to a college sample, in fact it is interesting and beneficial to examine onset of criminal behavior in the general population, after all the major question asks whether late

NYS was administered, hitchhiking was a common activity among young travelers and vagabonds alike (see Adler, 1989)

onset exists in the first place. As detailed in chapter two, however, there are specific reasons why one expects onset of some behaviors in college. For this reason wave six of the NYS serves as the starting point for this research.

Identifying the College Population

Wave six consists of individuals who are reporting on their behaviors and attitudes when they were between the ages of seventeen and twenty-six. The 1983 wave was interviewed in 1984 and was questioned about attitudes and behaviors during 1983, with an additional battery of question inquiring into criminal and delinquent acts during 1982 and 1981. Although some individuals in this sample fall outside of the traditional college age, this is the wave with the highest number of individuals who attended a university. Identifying the college population is achieved by triangulating three questions. One question on the survey asks whether the student attended school in 1983, and “college” is an option to choose from. Other necessary information is discerned from two additional questions. The survey instrument asks the respondents “what was the last year during which you were in school?” and “what is the highest grade you have completed” (Elliott, 1983 p. 336)? Those who reported they were in school during 1983, 1982, and 1981 and have completed a grade higher than high school respective to these three years are labeled as college student respondents.

Fleshing Out Late Onset: Constructing Multiple Models

Deriving the initial model from this data involves identifying all individuals (both college and non-college) who have committed any offense during the years 1981, 1982, and 1983. The definition of “offense” in this model is very broad and includes all criminal and delinquent behaviors reported by respondents with the exception of tobacco

and alcohol consumption if the individual's age does not make the consumption of these products a crime. Those who self-report committing an offense are assigned a filter marker associated with their household and personal identification code (PIC).

Once the sixth wave offenders are identified, their history is traced through the previous waves. To derive the initial base model, the five preceding waves are dredged for self-reported behaviors during adolescence. The five years of data are screened for any behavior which constitutes crime or delinquency, and no distinction is made with regard to the nature of the offense. This initial step is intentionally broad in order to verify what Moffitt (1993), Moffitt et al., (2001) and Robins (1978) posit in their theoretical work and research. Moffitt believes virtually all individuals will display some deviant/criminal behavior, and Robins insists adult criminality requires juvenile delinquency. Both Moffitt and Robins include non-serious offending in their definitions of delinquency, crime, and antisocial behavior in general; as a starting point, this research does so as well. By not restricting the offense to any specific criminal or delinquent act, this initial analysis is likely to show no or little evidence of late onset offending. An individual who reports serious assault at age twenty and has stolen something worth less than five dollars at the age of twelve is labeled a persistent offender according to this schema.

It is possible to argue such a broad definition is not very useful when examining crime, but one should keep in mind the etiology of antisocial behavior and criminality is believed to occur early in life and opportunities for offenses which adults may label as "serious" may not exist in abundance for young offenders. A thirteen year old who steals something worth less than five dollars in 1976 may actually be committing a nontrivial

offense when time and context are considered. If some late onset does emerge in this model, a chi-square test can determine whether there is a statistical difference in late onset between college and non-college populations.

Once this base model is derived, additional models are constructed to examine and account for specific types of crime and delinquency at different stages in the life-course. The reason for specifying different behaviors in different models is to explore whether and at what point late onset emerges. From Gottfredson's and Hirschi's (1990) perspective, once self-control is instilled in the individual, he or she should exhibit a constant ability to restrict their impulses for criminal and analogous behavior, but Moffitt (1993) finds adolescence limited offenders mimic the behaviors of life-course persistent offenders when they experience their contemporary maturity gap. This suggests that to some extent individuals who have self-control instilled in them will nonetheless rebel and mimic the delinquent behavior of others, even if this delinquency is somewhat safe and reserved in nature. These individuals are not the hardened persistent offenders most people think of when envisioning violent youth set on a trajectory of serious criminality. Rather they are juveniles who nip at and toy with more or less petty antisocial behavior.

To account for past "criminality" and remove behaviors which are relatively normative during adolescence, the second model omits from the analysis the less serious past offenses committed by young teenagers. The criminality exhibited during the sixth wave is measured in the same way as in the first model (i.e., all behaviors in Appendix A are included). Antisocial behaviors committed during the teenage years and recorded in NYS waves one through five do not include the adolescent normative behaviors bulleted above. After omitting these relatively trivial behaviors from the analysis, a general

population model will show whether some individuals may now be labeled as late onset offenders. For those who argue there should indeed be a “breaking point” which separates juvenile tomfoolery from criminality, this model provides an examination which removes the acts most adults would not consider criminal. Although most parents and guardians would be upset if their child was involved in the activities bulleted above, it would be hard to argue juveniles who skip school or sneak into R-rated movies are “criminal” *per se*. At this point, it is possible that a small number of late onset offenders will emerge. It stands to reason that if the sixth wave offenses remain defined broadly, a nineteen year old may be labeled a late onset offender if he or she becomes rowdy and unruly but has not committed more serious offenses in the past. It is possible the individual was unruly at age thirteen, but because this past behavior is not counted in this model it will appear as if the person is a late onset offender, be it a petty late onset offender. Put differently into a theoretical context, the behaviors in the second model which are counted prior to wave six constitute what Moffitt (1993) referred to as those exhibited by life-course persisters, but the behaviors measured during wave six fit into behavioral characteristics of persisters, desisters, and mildly deviant to criminal young adults.

It is also important to uncover whether there is any difference in the emergence of the late onset between college and different cohorts in non-college samples. It may be that college environments foster a learning culture which promotes some of the less serious offending, especially if college is seen as an extension of adolescence. It may also be the case that some behaviors are only perceived as college normative but in reality everyone in this age group is involved in these behaviors regardless of their LLC. Again, a chi square comparison of observed versus expected frequencies of late onset

offending can determine whether college populations are in any way unique compared to other groups with regard to the rate of onset when trivial past delinquency is removed.

At this point, the two derived models provide the most basic information related to the current research question. Primarily they explore whether late onset exists given a broad definition of past antisocial behavior and a more restricted one. Furthermore, testing whether the models show a difference in late onset between college and various non-college populations provides a basic answer: Does College as an environment or LLC matter when it comes to onset? After deriving these two models, it is likely late onset emerges, but there may or may not be a difference among college and non-college sub-sample rates of late onset offending.

To further parcel out late onset in college, a more nuanced model must be constructed to compare the onset of the so called “college normative” behaviors of the college sub-sample of the NYS and other sub-samples. As presented in the last chapter, college is a unique experience in American culture and social learning theory offers several reasons why certain types of behaviors should emerge in a college environment. At the center of this assumption is the proposition that propensity for all behaviors is learned and reinforced. It is important to remember that social learning theory views propensity as a time variable trait (Armstrong, 2003). If this is true, then much of the pre-college offending measured in the NYS is not acceptable conduct for the college-bound student (Paladino, 1996). In other words, many delinquent acts are not normative for those who are typically tracked into college. While the face of college populations has changed over the past several decades, allowing more diverse populations to enter higher education, the collegiate experience is still largely a middle class phenomenon

(Davey and Davey, 2001). Nonetheless, as with the second model described above, some trivial offending may still be seen as normative for middle and high school age juveniles. For example, it is not fair to assume an individual who skips class in high school or has a couple of beers at a party is somehow precluded from future educational options.

The analytic strategy for exploring college level offending involves two models. One model will include all past criminal/delinquent behavior and the other will suppress the more trivial offenses bulleted above (the strategy is the same as in models one and two). What makes these models unique is that their focus on college level offending is restricted to criminal/deviant behaviors which are socially defined as more or less “college-normative”. At this point acts, which are unacceptable in college or anywhere else in society are excluded from the analysis. To clarify, these models replicate models one and two but restrict the offense categories in wave six to those dubbed “college normative”. The goal is to establish whether the college environment elicits an initiation of specific behaviors which are often defined as synonymous with the college experience and opportunity structure. By tracing the histories of individuals who do engage in these behaviors through past waves in the NYS, it is possible to establish whether college is in some way conducive to onset of specific behaviors. It is interesting to see whether college level offenders do indeed exhibit patterns of behavior as posited by social learning theory (ie., do individuals who begin offending in college specialize in a few relatively benign behaviors associated with college or do they also exhibit a wide variety of offenses).

A final analysis component in these college specific models focuses on revealing whether there is any statistically significant difference in the onset of “college-

normative” criminality between college and non-college sub-sample populations. This is an important question to address because it is possible that some late/post adolescent behaviors emerge at a certain point in the life-course and college is irrelevant to this onset. It might be the case that a small number of individuals begin to exhibit low-level criminal behavior such as hitchhiking, drug experimentation, unruly behavior, and intoxication, which is not necessarily associated with a more permissive college environment but post-high school and early adulthood in general. It may be that the assumption that college environments facilitate onset is wrong and all individual in the general population exhibit some level of late onset offending in the crime categories listed below. From a theoretical perspective, this should not be the case. If there is evidence that all individuals exhibit onset of particular behaviors then it may be necessary to inquire and explain why. Again, a Chi-Square test can determine whether the presence of “college-normative” behavioral onset is different for college and non-college populations.

One can argue these behaviors are not necessarily acceptable for college populations, but qualitative research and some quantitative data show college students are at equal or higher risk for some of these activities, even though no one knows whether college students are more or less likely to initiate any of these activities at a later point in the life-course (Horowitz, 1987; Paladino, 1996; Moffatt, 1989). Some drug use such as heroin and PCP use are excluded because college students and the general population use these drugs very rarely (NIDA, 2007). Also the sale of drugs thought of as “harder” than marijuana are omitted from the analysis. Most of the behaviors listed above are what Horowitz (1987) and Moffatt (1989; 1991) would probably agree are college relevant if not college specific.

The four late onset and two diversity models outlined above explore the most relevant types of late onset one would expect to see in the general and college population. The models allow for broad and more restricted categories of past behavior and “college normative” onset behavior during wave six of the NYS. To provide an even more nuanced exploration of late onset offending, wave six offenses are separated into the five, categories of crime and delinquency addressed in the NYS. For each of these five models past behaviors are also separated into the broad and restricted categories used in deriving models one through four. At this point, there is likely to be too little variation among college populations to allow for comparisons with the general sample, but late onset in general can be explored. Finally, all models can be separated by gender and race (variation permitting) to account for any demographic differences in late onset. With this many permutations, late onset is likely to emerge somewhere. The question remains how far will we have to go to evidence it?

Is Contemporary Evidence of Late Onset an Artifact of Official Police Records?

The central purpose of this research is to uncover whether late onset is real. It stands to reason the more we restrict what we define as prior and current offending the more likely we are to eventually find some evidence of late onset. The foremost question centers on the utility of isolating this group (i.e., it may be that late onset offending is so heavily conditioned by how we have to parcel out the data, that it becomes meaningless as a subpopulation of offenders). To propose a hypothetical example, let us imagine that late onset offending emerges when we restrict offense categories to drug use among female, college students with no serious prior drug use and only trivial prior property offenses, with no serious prior violent offenses. How useful is this finding? If the data

has to endure such tedious manipulation and contortions to show evidence for a phenomenon, the findings add relatively little to our understanding of crime and criminality from a criminological or policy perspective.

Let us remember that a small but not insignificant group of criminologists believe late onset does exist (Eggleston and Laub, 2002; Gomez-Smith and Piquero, 2005; Sampson and Laub, 1993). This assumption has thus far been validated in studies which use official records. As detailed in the previous chapter, official data can be beneficial in certain circumstances but likely misses a significant amount of antisocial and criminal behavior which never comes to the attention of the CJS. It is precisely for this reason this research contends the NYS is a better source of data for exploring late onset. Although there are good reasons and previous research evidence to support this claim (see Chapter Two), the NYS allows for a test to validate this assumption.

The NYS is unique in that it allows for a partial reproduction of the methodology and definition of late onset present in studies which purport to have found it. A major argument proposed in this dissertation centers on the allegation that evidence of late onset is little more than an artifact of a methodological approach which uses official data to flesh out late onset. Being able to provide evidence of this assertion helps strengthen this argument by providing a thorough and nuanced exploration of late onset with self-report behaviors and official CJS contact.

One benefit to the NYS is that it contains information on arrests. Aside from asking respondents to report an extensive amount of information on crime and delinquency as well as other behavioral and attitudinal measures, the NYS also asks respondents if they have been arrested in the past year. As detailed in Chapter Two, there

are *validity* concerns surrounding self-reported arrest; primarily, official record checks and self-reported arrest do not always produce high correlations. The NYS did improve on previous self-report studies by asking several follow up questions pertaining to arrest as a way to minimize threats to *validity* outlined in Chapter Two. By asking respondents a battery of questions surrounding their arrest, we can be more certain the responses reflect an accurate portrait of official CJS contact as compared with previous self-reported data (see Huizinga and Elliott, 1986).

Slight limitations aside, a unique way to determine whether current evidence for late onset is the result of official record use is to use arrest measures in the NYS and trace back arrests through previous years. A question on the NYS instrument asks respondents whether they were arrested during the past year. All individuals who answer in the affirmative are assigned a filter marker associated with their PIC. Next, the previous waves of the NYS are queried for the same question. All individuals who report arrest during wave six and report arrest during previous years are considered to be persistent offenders. Conversely all individuals who have been arrested during 1981, 1982, or 1983 but have no record of arrest in the previous years are considered late onset offenders.

If official records are indeed as accurate and representative as self-reports, then the rate of late onset should resemble the first model in this analysis and at the very least should show similar results as the second, more restricted, model. If, however, models one and two show much lower rates of late onset offending than models using arrest data, the case for using self-report measures is strengthened. From extant research (Eggleston and Laub, 2002; Gomez-Smith and Piquero, 2005; Elander, et al., 2000), it is likely this analysis of arrests will produce a substantial amount of late onset offenders.

Further validation can be performed by examining self-reported activities which did not produce an arrest but would under most circumstances be considered arrestable offenses. By doing so we can demonstrate whether the claim that official records omit only the trivial offenses but accurately account for serious offending is true. Working with the population which reported arrest in 1983 but no formal CJS involvement up until this point in time it is possible to trace their histories to examine whether their avoidance of arrest was the result of non-offending, non-serious offending, or simply the chance of not getting caught. If the reason for no prior arrest record is the result of non-offending or minor offenses which most citizens would argue do not qualify as “jail/prison worthy,” the case for official data is strengthened. Although from a criminological perspective, these “trivial” offenses may be the result of lack of opportunity for more serious offending, it is nonetheless possible to test the *validity* of official records.

Since there is likely to be a sizable population of late onset offenders when official arrests are used, it is important to examine what covariates account for the presence of this population. It is almost an accepted truism that not everyone in society receives equal attention from the CJS (see Black, 1976; Bonger, 1943; Reiman, 1990). It is, therefore, likely that certain factors may explain why some individuals begin getting arrested at the end of adolescence and in early adulthood. For example, as mentioned in the previous chapter, crime was traditionally seen as a lower class or racial phenomenon and it was self-report data which revealed that many individuals from all walks of life engage in a variety of criminal behaviors (see Short and Nye, 1957; 1958; Thornberry and Krohn, 2000). When social control cannot be outsourced to the family or community, the criminal justice system steps in (see Austin and Erwin, 1990; Messner and Rosenfeld,

2000). Using the NYS data, it is possible to explore what factors elicit a formal CJS response.

Since official late onset offending is a dichotomous measure (1=late onset, 0=not late onset), binary logistic regression is used in this multivariate model. The independent variables in the equation include: gender (female/male), race (White/ non-White), college student, drug use during waves 2 thru 4, arrestable offenses during waves 1 thru 4, school grade point average (average across waves 1 thru 5), family closeness, and the Duncan socio-economic index.¹³ These variables are chosen for several reasons. Gender is included because extant research shows that men and women are treated differently by the CJS, primarily with women receiving less formal control (see Adler, 1976; Belknap, 1996). Race is also an important factor in the amount of formal control an individual receives, and these factors were probably even more significant during the time the NYS data was collected (see Wilson, 1980). College students are included in the analysis because the college experience is a central part of the current research. Previous drug use and arrestable offenses are included because each of these would warrant formal action by the CJS at the time of commission. It is interesting to see whether these previous behaviors affect the likelihood of being arrested at an age in the life-course where there is less informal control from family and peers and the increase in control by the CJS (see Cohen, 1985). School performance and closeness to family are included because these variables can be interpreted as proxies for social/family bond as well as indicators of

¹³ There is not enough variation within the race variable to make much of differential race effects. For this reason, the category is collapsed into White/non-White. The drug use measure for wave 1 is significantly different from other waves and is not included in this analysis. Drug use during wave 5 is highly correlated to use during wave 4 ($r=.596$) and is excluded to avoid potential multicollinearity. The same issue arises with the arrestable offense category (wave 4 and 5 $r=.624$). An average of the grade point average is used to avoid arbitrarily picking one wave over another. For descriptive statistics and correlations, see appendices B and C respectively.

informal control at the family level (for examples, see Hirschi, 1969). Socio-economic status is included because there is a significant body of research linking class and economic conditions to the level of formal social control one receives (see Reiman, 1990; but also see Dunaway, Cullen, Burton, and Evans, 2000).

The series of investigations outlined in this chapter should provide a much clearer understanding of late onset offending and answer many questions which have thus far been unexplored. At the end of this process, we will know whether current evidence for late onset is the result of using official records rather than self-report data. We will also have a better understanding of the point at which onset occurs. Furthermore, it will become clear whether late onset is a meaningful area of criminology to focus on or whether it is an anomaly so convoluted by numerous suppositions that it is of little use for our field. Finally this relatively straight forward investigation has big implications for competing theoretical perspectives. A recent survey of criminologists shows social learning theory is favored by the majority in our field as the theory best explaining both persistent serious offending and minor crime and delinquency, but self-control remains in the top five (Ellis, Cooper, and Walsh, 2008). Clearly these competing theoretical camps have quite the following and will stimulate much debate in the coming years, making this research timely and conducive to a better understanding of criminology.

Chapter 4

Late Onset Offending: Results

The General Population

To answer the main questions posed in this research, models are constructed in accordance with the analytic strategy outlined in the previous chapter. For the initial analysis all offenders during the sixth wave are identified. The first column of Table 1 breaks down individual offenders by subgroups (i.e. college, employed/non-college, and other). Any individual who has committed any criminal, deviant, or antisocial act during the sixth wave is accounted for with the exception of alcohol and tobacco consumption if the respondent's age allows the individual to engage in these behaviors. Of the original sample during the first wave of the NYS (N=1,725), 1,496 remain during the sixth wave. Of these individuals, 1,081 individuals committed some offense. Of the 135 college students in the sample 96 fit into this broad definition of offending, while 793 were employed but not in school. Keeping in mind the broad definitions of offending these numbers make sense, since a large portion of the population likely commits some socially inappropriate act no matter how trivial it may be.

As a starting point the first model (column 2 of Table 1) takes into account all individuals listed in the first column of Table 1 and traces their backgrounds through waves one to five. Again, no deference is made to the magnitude of the rule violation, and all behaviors are included. When the first model is derived, it appears that two late onset offenders emerge. Considering this number constitutes less than two-tenths of one percent it can be safely concluded that when crime and delinquency are defined broadly, late onset does not exist. This finding is consistent with Moffit's and Robins' assertion

that virtually all adult offenders have a history of prior deviance. Although 1,079 out of 1,081 does not technically include *all* individuals, for practical purposes it is close enough. Such a small number is within the realm of random error and it would be imprudent to make much of this finding.

Table 1 Late Onset Offending Accounting for all Offenses and with Past Adolescent Normative Offenses Removed

Subgroups	Any offense during Wave 6	Accounting for all offenses during Wave 1 thru 5	Adolescent Normative behaviors removed during Wave 1 thru 5
<i>Total Number of offenders</i>	1081*	2 (.19%)	8 (.74%)
College	96** (8.9%)	0 (N/A)	2 (2.1%)
Employed Non-college	793** (73.4%)	2 (.25%)	6 (.75%)
Other	192** (17.8%)	0 (N/A)	0 (N/A)

Percentages are presented in parenthesis

* This number serves as the denominator when calculating Wave 6 percentages.

**These numbers serve as denominators when calculating subcategory percentages.

The final model (column 3) presented in Table 1 uses the same definition of crime and delinquency as the previous models but removes behaviors during waves one to five which can be considered “adolescent normative.” The purpose here once again is to remove past behaviors which would be considered trivial and more likely exhibited by adolescent limited low level offenders. While some propensity theorists might object to one picking and choosing which behaviors are normative, the goal here is to remove

those acts that most individuals would see as generally harmless. By removing “child’s play” offenses and keeping wave six offenses broad a total of 8 late onset offenders emerges. Considering the liberal definition of wave six offenses and the intentional removal of many less serious past offenses, a population of less than one percent is not especially large. In fact, some might find it to be surprisingly small, but it stands to reason that children, like adults, engage in a plethora of behaviors and probably do not censor their behaviors according to specific labels.

At this point the data has undergone two contortions, and the evidence for late onset is bleak at best. Eight out of 1,081 is a small enough population to conclude that for practical purposes, the evidence for late onset provided thus far should not be interpreted as proof the phenomenon exists. In essence, these findings show what other scholars like Moffitt and Robins have argued all along. As an interesting side note, it should be pointed out that of the 1496 individuals during wave six, 1081 committed some sort of undesirable behavior. This means 415 individuals admitted to doing nothing wrong. It should, therefore, be pointed out that although late adolescent or early adulthood offending necessarily requires past misdeeds, a very substantial part of the population is quite well behaved.

The College Environment

The next step is to explore whether college environments possess social learning processes which enable or encourage the onset of some specific behaviors. This is a particularly interesting investigation, because theoretically there is reason to believe that social learning processes should influence the onset of some behaviors associated with college environments. While the data does not allow for an explicit test of social learning

processes in college environments or other subcategories, the theoretical logic for expecting an emergence of some behaviors is strong. For this investigation all individuals involved in “college normative” offenses listed in the previous chapter (see also Appendix A) are isolated. The first column of Table 2 lists the raw number of individuals who engaged in these specific acts. Of the total sample, 855 individuals admitted to committing a “college normative” offense during wave six of the NYS. Without going any further, this large number indicates that many individuals engage in these offenses. It stands to reason that behaviors associated with college populations are in fact behaviors many young adults engage in and there is nothing special about the collegiate environment when it comes offending. While it may be possible that college environments provide both situational opportunities and cultural cues which affect rates of specific types of offending such as sexual assault for example, the more benign activities included in this measure seem to be distributed across the general population.¹⁴

¹⁴ There is no way to determine from the NYS data if the social learning process in college does in fact influence serious behaviors such as sexual assault. No one in the college population admitted to this type of crime. This is not surprising since sexual assault as defined in the NYS is a relatively rare crime and it may be difficult to determine if the respondent would be willing to admit to such an offense or if he would recognize the more nuanced definitions of sexual assault (e.g. use of physical force versus use of intoxication, or other types of coercion) had the question been worded differently. Due to the nature of the sexual assault question in the NYS, “sexual assault” is not included in this analysis.

Table 2 Late Onset of College Normative Offenses Accounting for All Past Offenses and with Past Adolescent Normative Offenses Removed.

Subgroups	College Normative offenses Wave 6	Accounting for all offenses during Waves 1 thru 5	Adolescent Normative behaviors suppressed during Waves 1 thru 5
<i>Total Number of offenders</i>	855*	1 (.12%)	8 (.94%)
College	70** (8.2%)	0 (N/A)	3 (4.3%)
Employed Non-college	636 ** (74.4%)	1 (.16%)	4 (.63%)
Other	149** (17.4%)	0 (N/A)	1 (.67%)

Percentages are presented in parenthesis

* This number serves as the denominator when calculating Wave 6 percentages.

**These numbers serve as denominators when calculating subcategory percentages.

The key question, however, is whether college environments are responsible for the onset of these “college normative” behaviors. It may be that individuals in general engage in many of the same acts, but there seems to be a social assumption that college students begin experimenting with specific behaviors once they are out of the house and on their own. The creation and existence of student conduct offices, administrative positions such as deans of students, and codified rules of conduct are evidence that many fear their sons or daughters need protection upon leaving the nest. This protection is unusual in almost any circumstance other than college.

The results may seem surprising at first. When the “college normative” offender population during wave six is identified and their individual histories are traced through the previous waves, it turns out only one individual can be counted as a late onset offender and this one individual does not happen to be a college student. When past behaviors which are dubbed “adolescent normative” are removed from previous waves, the total number of late onset offenders that emerges is 8. This is the same number that emerged in the second column of Table 1. Three of these individuals are college students, four individuals are non-college employed, and one individual falls in the “other” category. As suspected, this very small number does not produce statistically significant results (chi square .306). If 8 out of 855 people begin to engage in these “college normative” offenses later in life, this still constitutes less than one percent of the population.

Perhaps the only reason this finding is surprising is due to the assumption that privileged college bound students are not who most people think of when they envision juvenile delinquents. While parents may think children under their auspices would never engage in inappropriate behavior reserved for *other* less behaved adolescents, this data shows college students are only continuing the behaviors they have always had proclivities for.

This misestimation of deviance is consistent with the American College Health Association’s (ACHA) (2007) findings which specifically point out that perceived peer behavior is grossly inconsistent with reality. When the ACHA asked students to report on their peers’ behavior, the results were quite shocking. It seems many students assume their friends’ lives are full of risk taking, criminal, and deviant activities. When the same

cohort is asked to report their own behaviors, it turns out relatively few individuals engage in these activities. The conclusion thus is that while most people assume others are living out their college years in a triple-X Bacchanalia, most people's lives are somewhere between PG-13 and R. If students hold such views of their own peers, then it can be argued that others, especially parents, have similar perceptions even though the data in this study shows no evidence of a "freeing" or "off-the-leash" effect.

At this point it appears the two main questions raised by this research have been answered. First, we can conclude that late onset is almost entirely fiction. Second, the evidence for the first conclusion is further strengthened by onset not emerging even when different definitions of offenses, both past and present, are manipulated. The third goal of this research is to establish whether the presence of late onset in current literature is the result of the use of official versus self-report measures of crime and delinquency.

Official versus Self-Report Measures of Crime and Delinquency

The previous chapters addressed the very real concern that any contemporary evidence of late onset offending is the result of official versus self-reported measures of crime and delinquency. Although many scholars raise this concern, so far this question has not been resolved in any peer reviewed publication. Studies which use official records have found a substantial amount of late onset (for example, see Eggleston and Laub, 2000). Using the NYS, it is possible to verify whether late onset emerges once we control for official CJS contact.

The analytic strategy involves a two-part analysis. All individuals who committed an "arrestable offense" as identified and listed in Chapter 3 (see also Appendix A) during waves one to five are isolated. The same is done for wave six offenders. At this point we

have an isolated group of individuals who would likely face arrest if their behavior was performed in front of a police officer. The findings in Table 3 show that when wave six arrestable offenders are isolated and their histories examined it turns out none can be classified as late onset offenders. Every individual who has admitted to committing a clearly illegal act during wave six has also engaged in some serious offending in the past although they did not necessarily face formal intervention by the CJS. This finding puts to rest propositions that offenders experience escalation in offending as they progress into young adulthood. In fact, when the process is reversed and the cohort of individuals who have committed an arrestable offense during waves one to five is used as the filtering category, the percent changes in Table 3 show there is some desistance from crime.¹⁵ Specifically, of the 747 individuals who have committed an arrestable offense during waves one to five, only 643 did so during wave six. This trend is noted in all of the subpopulations with the exception of the non college employed population which shows no change. It should be noted that the time interval for waves one to five is longer than for wave six, therefore allowing for more opportunity for crime to occur. Nonetheless, considering that young offenders tend to have less opportunities for serious offending, this finding is interesting and important.

¹⁵ These figures take into account the attrition of sample size throughout the subsequent waves of the NYS. Evidence for desistance, therefore, is not the result of a smaller sample during wave six, but instead the lower number of individuals reporting arrestable offenses.

Table 3 Comparison of Self Reported Arrestable Offenses During Waves 1 thru 5 and Wave 6

Subgroups	Arrestable offenses during Waves 1 thru 5	Arrestable offenses during Wave 6	Percentage Change
<i>Total Number of Offenses</i>	747	643	-14%
College	47	44	-6.4%
Employed Non-college	477	477	0%
Other	223	122	-45.3%

The second part of the analysis aims to determine whether evidence of late onset is the result of the use of official records. The straight forward answer is yes. Columns 1 and 2 of Table 4 display the actual arrests as self-reported by the NYS respondents. Column 2 indicates that 161 individuals reported an arrest during 1981, 1982, and 1983. When this total population is disaggregated into subpopulations we see 8 individuals qualify as college students during these years. A total of 116 individuals are non-college employed and 37 fall in the “other” category. Once all of these individuals are filtered out and their histories are explored for past arrests an interesting picture emerges. Only 70 of the 161 individuals arrested during wave six self-reported an arrest during the previous waves. This number indicates that roughly 44 percent of offenders arrested during wave six are late onset offenders, a number that is consistent with previous studies which employed official records. This trend is similar for the non-college employed group (41%) and the “other” category (43%). The only outlier is the college population (13%).

Table 4 Late Onset Based on Official Records

Subgroups	Actual arrests during Wave 1 thru 5	Actual arrests during Wave 6	Official Late Onset Percentages*
<i>Total Number of Offenses</i>	70	161	43.5% (130%)
College	7	8	12.5% (14%)
Employed Non-college	47	116	40.5% (147%)
Other	16	37	43.2% (131%)

*Percentage Changes are in parentheses

These findings demonstrate what logically makes sense. Official involvement with police and the CJS in general is rare for youths. Although not an insignificant number of young offenders had contact with police, it takes some effort for a middle to high school student to raise the ire of law enforcement. Individuals in the sixth wave of the NYS are between the ages of 17 and 22, an age range that is more likely to elicit formal responses from the CJS for the first time. These individuals are in an age range where they tend to leave home, find jobs, enter college, or have more time on their hands if they remain idle. In the last century, there has been a growing emphasis on treating juveniles separately from adult offenders (see Kett, 1977; Palladino, 1996). This trend is evident by the separation of corrections and punishment in general within the CJS into adult and juvenile sectors. While it is true that in some instances for example, judicial waivers make adolescent behaviors as serious as adult offenses, these waivers are relatively rare and reserved for serious offenders (see Salekin, Rogers, and Ustad, 2001). The theory that formal CJS contact leads to stigmatization and limits future opportunities

probably also contributes to youths' lower rate of official involvement with law enforcement.

The expansion of the age of adolescence coupled with the use of informal social control at the family or a school level leaves fewer juvenile offenders to come in contact with police. This does not mean, however, that young individuals are not committing many offenses which would justify an arrest had the police been involved. Clearly when we examine Table 3, we see that roughly half of the population has committed some arrestable offense but has gotten away with it.

What is also interesting are the patterns of behavior for the college population. The number of arrestable offenses is not significantly different from the other populations (Chi squared 1.374). College students tend to have the same rates of past and current arrestable acts, indicating there is nothing special about the propensity for crime in the college population. The number of arrests, however, is significantly different from other populations (Chi squared 2.01 at the .1 level).¹⁶ College students are arrested at much lower rates, and of the few that are arrested, all but one in this sample has a previous arrest. There are potential explanations for why this is the case.

We know from extant literature that police officers police college populations differently than other groups in society (see Sloan, 1992). Primarily, police tend to take a more custodial approach to campus policing. This shift occurred in the post-1960's era when officers were portrayed in a negative light by media and academia for their authoritarian crackdowns on student counterculture movements and war protests (see Bromley, 1996). The nature of campus crime in its visible elements today tends to

¹⁶One should not make too much of the statistical significance in this finding since the .1 level is generally the most liberal cutoff point accepted. Simply eyeballing the figures in Table 4 lead one to believe that college students are arrested far less often than other groups.

revolve around under age drinking, rowdy parties, traffic control problems, special event misconduct, and the occasional serious offense (Bromley, 1996). According to Sloan (1992), most officers try to avoid making arrests unless the offense is serious and instead try to maintain criminal situations through mutual exchange and compromise. Even offenses such as minor-in-possession violations are dealt with using mere citations versus arrests unless the person is uncooperative or intoxicated to the point where they cannot be released on their own recognizance (Vicary and Karshin, 2002). Understandably, most universities deal with many of these infractions on the institutional level. It would make for bad publicity if a university started aggressively targeting students. Parents probably do not want their children to end up with criminal records in addition to diplomas. For these reasons, it can be argued that the reason for low arrest rates among college students may be the result of less formal enforcement.

Keeping in mind that the sample size of arrested college students is small and therefore the late onset rate of 13 percent may be the result of random error, this finding is still somewhat intriguing. One could argue that the individuals who manage to get arrested in an environment that is sheltered from formal police intervention are those who have always managed to fall into trouble. Although none of these individuals was arrested for a serious offense (the most serious was an assault with no injury), it is possible these individuals are simply the kind of people who are unable to make a compromise in the exchange process with police, are unusually obtuse, or just happened to be unlucky.

A final analysis involves exploring the covariates of official late onset offending as outlined in the previous chapter. This exploration aims to explain who is responsible

for the existence of late onset, albeit official late onset. Again it is important to keep in mind that up until now, late onset is assumed to be a given, and it is this research that shows it is in fact an artifact of measurement methodology. Providing an explanation for what factors account for official late onset category offers a more complete explanation for the phenomenon. The logistic regression results presented in Table 5 provide answers to some of these questions. It is more or less obvious at this point that despite the fact that the majority engages in crime, official sanctions for these crimes are initiated later in life. As the literature review in this research and volumes of other works show, there are good reasons to believe that criminal sanctions are not applied uniformly to all individuals.

Table 5 Logistic Regression Model Predicting Official Late Onset

Variable	B (SE)	exp(B)
Sex	1.379 (.289)	3.970***
White	.318 (.275)	1.374
College Student	-.495 (.465)	.609
Wave 2 Drug Use	.547 (.226)	1.727*
Wave 3 Drug Use	.564 (.225)	1.758*
Wave 4 Drug Use	.126 (.353)	1.134
Wave 1 Arrestable offenses	.162 (.248)	1.176
Wave 2 Arrestable offenses	-.028 (.276)	1.029
Wave 3 Arrestable offenses	.254 (.290)	1.289
Wave 4 Arrestable offenses	1.062 (.250)	2.894***
Average of Grade Point Averages during Waves 1 thru 5	-.090 (.132)	.914
Feelings of Closeness to Family	-.256 (.135)	.767*
Duncan Socio-Economic Index	-.027 (.006)	.973***
Constant	-2.267 (.845)	.104***
Model N	1,163	
Model Chi-Square	169.63***	
Nagelkerke R Square	.275	

*p< 0.05
**p<.01
***p<.001

Of the covariates included in this regression model, six emerge as statistically significant predictors of official late onset offending. As expected, sex is a powerful predictor with males being almost four times more likely than females to be long to the late onset category. This finding is consistent with other literature which demonstrates that males in general receive more official CJS attention than do their female counterparts (Belknap, 1996). Scholars have repeatedly noted that female offenders tend to receive

less formal sanctions for a variety of reasons, including chivalrous attitudes toward female criminality, domestic responsibilities, childcare needs, as well as lower involvement in serious crime (see Belknap, 1996; Muraskin, 2002). It is not surprising then for women to receive less formal control in early adulthood as well as during other periods in the life-course.

Early drug use appears as the second important factor in predicting late onset offending. Drug use during the first and second waves almost doubles the chances of belonging to the late onset group. The reasons for these findings are debatable. The drug use category does not include trivial drug use such as trying soft drugs like alcohol, tobacco, and marijuana on only one occasion during the preceding year. It is, therefore, important to keep in mind that these juveniles are at the very least “repeat” users. Since drug use itself is a criminal offense in most cases, it is logical that early drug use, much like early criminality, is likely to predict future criminality which in turn increases the chances of being formally processed by the CJS (see Gottfredson and Hirschi, 1990; Moffitt, 1993 generally). This is not to say that early drug use and criminality necessarily predict early arrest. It stands to reason that youths who use drugs may be of worry to their parents or guardians, but the CJS does not necessarily focus on controlling this behavior through official arrests (Friedman, 1993). This same line of reasoning may be used to explain the significant effect of fourth wave arrestable offenses on the likelihood of belonging to the late onset group. Since our CJS treats juveniles differently from adult offenders, it makes sense that official sanctions are reserved for those who have left environments of informal social control. Put simply, the individuals being arrested

during the sixth wave of the NYS were committing criminal acts all along, they just avoided arrest during the previous waves.

Closeness to family also emerges as a significant predictor which lowers the chances of belonging to the late onset group. This result is not surprising. Closeness to family may be interpreted as a measure of informal social control or bond in general which in turn lowers the chances of coming into contact with the CJS (see Hirschi, 1969). In essence, closeness to family should lower the likelihood of being arrested at many points in the life-course because people who are capable of bonding and do so early in life are less likely to be criminal and in turn be arrested (see Akers, 1998; Hirschi, 1969; Laub and Sampson, 2000). In this vein, closeness to family as a proxy measure for informal social control should lower the chances of arrest during the sixth wave as it has during any other wave.

Finally, SES is a strong predictor which lowers the odds of becoming a late onset offender. Again, it is not surprising that SES lowers the chances of arrests in general. Even though most individuals engage in a plethora of offending, the distribution of official sanctions is not random. Socioeconomic status and the various other social variables it subsumes likely lowers the likelihood of arrest throughout life. The outsourcing of social control to informal mechanisms such as family or various intermediate sanctions is likely to be constant as long as relative SES remains constant.

In sum, the results from this research indicate that late onset is indeed fiction. The lack of evidence for late onset is only marginally conditioned by our definition of crime and delinquency. The use of official measures of crime and delinquency is responsible for the current evidence of late onset. Once a more precise methodology is

used this evidence evaporates. Finally, with regard to official onset, the individuals who tend to get arrested later in life are males from lower SES populations who lack social bond and have a history of offending.

Chapter 5

Discussion and Conclusion

It is not often one has the pleasure to report null findings. Too often it feels like such conclusions are a let down. In this case, however, these null findings have important implications for our discipline. Despite the lack of an explicit test of self-control or social learning theory, the theoretical impact of this research is profound. The conclusion that all adult offenders have an offending past may lead one to conclude that the best predictor of future behavior is current and past behavior. Although this attitude is not new, it continues to have a significant impact on our crime control policies and understanding of human nature (see DeLisi and Vaughn, 2008; Nagin and Farrington, 1992). From a research methods approach, these findings strongly suggest that the use of official records gives us an incomplete portrait of crime and delinquency (see Thornberry and Krohn, 2000; Hindelang et al. 1981). Finally, the null findings surrounding the college sample should reshape our view of this particular population (see Fischer et al. 1995; 1998).

Theoretical Implications

Much of chapter two discusses the opposing views presented by propensity and opportunity theories. To reiterate, propensity theories see criminal and deviant behavior as the result of an enduring trait (i.e. self-control). From this perspective, the very concept of late onset offending is problematic if not all together unreasonable. Over the years the time-stable nature of propensity has come under scrutiny, and volumes of research focus on changes in levels of self-control, depletion of self-control, the interaction of learning factors and self-control and so on (see. Brownfield and Sorenson,

1993; Feldman and Weinberger, 1994; Geis, 2000; Gibbs, Giever and Martin, 1998; Gibson, Wright, and Tibbetts, 2000; Huesmann, Eron, Lefkowitz, and Walder, 1984; Nagin and Patternoster, 1993; Polakowski, 1994; Pratt et al. 2002; Turner and Piquero, 2002; Wiebe, 2003). Nonetheless, the general conclusion remains that self-control, regardless of some variation in conceptualization, is a powerful predictor of crime, deviance, and analogous behaviors (see Pratt and Cullen, 2000). On the other hand, social learning theories make no claims of rigid propensity. In fact, the roots of social learning found in Sutherland's work give incredible weight to the dynamics of social forces and their influence on behavior (see Akers, 1998; Akers and Jensen, 2006). The view of humans as blank slates completely shaped by learning processes within cultures and societies dominated and continues to dominate much of sociology (see Cullen and Agnew, 2003).

The results from this research strongly suggest that propensity theorists are correct in assuming that criminality and delinquency is part of an enduring trait. It should be noted, however, that although almost all adult offenders have a tarnished past, not all past offenders go on to be life-long criminals. More importantly, many persons did not engage in any deviant acts and some even desisted at a relatively young age. This finding is consistent with Moffitt's (1993) propositions about the nature of childhood offending during adolescent development. Many children engage in low level offending and never grow up to be serious criminals. This finding lends support to social learning perspectives that emphasize continuity and change.

Based on the findings in this research one might further exalt the efficacy of self-control or control theories in general. These results would probably receive a shrug from

the likes of Hirschi and Gottfredson. After all this research only strengthens what they were saying all along. What is important to remember is that policy implications from this line of reasoning may lead to increased punitiveness in the form of expansion of incapacitation as a crime control measure and the abandonment of rehabilitation models (see Garland, 1993; 2002). If people cannot or will not change then we should stop trying. Even classical rational choice theory based policies emphasizing deterrence are problematic because individuals with low self-control are impulsive and are unlikely to weigh long term costs and benefits (see Arneklev, Grasmick, Tittle, and Bursik, 1993; Piquero, Gomez-Smith, and Langton, 2004; Vollmer, Borrero, and Daniel, 1999). That said, various theoretical traditions and quantitative evidence shows that most people desist from crime early in life, therefore, a bleak outlook for the future may only apply to a small population of the most persistent criminals.

The recommendation thus is to think harder. Rather than pitting one camp versus another, it is possible to recognize the overlap between learning and control theories. As cited in previous chapters, there has been some progress on this front, but more can be done. For example, there should be greater emphasis on the fact that self-control is taught and learned. While there is sufficient evidence that self-control can be conditioned by biological, psychological, and maternal factors, it should be interpreted as a learned trait (see Feldman, Greenbaum, and Yirmiya, 1999; Pratt, Cullen, Blevins, Daigle, Wright, and Unnever, 2002; Unnever, Cullen, and Pratt, 2003). Gottfredson and Hirschi (1990) seem to acknowledge this by stating that parents must monitor, recognize and punish bad behavior, but rather than treating this process as mere conditioning it should

be recognized that self-control is in itself a cultural value that is transferred between individuals through a social learning process.

The concept of self-control is fundamentally American. This is not to say that other nations or cultures do not possess analogous concepts, but the emphasis on self-control in our culture is unique. The reliance on self-regulation, conservative family structure, and individual accountability as opposed to collective responsibility stem directly from post-Enlightenment *liberal* philosophies.¹⁷ It is therefore possible for politicians and their constituents to latch on to control theories because they coincide with concepts of individual liberty while removing cultural responsibility for crime and disorder.

Learning theories as they currently stand should also take stock in control theories if for no other reason than the substantial empirical support for them. As the results from this research show, environments and their subcultures do not seem to have the paramount impact on behavior one might expect. It is somewhat surprising that college students do not begin engaging in deviant behavior once they leave home nor do they differ in their rates of offending from other populations. Chapter two outlined very precise reasons why we should see onset in a college environment, even if this onset is tied to specific behaviors. These reasons were specifically tied to key concepts outlined in social learning theory, yet no evidence was found to support this phenomenon. This finding alone does not, however, invalidate social learning theories, after all, context

¹⁷ This is perhaps a more recent development or a resurgence of past ideologies. It should be noted that American history is ripe with governmental social interventions ranging from rehabilitative treatment models in prison up to forced sterilization, electroshock, and lobotomies. Current criminal justice textbooks as well as history texts tend to cast some of these more extreme measures as real consequences of allowing the state to infringe on people's corporeal and cognitive liberties. For scholarly and literary literature on these topics see Doherty (2007), Friedman (1993), Rand, (1957), Szasz (1984; 1996a; 1996b; 2007).

matters. The ways in which we act are clearly social; to suggest otherwise would require one to argue that each individual is living in a state of solipsist anarchy. The broad theoretic implication of this research is to recognize that propensity is a powerful force but future research should focus on the role and potential impact of social learning on propensity. This is not an easy task and one that is theoretically messy and complex, but through careful and systematic untangling it might lead us to a richer understanding of criminology.

The impact of this research on life-course criminology is also important. As mentioned in the first paragraph of this dissertation, Sampson and Laub (1993) assume that late onset exists, although they make this assumption based on the use of official data (see p.p. 57-59). While there is a significant amount of onset when using official records, life-course criminology may not be the best suited theory in explaining the genesis of crime. Other theories such as social learning, self-control, biosocial theories, and adolescent development theories seem to address onset more completely primarily because they focus on adolescence as the period in the life-course where criminality first emerges (see Moffitt, 1993; Robinson, 2004; Rowe, 2002; Walsh, 2002; Walsh and Ellis, 2007). Turning points in life may be more important for adults in the way they shape opportunity structures and provide social capital which leads to individuals quitting their criminal lifestyles (Laub and Sampson, 2003; Warr, 1996). While the onset of puberty, changes in school environments, and exposure to different peer groups may be interpreted as “turning points,” Sampson’s and Laub’s (2003) and Laub’s and Sampson’s (1993) conceptualization of the theory does not specify adolescent turning points as significant precursors to the onset of criminality. Life-course criminology’s virtue,

therefore, is likely better suited to studying desistance from crime at later stages in life (see Giordano, Cernkovich, and Holland, 2003; Laub, Nagin and Sampson, 1998; Laub and Sampson, 2003; Sampson and Laub, 2005; Warr, 1996).

Policy Implications

From a propensity perspective, policy implications addressing crime and criminality may elicit dread among many socially minded criminologists. If we are to envision humans as being stable in criminal propensity without the ability to reform then there is little we can do to alleviate our nation's crime problem. Despite Gottfredson's and Hirshi's (1990; 2003) assertions that self-control is sufficient in explaining criminal propensity and once absent will lead to enduring criminality, other research shows evidence to the contrary. For example, Andrews, Zinger, Hoge, Bonta, Gendreau, and Cullen's (1990) meta analysis found that when correctional programs are designed to specifically address the psychological needs of offenders the results indicate these programs can have an alleviating effect on criminality when compared to programs which do not address these specific needs (see also Gendreau, Cullen, and Bonta, 1994; Cullen and Gendreau, 2001). While it is true that the recidivism rate is still substantial it is generally lower than for traditional programs, leading one to conclude that at the very least propensity is not as rigid as one might assume (Andrews et al. 1990). Furthermore, support for rehabilitation may actually be stronger among different constituencies than many politicians believe (Applegate, Cullen, and Fisher, 1997).

Finally the best policy implications stem from knowledge we have gained over several decades of theoretical work and these implications are not as theory specific as many may believe. In the field of criminology as in any academic discipline, disputes

arise along party lines and too often we become bogged down with pitting one theoretical tradition versus another. With a straightforward analysis, however, some universal truths emerge. Primarily, priority matters. Whether this concept is couched in a social learning, control, self-control, psychological, biological, or any variety of theoretical traditions, the old adage that “an ounce of prevention is worth a pound of cure” seems to hold true.

Social learning which occurs earlier in life is more important than at later stages. Attachment to family and conventional values is most efficacious when it occurs early. Self-control theory also stresses priority, psychological development is key for children, and some biological predispositions can be affected before birth (for a brief review, see Cullen and Agnew, 2003 see also Brennan, Grekin, and Mednick, 1999). Put simply, if we want socially healthy and well adjusted adults we need to focus on children first. This statement is almost cliché, but it often seems like we do not take it to heart. In an ideal world, all children would have loving parents who effectively socialize them. The reality is that for some this is not an option, but alternatives remain. Community or school factors for example can pick up some of the slack resulting from parental deficiencies (see Pratt, Turner, and Piquero, 2004; Turner, Piquero and Pratt, 2005). Gottfredson and Hirshi (1990) themselves state that “we do not restrict the meaning of ‘familial institutions’ to the traditional family unit composed of a natural father and mother” (p. 273). The general theme of their work does seem to hold that, all things being equal, other institutions can instill self-control and in turn alleviate the propensity for crime. The running counterargument, however, is that things are rarely equal (generally see Hirshi and Gottfredson, 1994; 2003). The conclusion that traditional family units seem to

produce non-criminal adults, therefore, should be interpreted as a moral rather than practical one.

Official versus Self-Report Data: Practical and Ethical Considerations

The second significant impact of this research is the validation that current evidence of late onset is the result of the use of official records. This finding is important for several reasons. It confirms what we have known for a long time; primarily, the dark figure of crime is indeed real, different groups receive different treatment by the CJS, and studies which use official data are likely inherently biased in their assessment of crime and criminality (see Biderman and Reiss, 1967; Coleman and Moynihan, 1996; Skogan, 1977).

It is the last point which brings up the most worry. At the heart of the matter is the proper and ethical role of criminology, public policy, and CJS policy in general. Laub and Sampson (2003) acknowledge some of these concerns in their life-course approach to crime and criminality. For example they point out that marriage often leads to desistance from crime for men, but it does so at the expense of women. More specifically they state, "it is almost invariably the case that men marry 'up' and women 'down' when it comes to exposure to violence and crime" (Laub and Sampson 2003, p.p. 45-46). The fundamental ethical dilemma rests on what the goals of our criminal justice policies should be. Should we be concerned about crime and recidivism which elicits a formal response from the CJS or should we be concerned with achieving actual desistance?

By using official statistics, it can and has been demonstrated that turning points in life do lead to desistance from crime (see Laub and Sampson 2003). Stable employment,

marriage, children, and so forth, seem to have a dampening effect on crime. This finding is not inconsistent with propensity theories. All of these potential turning points greatly diminish both opportunities for crime and the chances of coming into contact with CJS officials by potentially changing the routine activities of would be offenders (see Giordano et al. 2003). That said, from a propensity perspective, there is little reason to believe these individuals become somehow reformed when they experience these turning points. While it may appear that the individual with a long official record of crime and violence has turned over a new leaf after marriage, there is nothing to say he is in fact a reformed man. In a society where we use women as pacifiers to male violence and criminality, it may very well be that many men cease to engage in crime that would bring about official sanctions but this alone does not necessarily say anything about their criminality (see Adler, 1975; Belknap, 1996; Koss, Goodman, Browne, Fitzgerald, Keita, and Russo, 1994). The person who was once known for getting into bar fights for example may be labeled a desistor for official purposes but may remain a terrible husband.

From a CJS perspective, success can be gauged with official statistics which can demonstrate measurable fluctuations in crime based on different intervention policies (see Hindelang et al., 1979). After all, if we can outsource social control to families, communities, and other social agents instead of relying on CJS intervention, one can argue this is a positive development. On the other hand, if we only obscure criminality but individual suffering persists and affects future generations, then our efforts may be meretricious at best. This is not a conundrum we can realistically resolve, but it should be something we consider when we design and implement social policy. Finding a

balance between personal responsibility and choice and the influence of social forces and culture on personal choices and circumstances is a paradox as old as thought itself (see Crank, 2001; Durkheim, 1997[1893]; McLaughlin and Beckerman, 2009; Rock, 2002).

Our Misunderstanding of the College Experience

The findings surrounding the college sub-sample are perhaps the most interesting if not necessarily the most important. Between the anthropological, historical, and sociological approaches used to interpret college culture it seems almost a given that college students are in some way an unusual group of people. The cues shaping this belief are omnipresent. Recent shows on MTV such as *Fraternity Life* and *Sorority Life* are good examples of the mystique that surrounds college culture. In these respective shows, college students conduct their daily lives with cameras in tow exploring such activities as classroom boredom, fancy free hookups, and the joyous keg stands that seem to dominate the everyday lives of our future leaders. These shows' themes celebrate autonomy, libertinage, and occasionally education, but more importantly they do so while reminding the viewer that these youngsters are getting away with something. There is no shortage of drama surrounding the potential that mom and dad might find out what you did or that your new sense of freedom is potentially leading you astray. In essence, these shows do portray college as an extension of adolescence by exhibiting college students as kids.

It is surprising then to find that college students engage in much of the same activities as others do. While there is no shortage of evidence that college life is indeed an extension of adolescence, and scholars like Horowitz and Moffatt are probably correct in their assessments, there is no empirical reason to believe that this culture leads to

unique crimes or the onset of criminality or deviance. This conclusion is likely to provoke discussion among those who make much of the effect college, or more specifically certain college environments, have on crime and delinquency.

For example, some researchers argue that privileged and permissive environments like those present in fraternities lead to predatory sexual behavior as well as excessive alcohol consumption and risk taking (see Sanday, 2007; Schwartz and DeKeseredy, 1997). While it does not take an investigative reporter to figure out that fraternity houses are bastions of campus revelry, they may not be as unique as we think. It stands to reason that homophily is a powerful force, and places where particular people congregate are not as easily delineated as we may think (see Matsueda and Anderson, 1998). Fraternities and sororities as well as other campus organizations may attract a certain group of people, but it may be that these individuals come together in many environments outside of college. Perhaps “college” as an instigator of deviance is nothing more than a red herring. It may be popular to perceive certain college environments as corrupted by privileged and spoiled brats, but it does not take a college student to figure out that “candy is dandy but liquor is quicker.”

Where privilege likely plays a disturbing role is in the very low level of arrests among college populations. While these individuals are no different from others in society when it comes to shenanigans, they do avoid many official sanctions. One can, therefore, conclude that despite there being no objective evidence linking the college experience itself to late onset, the perceived reality that such a link exists shapes CJS policies and in turn the lives and futures of college students. There is no shortage of evidence that parents are concerned about the safety of their children (see Kenny, 1986).

This concern for safety is not conditioned by college attendance. In other words, most parents want what is best for their offspring. College bound children do, however, seem to have one major advantage. Despite not being any different from others in terms of committing arrestable offenses, they are sheltered from arrest. This may be occurring for several reasons.

First campus police tend to take on a custodial role rather than proactive policing practices; this in turn results in fewer arrests (see Sloan, 1992). Second, much of the social control is outsourced to campus offices and agencies which deal with misconduct in an unofficial or institutional manner (see Moffatt, 1991). Third, there is likely pressure from parents and alumni to not portray their *alma mater* as crime prone (see Wilcox, Jordan, and Pritchard, 2007). What results is a false image of student crime and criminality and an under representation of college offenders in the official CJS.

If any of this is true, it is no wonder that many individuals see college students, especially traditional college students, as spoiled and privileged. This image remains because it is true (see Rankin and Reason, 2005). What is not necessarily true is that this privilege and the college social learning environment produce predators who act with impunity as a result of privilege and the social learning process surrounding said privilege. Individuals with propensity for crime do not fit into neat brackets of society; they exist everywhere, but their rate of facing official justice can vary tremendously. This conclusion once again points to the bias which may exist if we rely on official data.

Lastly, the college population findings from this research have an important methodological impact. There exists a concern that college populations are not *valid* in assessing many theories because they are comprised of a subpopulation that can arguably

be different from the general population (see Greenberg, 1987; Kokotailo, Egan, Gangnon, Brown, Mundt, and Fleming, 2004 Larimer, Lydum, Anderson, and Turner, 1999). There is some methodological debate over the efficacy of “school criminology” versus “street criminology,” meaning that applying college samples to theories which deal with crime and criminality compromise the validity of such tests because college students are an inherently unique population (Sellers 1999, p. 384 see also Hagan and McCarthy, 1997). The findings in this study reaffirm through empirical evidence that questions of validity regarding college samples may indeed be groundless.¹⁸

Future Directions

As with most research, the current study leaves many avenues for further exploration. First, the NYS is a very robust and extensive survey series that has aided in many advances in criminology, but it does have its limitations. Identifying the college population did require some significant manipulation of data. As a result the population was parsed out at the expense of variation in offending. Furthermore, it is not possible to conclude which individuals attended different types of institutions. It may be the case that different college environments (i.e. Ivy League schools, state universities, parochial schools, community colleges, and so on) produce different results. Future research should address this issue more completely with better data sets as well as qualitative analysis in order to provide a more complete evaluation of college effects on crime and delinquency.

Second, the NYS is becoming increasingly outdated as the field of criminology grows and new avenues of inquiry arise. While human behavior is not likely to vary significantly over the course of some thirty years, the measures used in the NYS are

¹⁸ Sellers (1999) makes essentially the same argument but now we have a test to backup this argument.

becoming increasingly anachronistic. For example, propensity for drug use may remain stable but the pool of drugs to choose from has changed. Lifestyles and routine activities have also undergone changes in the last several decades. At this point it is impossible to know if a more recent data set would provide different results and conclusions, but future researchers may want to explore this matter.

Third, with regard to the college sample, much of the current research has focused on sexual assault on the college campus (see Schwartz and DeKeseredy, 1997). The NYS measure of sexual assault is poor, literally forcing an individual to self-report what most would consider a violent rape. It is not surprising then that so few individuals admitted to sexual assault. Had a more nuanced measure been used the results would likely differ (see Franklin, 2008).

On a broader level, this research should shape the way we view “crime” in general. Primarily, the concept of “analogous behaviors” can potentially dilute our definition of crime and delinquency to the point where crime is everything and nothing at the same time. By linking analogous behaviors to formally recognized crime, the future of self-control research may suffer from overgeneralization. Alleviating crime is often like hitting a moving target in the sense that what we label as a threat to society changes over time. Treating both, analogous behaviors and formal crime as a measure of propensity may encompass and label a large population of people as crime prone, when it is not fair to do so.

In conclusion, the value of the present study should shape our future investigation of static versus dynamic theories of crime. At the very least we should try to reconcile the two camps and work toward a consensus model. This will not be easy but it will be

beneficial while providing many new and interesting puzzles for criminologists to play with. With regard to official versus self-report data, it may not be necessary to exclude one methodology from the other, but instead be upfront about the limitations and benefits of the varying approaches. Data exists for our utility and as such it has its own virtue, recognizing the limits of this virtue is necessary to produce good scholarship. Finally we need to rethink our understanding of the college experience. While society may have its own expectations of college behavior, as criminologists and social scientists we should move away from parceling out the college sub sample as unique.

References

- Adler, F. (1976) *Sisters in crime: The rise of the new female criminal*. New York: McGraw-Hill.
- Adler, J. (1989) Travel as performing art. *The American Journal of Sociology* 94: 1366-1391.
- Agnew, R. (1992) Foundation for a general strain theory. *Criminology* 30: 47-87.
- Akers, R.L. (1985) *Deviant behavior: A social learning approach*. Third Edition. Belmont: Wadsworth
- Akers, R. L. (1964) Socio-economic status and delinquent behavior: A retest. *Journal of Research in Crime and Delinquency* 1:38-46.
- Akers, R.L. (1992a) *Drugs, alcohol, and society: Social structure, process, and policy*. Belmont: Wadsworth
- Akers, R.L. (1992b) Linking sociology and its specialties: The case of criminology. *Social Forces* 71: 1-16.
- Akers, R.L. (1998) *Social learning and social structure: A general theory of crime and deviance*. Boston: Northeastern University Press.
- Akers, R.L. and J.K. Cochran (1985) Adolescent marijuana use: A test of three theories of deviant behavior. *Deviant Behavior* 6: 323-346.
- Akers, R.L. and G.F. Jensen (2006) The empirical status of social learning theory of crime and deviance: Past, present, and future. In F.T. Cullen, J. P. Wright, and K. R. Blevins (Eds.) *Taking stock: The status of criminological theory*. New Brunswick: Transaction Publishers.
- Akers, R.L., M.D. Krohn, L. Lanza-Kaduce, and M. Radosevich (1979) Social learning and deviant behavior: A specific test of a general theory. *American Sociological Review* 44: 635-655.
- Akers, R.L. and A.J. LaGreca (1991) Alcohol use among the elderly: Social learning, community context, and life events. In D.J. Pittman and H.R. White (Eds.) *Society, culture, and drinking patterns re-examined*. New Brunswick: Rutgers Center of Alcohol Studies.
- Akers, R.L. and G. Lee (1996) A longitudinal test of social learning theory: Adolescent smoking. *Journal of Drug Issues* 26: 317-343.

- American College Health Association (2007) American College Health Association National College Health Assessment Spring 2006 Reference Group Data Report. *Journal of American College Health*, 55, 4: 195-206.
- Andrews D.A., I Zinger, R.D. Hoge, J. Bonta, P. Gendreau, F.T. Cullen (1990) Does correctional treatment work? A clinically relevant and psychologically informed meta-analysis. *Criminology* 28: 369-404
- Applegate, B.K., F.T. Cullen, and B.S. Fisher (1997) Public support for correctional treatment: The continuing appeal of the rehabilitative ideal. *Prison Journal* 77 : 237-258
- Armstrong, T.A. (2003) The effect of learning on crime: Contrasting a general theory of crime and social learning theory. In C.L. Britt and M.R. Gottfredson (Eds.) *Advances in criminological theory*. Vol. 12, Control theories of crime and delinquency. New Brunswick: Transaction Publishers.
- Arneklev, B.J., H.G. Grasmick, C.R. Tittle, and R.J. Bursik (1993) Low self-control and imprudent behavior. *Journal of Quantitative Criminology* 33:225-247.
- Aseltine, R.H. Jr. (1995) A reconsideration of parental and peer influences on adolescent deviance. *Journal of Health and Social Behavior*. 36: 103-121.
- Austin, J. and J. Erwin (1990) Who goes to prison? National Council on Crime and Delinquency.
- Babinski, L.M., C.S. Hartsough, and N.M. Lambert (2001) A comparison of self-report of criminal involvement and official arrest records. *Aggressive Behavior* 27: 44-54.
- Bachman, J.G. and P.M. O'Malley (1984) Yea-saying, nay-saying and going to extremes: Black-white differences in response styles. *Public Opinion Quarterly* 48: 491-509.
- Barkley, R.A. (1997) ADHD and the nature of self-control. New York: Guilford Press.
- Baumrind, D. (1968) Authoritarian versus authoritative parental control. *Adolescence* 3: 255-272.
- Beccaria, C.M. (1992[1776]) An essay on crimes and p punishments. Translated from the Italian by A. Caso. Kerry: Brandon Books
- Belknap, J. (1996) The invisible woman: Gender, crime, and justice. Cincinnati: Wadsworth Publishing
- Belsky, J., S. Woodworth, and K. Crnic (1996) Troubled family interaction during toddlerhood. *Development and Psychopathology* 8:477-495.

- Bentham, J. (1948[1789]) *The principals of morals and legislation*. New York: Hafner Press.
- Biderman, A.D. and A.J. Reiss (1967) On exploring the “dark figure” of crime. *The Annals of the Academy of Political and Social Science* 374: 1-15.
- Black, D. (1976) *The behavior of law*. London: Academic Press.
- Blokland, A., D. Nagin, P. Nieuwbeerta (2005). Life span offending trajectories of a Dutch conviction cohort. *Criminology* 43 : 919-954.
- Bloom, B., B. Owens, E.P. Deschenes, and J. Rosenbaum (2003) Developing gender-specific services for delinquency prevention: Understanding risk and resiliency. In R. Muraskin (Ed.) *It's a crime: Women and Justice* (Third edition) New Jersey: Prentice Hall.
- Boeringer, S. (1992) *Sexual coercion among college males: Assessing three theoretical models of coercive sexual behavior*. Ph.D. Dissertation, University of Florida.
- Boeringer, S., C.L. Sheehan, and R.L. Akers (1991) Social contexts and social learning in sexual coercion and aggression: Assessing the contribution of fraternity membership. *Family Relations* 40: 558-564.
- Bonger, W.A. (1943) *Race and crime*. New York: Columbia University Press.
- Bordner, D.C. and Petersen, D.M. (1983) *Campus policing: The nature of university police work*. Lanham: University Press of America
- Boyer, E. (1987) *College: The undergraduate experience in America*. New York: Harper and Row.
- Brame, R., Bushway, S. D., and Paternoster, R. (2003) Examining the prevalence of criminal desistance. *Criminology* 41: 423-448
- Brantingham, P., Brantingham, P., Seagrave, J. (1995), Crime and fear of crime in a Canadian university, in Fisher, B.S., Sloan, J., Charles C. (Eds), *Campus Crime: Legal, Social, and Policy Perspectives*, Thomas, Springfield, IL.
- Brennan, P.A., E.R. Grekin, and S.A. Mednick (1999) Maternal smoking during pregnancy and adult male criminal outcomes. *Archives of General Psychiatry* 56:215-219.
- Bromley, M.L. (1996) Policing our campuses: A national review of statutes. *American Journal of Police* 15: 1-25.

- Brownfield, D. and A. M. Sorenson (1993) "Self-control and juvenile delinquency: Theoretical issues and an empirical assessment of selected elements of a general theory of crime. *Deviant Behavior* 4:243-64.
- Burgess, R.L. and R.L. Akers (1966) A differential association-reinforcement theory of criminal behavior. *Social Problems* 14: 128-147.
- Campbell, S.B.(1987) Parent-referred problem three-year-olds: Developmental changes in symptoms. *Journal of Child Psychology & Psychiatry* 28:835–845.
- Chesney-Lind, M. (1997) *Female offenders: Girls, women and crime*. Thousand Oaks: Sage Publications
- Christie, N.G. and Dinham, S.M. (1991) Institutional and external influences on social integration in the freshman year. *The Journal of Higher Education* 62: 412-436.
- Clark, J.P., and E.P. Wenninger (1962) Socioeconomic class and area as correlates of illegal behavior among juveniles. *American Sociological Review* 28:826–834.
- Cloward, R. and Ohlin, L. (1960) *Delinquency and Opportunity*. New York: Free Press.
- Cohen, A.K. (1955) *Delinquent Boys*. New York: Free Press.
- Cohen, A.K., A.R. Lindesmith, and K. Shuessler (Eds.)(1956) *The Sutherland papers*. Bloomington: Indiana University Press.
- Cohen, L.E. and M. Felson (1979) Social change and crime rate trends: A routine activities approach. *American Sociological Review* 44: 588-608
- Coleman, C. and J. Moynihan (1996) *Understanding crime data: Haunted by the dark figure*. Buckingham: Open University Press.
- Cohen, S. (1985) *Visions of social control: Crime, punishment, and classification*. New York: Blackwell.
- Crank, J (2001) *Imagining justice*. Cincinnati: Anderson
- Creed, P.A., Muller, J., and Patton W. (2003) Leaving high school: The influence and consequences for psychological well-being and career-related confidence. *Journal of Adolescence* 26: 295-311.
- Cullen, F.T. (1994) Social support as an organizing concept for criminology: Presidential address to the academy of criminal justice sciences. *Justice Quarterly* 11: 527-559.
- Cullen, F.T. and R. Agnew (2003) *Criminological theory past to present: Essential readings* (2nd ed.). Los Angeles: Roxbury.

- Cullen, F.T. and P. Gendreau (2001) From nothing works to what works: Changing professional ideology in the 21st century. *Prison Journal* 81:313-338.
- Cunningham, C.E. and M.H. Boyles (2002) Preschoolers at risk for attention-deficit hyperactivity disorder and oppositional defiant disorder: Family, parenting, and behavioral correlates. *Journal of Abnormal Child Psychology* 30: 555-569.
- Davey, J.D. and L.D. Davey (2001) The conscience of the campus: Case studies in moral reasoning among today's college student.
- DeLisi, M and M.G. Vaughn (2008) The Gottfredson–Hirschi critiques revisited: Reconciling self-control theory, criminal careers, and career criminals. *International Journal of Offender Therapy and Comparative Criminology* 52: 520-53.
- Doherty, B. (2007) Radicals for capitalism: A free-wheeling history of the modern American libertarian movement. New York: Public Affairs.
- Dunaway, R.G., F.T. Cullen, V.S. Burton, and T.D. Evans (2000) The myth of social class and crime revisited: An examination of class and adult criminality. *Criminology* 38:589-632.
- Durkheim, E. (1997[1893]) The division of labor in society. New York: Free Press
- Eggleston, E.P., and Laub, J.H. (2002). The onset of adult offending: a neglected dimension of the criminal career. *Journal of Criminal Justice*, 30: 603-622.
- Elander, J., M. Rutter, E. Simonoff, and A. Pickles (2000) Explanations for apparent late onset criminality in a high-risk sample of children followed up in adult life. *British Journal of Criminology* 40:497-529.
- Elliott, D. (1976) National Youth Survey: Wave I, 1976 ICPSR 8375. Boulder, CO: University of Colorado, Behavioral Research Institute, 1977. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 1994.
- Elliott, D. (1977) National Youth Survey: Wave II, 1977 ICPSR 8424. Boulder, CO: University of Colorado, Behavioral Research Institute, 1978. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 1994.
- Elliott, D. (1978) National Youth Survey: Wave III, 1978 ICPSR 8506. Boulder, CO: University of Colorado, Behavioral Research Institute, 1986. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 1994.

- Elliott, D. (1979) National Youth Survey: Wave IV, 1979 ICPSR 8917. Boulder, CO: University of Colorado, Behavioral Research Institute, 1988. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 1994.
- Elliott, D. (1980) National Youth Survey: Wave V, 1980 ICPSR 9112. Boulder, CO: University of Colorado, Behavioral Research Institute, 1988. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 1994.
- Elliott, D. (1983) National Youth Survey: Wave VI, 1983 ICPSR 9948. Boulder, CO: University of Colorado, Behavioral Research Institute, 1992. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 1994.
- Elliott, D. S. (1994) Serious violent offenders: Onset, developmental course, and termination—The American Society of Criminology 1993 presidential address. *Criminology* 32 : 1–21.
- Elliott, D. S., and S.S. Ageton (1980) Reconciling race and class differences in self-reported and official estimates of delinquency. *American Sociological Review* 45 : 95–110.
- Elliott, D.S., D. Huizinga, and S. Menard (1989) Multiple problem youth: Delinquency, substance use and mental health problems. New York: Springer-Verlag
- Ellis, L., J.A. Cooper, and A. Walsh (2008) Criminologists' opinions about causes and theories of crime and delinquency: A follow-up. *The Criminologist* 33:23-26.
- Empey, L.T., and M. Erickson (1966) Hidden delinquency and social status. *Social Forces* 44: 546–554.
- Evans, T., F. Cullen, V. Burton, R. Dunaway, and M. Benson. (1997) The social consequences of self-control: Testing the general theory of crime. *Criminology* 35:475-501.
- Farrington, D.P. (1986) Age and crime. In M. Tonry & N. Morris (Eds.), *Crime and justice: An annual review of research*, volume 7 (pp.189-250). Chicago: University of Chicago Press.
- Farrington, D.P. (2005) The integrated cognitive antisocial potential theory. In D.P. Farrington (Ed.) *Advances in criminological theory*. Vol. 14, *Integrated developmental and life-course theories of offending*. New Brunswick: Transaction Publishers.
- Feldman, R., C.W. Greenbaum, and N. Yirmiya (1999) Mother-infant affect synchrony as an antecedent of the emergence of self-control. *Developmental Psychology* 35:223-31.

- Feldman, S.S. and D. A. Weinberger (1994) Self-restraint as a mediator of family influences on boys' delinquent behavior: A longitudinal study. *Child Development* 65:195-211.
- Fisher, B.S., Sloan, J., Charles C. (1995) *Campus Crime: Legal, Social, and Policy Perspectives*, Thomas, Springfield, IL.
- Fisher, B.S., J.J. Sloan, and C. Lu (1998) Crime in the ivory tower: The level and sources of student victimization. *Criminology* 36: 671-710.
- Franklin, C.A. (2008) Sorority affiliation and rape-supportive environments: The institutionalization of sexual assault victimization through vulnerability-enhancing attitudes and behaviors. Ph.D. Dissertation: Washington State University.
- Friedman, L.M. (1993) *Crime and punishment in American history*. New York: Basic Books.
- Garland, D. (1993) *Punishment and modern society: A study in social theory*. University of Chicago Press and Oxford University Press.
- Garland, D. (2001) *The culture of control: Crime and social order in contemporary society*. University of Chicago Press and Oxford University Press.
- Geis, G. (2000) On the absence of self-control as the basis for a general theory of crime: A critique. *Theoretical Criminology* 4:35-53.
- Gendreau, P., F.T. Cullen and J. Bonta (1994) Intensive rehabilitation supervision: The next generation in community corrections? *Federal Probation* 58: 72-78
- Giordano, P.C., S.A. Cernkovich, and D.D. Holland (2003) Changes in friendship relations over the life course: Implications for desistance from crime. *Criminology* 41: 293-328.
- Gibbons, D.C. (1979) *The criminological enterprise: Theories and perspectives*. New Jersey: Prentice Hall.
- Gibbs, J. J., D. Giever, and J.S. Martin (1998) Parental management and self-control: An empirical test of Gottfredson and Hirschi's general theory. *Journal of Research in Crime and Delinquency* 35:40-70.
- Gibson, C.L., J.P. Wright, and S.G. Tibbetts (2000) An empirical assessment of the generality of the general theory of crime: The effects of low self-control on social development. *Journal of Crime and Justice* 23:109-34.

- Gillis, J. (1974) *Youth and history: Tradition and change in European age relations 1700-present*. New York: Academic Press.
- Glueck, S. and E. Glueck (1950) *Unraveling juvenile delinquency*. New York: The Commonwealth Fund.
- Gold, M. (1966) Undetected delinquent behavior. *Journal of Research in Crime and Delinquency* 3:27–46.
- Gomez-Smith Z (2004) An examination of adult onset offending. Master's Thesis, University of Florida.
- Gomez-Smith Z, Piquero A.R. (2005) An examination of adult onset offending. *Journal of Criminal Justice* 33:515-525.
- Gore, S., Aseltine, R. Jr., Gölten, M.E. and Lee, B. (1997) Life after high school: Development, stress, and well-being. In I.H. Gotlib and B. Wheaton (Eds.) *Stress and adversity over the life course: Trajectories and turning points* (pp.197-214). Cambridge University Press.
- Gottfredson, M. and T. Hirschi (1990) *A General Theory of Crime*. Stanford: Stanford University Press.
- Gottfredson, M. R. and T. Hirschi (2003) Self-control and opportunity. In C.L. Britt and M.R. Gottfredson (Eds.) *Advances in criminological theory*. Vol. 12, *Control theories of crime and delinquency*. New Brunswick: Transaction Publishers.
- Grasmick, H.G., Tittle, C.R., Bursik, R.J., & Arneklev, B.J. (1993). Testing the core empirical implications of Gottfredson and Hirschi's general theory of crime. *Journal of Research in Crime and Delinquency* 30: 5-29
- Greenberg, J. (1987) The college sophomore as guinea pig: Setting the record straight. *Academy of Management Review* 12: 157-159.
- Groves, R.M. (2005) *Survey errors and survey costs*. New York: John Wiley and Sons.
- Hagan, J. and B. McCarthy (1997) Anomie, social capital, and street criminology. In N. Passas and R. Agnew (Eds.) *The future of anomie theory*. Boston: Northeastern University Press.
- Huesmann, R. L., L.D. Eron, M.M. Lefkowitz, and L.O. Walder (1984) Stability of aggression over time and generations. *Developmental Psychology* 20:1120-34.
- Hindelang, M.J., T. Hirschi, and J.G. Weis (1981) *Measuring delinquency*. Beverly Hills: Sage Publications.

- Hindelang, M.J., T. Hirschi, and J.G. Weis (1979) Correlates of delinquency: The illusion of discrepancy between self-report and official measures. *American Sociological Review* 44:995–1014.
- Hirschi, T. (1969). *The causes of delinquency*. Berkeley: The University of California Press.
- Hirschi, T. and M.R. Gottfredson (1994) *The generality of deviance*. New Brunswick: Transaction Publishers.
- Hirschi, T. and M.R. Gottfredson (2003) Punishment of children from the perspective of control theory. In C.L. Britt and M.R. Gottfredson (Eds.) *Advances in criminological theory*. Vol. 12, *Control theories of crime and delinquency*. New Brunswick: Transaction Publishers.
- Horney, J.D., W. Osgood, and I. H. Marshall (1995) Criminal careers in the short-term: Intra-individual variability in crime and its relation to local life circumstances. *American Sociological Review* 60: 655-673.
- Horowitz, H.L. (1987) *Campus life: Undergraduate cultures from the end of the eighteenth century to the present* New York: Basic Books.
- Huizinga, D., and D.S. Elliott (1986) Reassessing the reliability and validity of self-report delinquent measures. *Journal of Quantitative Criminology* 2: 293–327.
- Hwang, S. (2000) Substance use in a sample of South Korean adolescents: A test of alternative theories. Ph.D. Dissertation, University of Florida
- Hwang, S. and R.L. Akers (2003) Substance use by Korean adolescents: A cross-cultural test of social learning, social bonding and self-control theories. In R.L. Akers and G.F. Jensen (Eds.) *Advances in criminological theory*. Vol. 11, *Social learning theory and the explanation of crime: A guide for the new century*. New Brunswick: Transaction Publishers.
- Junger-Tas, J. and I.H. Marshall (1999) The self-report methodology in crime research *Crime and Justice* 25: 291-367
- Kempf-Leonard and P.E. Tracy (2003) Gender differences in delinquency career types and transition to adult crime. In R. Muraskin (Ed.) *It's a crime: Women and Justice* (Third edition) New Jersey: Prentice Hall.
- Kenny, M.E. (1987) The extent and function of parental attachment among first-year college students. *Journal of Youth and Adolescence* 16: 17-29.
- Kett, J.F. (1977) *Rites of passage: Adolescence in America 1790 to the present*. New York: Basic Books.

- Kokotailo, P. K., J. Egan, R. Gangnon, D. Brown, M. Mundt and M. Fleming (2004) Validity of the alcohol use disorders identification test in college students: Diagnosis and treatment. *Alcoholism: Clinical & Experimental Research* 28: 914-920.
- Kornhauser, R. (1978) *Social sources of delinquency: An appraisal of analytic models.* University of Chicago Press.
- Koss, M.P., L.A. Goodman, A. Browne, L.F. Fitzgerald, G.P. Keita, and N.F. Russo (1994) *No safe haven: Male violence against women at home, at work, and in the community.* Washington D.C.: American Psychological Association
- Kratzer, L., & Hodgins, S. (1999). A typology of offenders: A test of Moffitt's theory among males and females from childhood to age 30. *Criminal Behaviour and Mental Health* 9: 57-73.
- Larimer, M. E., A.R. Lydum, B.K. Anderson and A.P. Turner (1999) Male and female recipients of unwanted sexual contact in a college student sample: Prevalence rates, alcohol use, and depression symptoms. *Sex Roles* 40: 295-308.
- Laub, J.H., D.S. Nagin, and R.J. Sampson (1998) Trajectories of change in criminal offending: Good marriages and the desistance process. *American Sociological Review* 63: 225-238.
- Laub, J.H. and R.J. Sampson (2003) *Shared beginnings, divergent lives: Delinquent boys to age 70.* Cambridge: Harvard University Press.
- Lauer, R.M., R.L. Akers, J. Massey, and W. Clarke (1982) The evolution of cigarette smoking among adolescents : The Muscatine study. *Preventative Medicine* 11:417-428.
- Le Blanc, M. (1989) Designing a self-report instrument for the study of the development of offending from childhood to adulthood: Issues and problems. In *Cross-national research in self-reported crime and delinquency*, Malcolm W. Klein(Ed.) Los Angeles: Kluwer Academic Publishers.
- Lively, K. (1997) Many murders on campuses involve neither students nor faculty members. *The Chronicle of Higher Education* 9:A46.
- Loeber, R., M. Stouthamer-Loeber, W.B. Van Kammen, and D.P. Farrington (1989) Development of a new measure of self-reported antisocial behavior for young children: Prevalence and reliability. In *Cross-national research in self-reported crime and delinquency*, Malcolm W. Klein (Ed.) Los Angeles: Kluwer Academic Publishers.

- Loeber, R., P. Wung, K. Keenan, B. Giroux, and M. Stouthamer-Loeber (1993) Developmental pathways in disruptive child behavior. *Development and Psychopathology* 5:101–133.
- Lombroso, C. and G. Lombroso-Ferrero (1972[1911]) Criminal man, according to the Classification of Cesare Lombroso. New York: Putnam.
- Magolda, P.M. (2003) Saying good-bye: An anthropological examination of a commencement ritual. *Journal of College Student Development* 44: 779-796
- Matsueda, R.L. and K. Anderson (1998) The dynamics of delinquent peers and delinquent behavior. *Criminology* 36: 269-308.
- Maxfield, M.G., B.L. Weiler, and C.P. Widom (2000) Comparing self-report and official records of arrest. *Journal of Quantitative Criminology* 16: 87-110.
- Mazerolle, P., R. Brame, R. Paternoster, A. Piquero, and C. Dean (2000) Onset age, persistence, and offending versatility: Comparison across gender. *Criminology* 38 : 1143-1172.
- McGloin, J.M., C.J. Sullivan, A.R. Piquero, and T.C. Pratt (2007) Local life circumstances and offending specialization/versatility: Comparing opportunity and propensity models. *Journal of Research in Crime and Delinquency* 44:321-346.
- McLaughlin, P. and A. Beckerman (2009) The Oxford handbook of philosophy of mind. Oxford University Press.
- Merton, R.K. 1938. Social structure and anomie. *American Sociological Review* 3:672–682.
- Messner, S.F. and R. Rosenfeld (2000) Crime and the American dream. New York: Wadsworth.
- Moffatt, M. (1991) College life: Undergraduate culture and higher education. *The Journal of Higher Education* 61: 44-61.
- Moffatt, M. (1989) Coming of age in New Jersey: College and American culture. New Brunswick: Rutgers University Press.
- Moffitt, T.E. (1993). Life-course-persistent and adolescence-limited antisocial behavior: A developmental taxonomy. *Psychological Review* 100: 674-701.
- Moffitt, T. E., Caspi, A., Dickson, N., Silva, P., and Stanton, W. (1996). Childhood-onset versus adolescent-onset antisocial conduct problems in males: Natural history from ages 3 to 18 years. *Development and Psychopathology* 8: 399-424.

- Moffitt, T. E., Caspi, A., Harrington, H. L., and Milne, B. J. (2002) Males on the life-course persistent and adolescence-limited antisocial pathways: follow-up at age 26. *Development and Psychopathology* 14: 179-207.
- Moffitt, T.E., Caspi, A., Rutter, M. and Silva, P.A. (2001). Sex differences in antisocial behaviour: Conduct disorder, delinquency, and violence in the Dunedin Longitudinal Study. Cambridge: Cambridge University Press.
- Muraskin, R. (2002) It's a crime: Women and justice. New Jersey: Prentice Hall.
- Nagin, D.S. and D.P. Farrington (1992) The stability of criminal potential from childhood to adulthood. *Criminology* 30: 235-260.
- Nagin, D.S., D.P. Farrington, and T.E. Moffitt (1995) Life course trajectories of different types of offenders. *Criminology* 33: 111-139.
- Nagin, D.S. and R. Paternoster (1993) Enduring individual differences and rational choice theories of crime. *Law and Society Review* 27: 467-496.
- National Institute on Drug Abuse and University of Michigan (2007) Monitoring the future national survey results on drug use: 1975-2006, Volume II: College Students & Adults Ages 19-45.
- Niswander, K., and Gordon, M. (1972). The women and their pregnancies. Washington, DC: U.S. Department of Health, Education, and Welfare.
- Nye, F. I., J.F. Short, Jr., and V. Olson (1958) Socioeconomic status and delinquent behavior. *American Journal of Sociology* 63:381-389.
- Palladino, G. (1996) Teenagers: An American history. New York: Basic Books
- Park, R.E.K., E.W. Burgess, and R.D. McKenzie (1928) The city. Chicago: University of Chicago Press.
- Paternoster, R. and R. Brame (1998) The structural similarity of processes generating criminal and analogous behaviors. *Criminology* 36: 633-669.
- Patterson, G.R. (1993) Orderly change in a stable world: The antisocial trait as a chimera. *Journal of Consulting and Clinical Psychology* 61:911-919.
- Paul, E.L. and Brier, S. (2001) Friendsickness in the transition to college: Precollege predictors and college adjustment correlates. *Journal of Counseling & Development* 79: 77-89

- Piquero, A.R., Z. Gomez-Smith, and L. Langton (2004) Discerning unfairness where others may not: Low self-control and unfair sanction perceptions. *Criminology* 42:699-734
- Piquero, A.R. and S.G. Tibbetts (1996) Specifying the direct and indirect effects of low self-control and situational factors on offenders' decision making: Toward a more complete model of rational offending *Justice Quarterly* 13: 481-510.
- Polakowski, M. (1994) Linking self- and social control with deviance: Illuminating the structure underlying a general theory of crime and its relation to deviant activity. *Journal of Quantitative Criminology* 10: 41-78.
- Pratt, T.C. and F.T. Cullen (2000) The empirical status of Gottfredson and Hirschi's general theory of crime: A meta-analysis. *Criminology* 38: 931-964.
- Pratt, T.C., FT Cullen, K.R. Blevins, and L.E. Daigle, J.P. Wright, and J.D. Unnever (2002) The relationship of attention deficit hyperactivity disorder to crime and delinquency: A meta-analysis. *International Journal of Police Science & Management* 4:344-360.
- Pratt, T.C., M.G., Turner, and A.R. Piquero (2004) Parental socialization and community context: A longitudinal analysis of the structural sources of low self-control. *Journal of Research in Crime and Delinquency* 41: 219-243.
- Rand, A. (1957) *Atlas shrugged*. New York: Random House.
- Rankin, S.R. and R.D. Reason (2005) Differing perceptions: How students of color and White students perceive campus climate for underrepresented groups. *Journal of College Student Development* 46: 43-61.
- Reiman, J.H. (1990) *The rich get richer and the poor get prison: Ideology, class, and criminal justice*. New York: MacMillan
- Reiss, A.J. Jr. (1986) Co-offender influences on criminal careers. In A. Blumstein, J. Cohen, J. Roth, and C. Visher (Eds.) *Career Criminal and Criminal Careers*. District of Columbia: National Academy Press.
- Richman, N., J. Stevenson, and P.J. Graham (1982) *Preschool to school: A behavioral study*. London: Academic Press.
- Robins, L.N. (1978) Sturdy childhood predictors of adult antisocial behavior: replications from longitudinal studies. *Psychological Medicine* 8: 611-627.
- Robins, L. N., Davis, D. H., and Nurco, D. N, (1974). How permanent was Vietnam drug addiction? *American Journal of Public Health*, 64: 38-43.

- Robins, L. N., Helzer, J.E. Hesselbrock, M., and Wish, E. (1980). Vietnam veterans three years after Vietnam: How our study changed our view of heroin. In L. Brill & C. Winick (Eds.), *Yearbook of substance use and abuse*. New York: Human Science Press.
- Robinson, M.B. (2004) *Why crime?: an integrated systems theory of antisocial behavior*. New Jersey: Prentice Hall.
- Rock, P. (2002) *Sociological Theories of Crime*. In M. Maguire, R. Morgan, R. Reiner (Eds.). *The Oxford handbook of criminology*. Oxford University Press.
- Rowe, D.C. (2002) *Biology and crime*. Los Angeles: Roxbury.
- Safron, D.J. Schulenberg, J.E. and Bachman, J.G. (2001) Part-time work and hurried adolescence: The links among work intensity, social activities, health behaviors, and substance use. *Journal of Health and Social Behavior* 42: 425-449.
- Salekin, R.T., R. Rogers, and K.L. Ustad (2001) Juvenile waiver to adult criminal courts: Prototypes for dangerousness, sophistication-maturity, and amenability to treatment. *Psychology, Public Policy, and Law* 7: 381-408.
- Sampson, R.J. and J.H. Laub (1993) *Crime in the making: Pathways and turning points through life*. Cambridge: Harvard University Press.
- Sampson, R.J. and J.H. Laub (2005) A Life-Course view of the development of crime. *The Annals of the American Academy of Political and Social Science*. 602: 12-45.
- Sanday, P.R. (2007) *Fraternity gang rape: Sex, brotherhood, and privilege on campus*. New York : New York University Press.
- Schreck, C.J. (1999) Criminal victimization and low self-control: An extension and test of a general theory of crime. *Justice Quarterly* 16: 633-654.
- Schwartz, M. D., and DeKeseredy, W. S. (1997) *Sexual assault on the college campus: The role of male peer support*. Thousand Oaks, CA: Sage.
- Seigel, D.G. and C.H. Raymond (1992) An ecological approach to violent crime on campus. *Journal of Security Administration* 15: 19-27.
- Sellers, C.S. (1999) Self-control and intimate violence: An examination of the scope and specification of the general theory of crime. *Criminology* 37: 375-404.
- Shaw, C., and H.D. McKay (1942) *Juvenile delinquency and urban areas*. Chicago: University of Chicago Press.

- Shedler, J. and J. Block (1990) Adolescent drug use and psychological health. *American Psychologist*. 45:612-630.
- Short, J.F., Jr., and F.I. Nye (1958) Extent of unrecorded juvenile delinquency: Tentative conclusions. *Journal of Criminal Law and Criminology* 49:296–302.
- Short, J.F., Jr., and F.I. Nye (1957) Reported behavior as a criterion of deviant behavior. *Social Problems* 5:207–213.
- Silverman, A.L. (2002) An exploratory analysis of an interdisciplinary theory of terrorism. Ph.D. Dissertation, University of Florida.
- Simmons, R. (2002) *Odd girls out: The hidden culture of aggression in girls*. Orlando: Harcourt Books.
- Skogan, W.G. (1977) Dimensions of the dark figure of unreported crime. *Crime and Delinquency* 23: 41-50.
- Sloan, J.J. (1992) The modern campus police: An analysis of their evolution, structure and function. *American Journal of Police* 11: 85-101.
- Spear, S. and R.L. Akers (1988) Social learning variables and the risk of habitual smoking among adolescents: The Muscatine study. *American Journal of Preventative Medicine* 4: 336-348
- Steffensmeier, D. and J. Ulmer (2003) Confessions of a dying thief: A tutorial on differential association. In R.L. Akers and G.F. Jensen (Eds.) *Advances in criminological theory*. Vol. 11, *Social learning theory and the explanation of crime: A guide for the new century*. New Brunswick: Transaction Publishers.
- Sullivan, C.L, J. M. McGloin, T.C. Pratt, and A.R. Piquero (2006) Rethinking the “norm” of offender generality: Investigating specialization in the short term. *Criminology* 44: 199-233.
- Sutherland, E.H. (1949) *White-Collar Crime* New York: Holt, Rinehart, and Winston.
- Sutherland, E.H. (1947) *Principles of criminology*. Fourth Edition. Philadelphia: Lippincott.
- Sutherland, E.H. (1939) *Principles of criminology*. Third Edition. Philadelphia: Lippincott.
- Sutherland, E.H. and D.R. Cressey (1978) *Criminology*. Tenth Edition Philadelphia: Lippincott.

- Sykes, G. and D. Matza (1957) Techniques of neutralization: A theory of delinquency. *American Sociological Review*. 43:643-656.
- Szasz, T. (1996a). Fatal freedom: The ethics and politics of suicide. Westport: Praeger
- Szasz, T. (1996b) Pharmacracy: Medicine and politics in America. Westport: Praeger
- Szasz, T. (1984) The therapeutic state: Psychiatry in the mirror of current events. Buffalo: Prometheus Books.
- Szasz, T. (2007) Coercion as cure: A critical history of psychiatry. New Brunswick: Transaction Publishers.
- Thornberry, T.P. and M.D. Krohn (2000) The self-report method for measuring delinquency and crime. In United States Department of Justice (Pub.) Measurement and Analysis of Crime and Justice Vol. 4
- Tittle, C. R. (1995) Control balance: Toward a general theory of deviance. Boulder: Westview.
- Tittle, C.R., W.J. Villemez, and D.A. Smith (1978) The myth of social class and criminality: An empirical assessment of the empirical evidence. *American Sociological Review*. 43: 643-656.
- Turner, M.G. and A.R. Piquero (2002) The stability of self-control. *Journal of Criminal Justice* 30:457-71.
- Turner, M.G., A.R. Piquero (2005) The school context as a source of self-control. *Journal of Criminal Justice* 33: 327-339.
- Unnever, J., F.T. Cullen, and T.C. Pratt (2003) Parental management, ADHD, and delinquent involvement: Reassessing Gottfredson and Hirschi's general theory of crime. *Justice Quarterly* 20:471-500.
- U.S. Census Bureau (Forthcoming) Statistical Abstract of the United States: 2007. United States Department of Commerce.
- Van der Geest, V., A. Blokland, and C. Bijleveld (forthcoming) Delinquent development in a sample of high risk youth: Shape, content, and predictors of delinquent trajectories from age 12 to 32. *Journal of Research in Crime and Delinquency*.
- Vicary, J.R. and C.M. Karshin (2002) College alcohol abuse: A review of the problems, issues, and prevention approaches. *Journal of Primary Prevention* 22: 299-331.

- Vollmer, T.R., J.C. Borrero, J.S. Lalli, and D. Daniel (1999) Evaluating self-control and impulsivity in children with severe behavior disorders. *Journal of Applied Behavior Analysis* 32: 451–466.
- Voss, H.L. (1966) Socio-economic status and reported delinquent behavior. *Social Problems* 13:314–324.
- Warr, M. (2002) *Companions in crime: The social aspects of criminal conduct*. Cambridge: Cambridge University Press
- Warr, M. and M. Stafford (1991) The influence of delinquent peers: What they think and what they do? *Criminology* 4: 851-866.
- Warr, M. (1996) Life transitions and desistance from crime. *Criminology* 36: 183-216.
- Walsh, A. (2002) *Biosocial criminology*. Cincinnati: Anderson.
- Walsh, A. and L. Ellis (2007) *Criminology: An interdisciplinary approach*. Thousand Oaks: Sage
- Weitekamp, E. (1989) Some problems with the use of self-reports in longitudinal research. In *Cross-national research in self-reported crime and delinquency*, Malcolm W. Klein (Ed.) Los Angeles: Kluwer Academic Publishers.
- Wiebe, R.P. (2003) Reconciling psychopathy and low self-control. *Justice Quarterly* 20:297-36.
- Wiesner, M., Capaldi, D.M. and G.R. Patterson (2003) Development of antisocial behavior and crime across the life-span from a social interactional perspective: The coercion model. In R.L. Akers and G.F. Jensen (Eds.) *Advances in criminological theory*. Vol. 11, *Social learning theory and the explanation of crime: A guide for the new century*. New Brunswick: Transaction Publishers.
- Wilcox, P., C.E. Jordan, and A.J. Pritchard (2007) A multidimensional examination of campus safety: Victimization, perceptions of danger, worry about crime, and precautionary behavior among college women in the post-Clery era. *Crime and Delinquency* 53: 219-254.
- Wilson, W.J. (1980) *The declining significance of race: Blacks and the changing American institutions*. Chicago: University of Chicago Press.
- Winfrey, L.T. and F.P. Bernat (1998) Social learning, self-control, and substance abuse by eighth grade students: A tale of two cities. *Journal of Drug Issues*. 28:539-558.
- Wolfgang, M.E., R.M. Figlio, and T. Sellin (1972) *Delinquency in a birth cohort*. Chicago: University of Chicago Press.

Wright, J.P. and F.T. Cullen (2001) Parental Efficacy and delinquent behavior: Do control and support matter? *Criminology* 39: 677-706.

Wright, J.P. and F.T. Cullen (2004) Employment, peers and life-course transitions. *Justice Quarterly* 21: 183-205.

Zimmer-Gembeck, M.J. and Mortimer, J.T. (2006) Adolescent work, vocational development and education. *Review of Educational Research* 76: 537-566.

Appendix A: National Youth Survey (NYS) Interview Questions

Criminal and Delinquent Behaviors and Frequencies for calendar year: 1983, 1980, 1979, 1978, 1977, and 1976*

This section deals with your own behavior. I'd like to remind you that all your answers are confidential. I'll read a series of behaviors to you. Please give me your best estimate of the EXACT NUMBER of times you've done each thing during the last year from Christmas a year ago to the Christmas just past. (RECORD A SINGLE NUMBER, NOT A RANGE, AND "0" IF RESPONDENT NEVER ENGAGED IN A BEHAVIOR.

FOR ANY BEHAVIOR THAT THE RESPONDENT HAS ENGAGED IN 10 OR MORE TIMES IN THE LAST YEAR, ALSO RECORD RESPONSE IN THE SECOND COLUMN, SAYING:) Please look at the responses on card number 8, the second ivory card, and select the one which best describes how often you were involved in this behavior.

Choices include:

Once a Month
Once every 2-3 Weeks
Once a week
2-3 Times a Week
Once a day
2-3 times a day

How many times in the LAST YEAR have you:

Purposely damaged or destroyed property belonging to your PARENTS or other FAMILY MEMBERS?

(IF IN SCHOOL)

Purposely damaged or destroyed property belonging to a SCHOOL, COLLEGE, or UNIVERSITY?

(IF WORKING)

Purposely damaged or destroyed property belonging to your employer?

Stolen or tried to steal a MOTOR VEHICLE such as a car or motorcycle?

Stolen or tried to steal things worth more than \$50?

Knowingly bought, sold or held stolen goods or tried to do any of these things?

Purposely set fire to a building, a car, or other property or tried to do so?

Carried a hidden weapon other than a plain pocket knife?

Stolen or tried to steal things worth \$5 or less?

Attacked someone with the idea of seriously hurting or killing him or her?

Been paid for having sexual relations with someone?

Paid someone to have sexual relations with you?

Been involved in gang fights?

Used checks illegally or used phony money to pay for something?

Sold marijuana or hashish? ("POT", "GRASS", "HASH")

Hitchhiked where it was illegal to do so?

Stolen money or other things from your parents or other members of your family?

Stolen money, goods, or property from the place where you work?

Had or tried to have sexual relations with someone against their will?

(IF IN SCHOOL)

Hit or threatened to hit a TEACHER, professor or other school staff?

Hit or threatened to hit one of your PARENTS?

(IF IN SCHOOL)

Hit or threatened to hit other STUDENTS?

(IF WORKING)

Hit or threatened to hit your supervisor or other employee?

Hit or threatened to hit anyone else (other than teachers, students, parents, persons at work)?

Been loud, rowdy, or unruly in a public place disorderly conduct?

Sold hard drugs such as heroin, cocaine, and LSD?

Tried to cheat someone by selling them something that was worthless or not what you said it was?

Taken a vehicle for a ride or drive without the owner's permission?

Bought or provided liquor for a minor?

(IF IN SCHOOL)

Used force or strong-arm methods to get money or things from other STUDENTS?

Used force or strong-arm methods to get money or things from people?

Avoided paying for such things as movies, bus or subway rides, and food?

Been drunk in a public place?

Stolen or tried to steal things worth between \$5 and \$50?

(IF IN SCHOOL)

Stolen or tried to steal something at school, or on campus?

Broken or tried to break into a building or vehicle to steal something or just to look around?

Begged for money or things from strangers?

Failed to return extra change that a cashier gave you by mistake?

Used or tried to use credit cards without the owner's permission?

Made obscene telephone calls (such as calling someone and saying dirty things)?

Snatched someone's purse or wallet or picked someone's pocket?

Embezzled money, that is, used money or funds entrusted to your care for some purpose other than that intended?

Used force or threat of force to rob a person, store, bank, or other business establishment?

Burglarized a residence, building, house, business or warehouse?

The next series of questions deals with some drugs and other substances you may have used. Please give me your best estimate or the EXACT NUMBER of times you've used each substance during the last year from Christmas a year ago to the Christmas just past. (NOTE ANY COMMENTS SUGGESTIVE OF EPISODIC PATTERN OF USE OR USE UNDER PRESCRIPTION)

(FOR ANY SUBSTANCES THAT THE RESPONDENT HAS USED 10 OR MORE TIMES IN

THE LAST YEAR, ALSO RECORD A RESPONSE IN THE SECOND SECTION, SAYING:)

Using card number 7, the ivory card, which response best describes how often you have drunk/used _____?

Choices include:

Once a Month
Once every 2-3 Weeks
Once a week
2-3 Times a Week
Once a day
2-3 times a day

How many times in the LAST YEAR have you:

Used alcoholic beverages, beer wine, hard liquor

During the past year, have you used tobacco?

Used marijuana or hashish? (GRASS, POT, HASH)

Used hallucinogens, LSD, Acid, peyote, mescaline?(PSYCHEDELICS)

Used tranquilizers such as Valium, Librium, Thorazine, Miltown, Equanil, Meprobamate, etc.?

Used amphetamines, uppers, speed, whites? (DEXEDRINE, BENZEDRINE, DIET, PILLS, DEXAMYL, STP, BENNIES)

Used barbiturates,or downers, reds?

Used codeine?

Used heroin?(HORSE, H, SMACK, JUNK)

Used cocaine? (COKE, SNOW)

Used inhalants, glue, paint, nail polish, or others?

Used angel dust or PCP? (PHENCYCLINDINE, SERNYLAN, CRYSTAL, PEACE HILL, HOG, SHEETS)

Used any other nonprescription drugs or intoxicants? (SPECIFY KIND, EXCLUDE ASPIRIN AND TYLENOL)

Criminal and Delinquent Behaviors and Frequencies for calendar years: 1982 and 1981

The following set of questions concerns your behavior during the calendar years 1981 and 1982. This set of questions is less extensive than the preceding set but accurate answers are very important.

Also, these questions don't ask about the details that the previous questions did, so this section will be easier.

Choices include a two part response:

Part one:

During 1981 Yes

During 1981 No

During 1982 Yes

During 1982 No

Part two:

Never

1981 1-2 times

1981 3-11 times

1981 12 or more times

1982 1-2 times

1982 3-11 times

1982 12 or more times

During 1981 or 1982 did you ever . . .

Purposely damage or destroy property belonging to your PARENTS or other FAMILY MEMBERS?

(IF IN SCHOOL)

Purposely damage or destroy property belonging to a SCHOOL, COLLEGE, or UNIVERSITY?

(IF WORKING)

Purposely damage property belonging to your employer?

Purposely damage or destroy OTHER PROPERTY that did not belong to you, not counting family, school, or work property?

Steal or try to steal a MOTOR VEHICLE such as a car or motorcycle?

Steal or try to steal something worth more than \$50 ?

Knowingly buy, sell or hold stolen goods or try to do any of these 1982 things?

Purposely set fire to a building, a car, or other property or try to do so?

Carry a hidden weapon other than a plain pocket knife?

Steal or try to steal things worth \$5 or less?

Attack someone with the idea of seriously hurting or killing him or her?

Get paid for having sexual relations with someone?

Get involved in gang fights?

Use checks illegally or use phony money to pay for something? (INCLUDES INTENTIONAL OVERDRAFTS)

Sell marijuana or hashish? ("POT", "GRASS", "HASH")

Hitchhike where it was illegal to do so?

Steal money or other things from your parents or other members of your family?

(IF WORKING)

Steal money, goods, or property from the place where you work?

Have or try to have sexual relations with someone against their will?

(IF IN SCHOOL)

Hit or threaten to hit a TEACHER or other adult at school/college?

Hit or threaten to hit one of your PARENTS?

(IF IN SCHOOL)

Hit or threaten to hit other STUDENTS?

(IF WORKING)

Hit or threaten to hit your supervisor or other 1982 employee?

Hit or threaten to hit anyone else (other than teachers/professors, students, parents, persons at work?)

Get loud, rowdy, or unruly in a public place-disorderly conduct?

Sell hard drugs such as heroin, cocaine, and LSD?

Try to cheat someone by selling them something that was worthless or not what you said it was?

Take a vehicle for a ride or drive without the owner's permission?

Buy or provide liquor for a minor?

(IF IN SCHOOL)

Use force or strong-arm methods to get money or things from other STUDENTS?

Use force or strong-arm methods to get money or things from OTHER PEOPLE?

Avoid paying for such things as movies, bus or subway rides, and food?

Get drunk in a public place?

Steal or try to steal things worth between \$5 and \$50?

(IF IN SCHOOL)

Steal or try to steal something at school, or on campus?

Break or try to break into a building or vehicle to steal something or 1982 just to look around?

Beg for money or things from strangers?

Fail to return extra change that a cashier gave you by mistake?

Use or try to use credit cards without the owner's permission?

Make obscene telephone calls (such as calling someone and saying dirty things)?

Use alcoholic beverages, beer, wine, hard liquor?

Use marijuana or hashish(GRASS, POT, HASH)?

Use hallucinogens (LSD, ACID, PEYOTE, Mescaline, ETC.)

Use tranquilizers such as Valium, Librium, Thorazine, Miltown, Equanil, etc.?

Use amphetamines, uppers, speed, whites? (DEXEDRINE, BENZEDRINE, 4 DEXAMIL, DIET PILLS, ETC.)

Use barbiturates, downers, reds?

Use cocaine?

Have you ever been arrested by the police for anything other than a minor traffic offense?

*The questions in this instrument appear across all waves of the NYS. It is important to note some questions are wave specific and do not appear consistently. Below are the unique questions broken down by wave.

Choices include:

Once a Month
Once every 2-3 Weeks
Once a week
2-3 Times a Week
Once a day
2-3 times a day

How many times in the LAST YEAR have you:

Thrown objects (such as rocks, snowballs, or bottles) at cars or people. Wave I, III, IV, and V

Run away from home. Wave I, II, III, and IV

Lied about your age to gain entrance or to purchase something, for example, lying about your age to buy liquor or get into a movie. Wave I, III, and IV

Cheated on school tests. Wave I, IV, and V

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. Wave I, II, III, and V

Skipped classes without an excuse. Wave I, III, IV, and V

Been suspended from school. Wave I, III, IV, and V

Note: Wave II also uses a less exhaustive drug use scale than the other waves

Appendix B: Descriptive Statistics for Logistic Regression Model

Variable	Mean	SD	Minimum	Maximum
Sex	.540	.499	0	1
White	.769	.421	0	1
College Student	.080	.269	0	1
Wave 2 Drug Use	.400	.490	0	1
Wave 3 Drug Use	.350	.478	0	1
Wave 4 Drug Use	.750	.432	0	1
Wave 1 Arrestable offenses	.230	.423	0	1
Wave 2 Arrestable offenses	.180	.383	0	1
Wave 3 Arrestable offenses	.170	.373	0	1
Wave 4 Arrestable offenses	.170	.376	0	1
Average of Grade Point Averages during Waves 1 thru 5	3.716	.815	0	5
Feelings of Closeness to Family	4.255	.795	1	9
Duncan Socio-Economic Index	30.620	19.539	4	85

Appendix C: Correlation Matrix for Logistic Regression Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Sex	1												
White		1											
College Student			1										
Wave 2 Drug Use				1									
Wave 3 Drug Use					1								
Wave 4 Drug Use						1							
Wave 1 Arrestable offenses							1						
Wave 2 Arrestable offenses								1					
Wave 3 Arrestable offenses									1				
Wave 4 Arrestable offenses										1			
Average of Grade Point Averages during Waves 1 thru 5											1		
Feelings of Closeness to Family												1	
Duncan Socio-Economic Index													1