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CRIME AND PUNISHMENT: INSITUTIONAL SANCTIONS AND OTHER CHARACTERISTICS THAT EFFECT CAMPUS CRIME

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CRIME AND PUNISHMENT: INSITUTIONAL SANCTIONS AND OTHER
CHARACTERISTICS THAT EFFECT CAMPUS CRIME

A Thesis
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
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Master of Arts
Economics

by
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ABSTRACT

Crime, has and continues to be, a major issue in the world of institutions of higher education. Colleges and universities are constantly working on ways to prevent and improve crime on their respective campuses, which in most occasions includes collecting and reporting crime data to law enforcement agencies and the general public. By setting up punishment schemes and sanctions to deter criminal activity at their institution, administrators and faculty are looking for better, more efficient ways to influence the behavior of their students and steer them away from a life of criminal activity.

By studying existing literature, crime definitions, and the Federal Bureau of Investigation's Uniform Crime Report, this thesis attempts to uncover some of the influences of criminal activity and seeks to discuss possible ways to deter such activity. Taking an economic approach to crime, we seek to take an empirical and theoretical path in order to answer the behavioral questions of criminal activity.

Using the FBI's Uniform Crime Report for campuses across the county, as well as a sample of twenty-one colleges and universities in the state of South Carolina, we are able to investigate criminal activity and changes in criminal behavior. This research and analysis might be able to give institutions a better view of how to approach and deter criminal activity among their student body. By knowing how and why prospective offenders react to the changing costs and benefits of committing crime can greatly aid in the process of finding a better, more effective way to deter criminal activity.

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CHAPTER 1

INTRODUCTION

The economics of crime has been an increasingly important field of study over the past fifty years. Further study into this subject has helped us try to answer questions about why individuals commit crime, what aspects of their behavior influence their decisions, and how the potential “payoffs” of their criminal activity motivate them to act in a specific way. This paper takes a look at a specific realm of crime: crime on college and university campuses to delve deeper into this problem and attempt to come up with a reasonable explanation. The analysis of crime data provided by the Federal Bureau of Investigation for both on- and off-campus crime over the period between 2005 and 2008 is used to investigate the relative magnitude of specific criminal activity. Data is acquired through the FBI’s Uniform Crime Report over the relevant range and sorted in further sections to look at the changes of crime over time.

We know from college and university codes of conduct that certain crimes are punishable by the administration. That is, if a crime is committed on campus (or in some cases, even off-campus) the student can be punished by both law enforcement and the school itself. University sanctions for criminal activity are used too keep crime at a minimum, and students and faculty are well aware of the possible implications of their actions. This paper maintains the assumption that since students are well aware of being punished twice for criminal behavior, through such punishment schemes as probation, suspension, fines, or expulsion, rather than once, the relative magnitude of crime on-

campus (or crime among students) should be lower than the level of crime off-campus, *ceteris paribus*.

Using several different analytical tools ranging from theoretical to empirical, we can come up with some reasonable inferences about the changes in crimes rates for on-campus and off-campus crime as well as the reasons for these changes. We look at economic, sociological, psychological, and empirical studies that have been used to investigate these questions in the past and use them in a way that will help us better understand the nature of criminal activity on the college and university campuses across the country, and in later sections in the state of South Carolina.

After analyzing the information at the country wide level, this paper investigates colleges and universities in the state of South Carolina. We investigate the assumption that university sanctions have an impact on the participation in criminal activity. This paper maintains the assumption that given students know they will be punished for their crimes and their beliefs about what those punishments will be; institutional characteristics which influence violent crime will be different than those characteristics that influence property crime. Much of this difference is due to differences in socioeconomic characteristics, such as the financial background of the student, what type of parents he or she has, and what type of neighborhood they come from. Other influences across time and crime categories are the differences in university characteristics as well as the counties and areas surrounding them. A further discussion of this problem with the data is discussed in sections 4 and 5.

CHAPTER 2

LITERATURE REVIEW

Criminology studies and the literature about the subject date back hundreds of years. The question of why individuals choose to commit crimes and what are the drive forces that incentivize them to do so have been studied for centuries. The study of criminal behavior as a part of the social sciences (the Classical School) was first investigated in the 17th century and its foundations were built upon utilitarian views. It wasn't until the 18th and 19th centuries that philosophers and social thinkers of the time such as Cesare Beccaria and Jeremy Bentham began to expand the literature and the study of the criminal way of thought. Among the early scientists investigating the criminal mind, there existed four basic principles that governed an individuals actions:

- 1) A person acts based on free will, and their behavior is governed by their own moral code.
- 2) Deterrence is based upon the notion of the human being as a "hedonist" who seeks pleasure and avoids pain, and a "rational calculator" weighing up the costs and benefits of the consequences of each action. Thus, it ignores the possibility of irrationality and unconscious drives as motivational factors.
- 3) Punishment can deter people from crime, as the costs outweigh benefits, and that severity of punishment should be proportionate to the crime.
- 4) The more swift and certain the punishment, the more effective it is in deterring criminal behavior.

The realm of criminology and the behavior of individuals committing crimes can be broken down into two distinct classes of theoretical framework. The first is referred to as "social structure theory" and it applies to several types of theories within the field. Social structure theory claims that individuals behavior and actions are done in

accordance with the society in which they live. They respond to certain stimuli within their environment and act accordingly. The second realm is referred to heavily in the literature as “individual theory” which states that individuals act according to their own personal traits and incentives which they come in contact with on a daily basis. Individual theory is where the economic approach to crime comes in. In this realm we are able to study how an individual responds to incentives, mainly those of the costs and benefits of their actions, and how these incentives play into their choice set.

Closely related to the idea of why individuals commit crimes is the question of how to deter, or even stop completely, the actions from occurring. Throughout the past centuries sociologists, psychologists, and politicians have bounced around ideas of deterrence ranging from *lex talionis* (“an eye for an eye”), and capital punishment techniques, to more subtle means of punishment such as imprisonment, fines, parole, and the like (much of which are used in the United States today).

The rate of crime was more or less steady up until World War II. After the war and into the early part of the 1960’s crime rates in the United States as well as other countries began to increase, but remained fairly unchanged. It wasn’t until the middle part of the 60’s that the crime rates in the United States began increase dramatically and with fervor. Figure 1 below provided by Gordon (2010) shows the trend for violent, property, and total crime between 1960 and 2007. It can be seen that violent crime was relatively low and that property crime was quite high, driving the total crime up substantially. We can see an increase in the crime rate from 1960 up until the early part of the 1990s. At this point (the dotted vertical line on the chart), a zero-tolerance policy was

put into law in New York, which from then on, was able to control both the violent crime rate and property crime rate and began to slowly decrease it over the next decade.

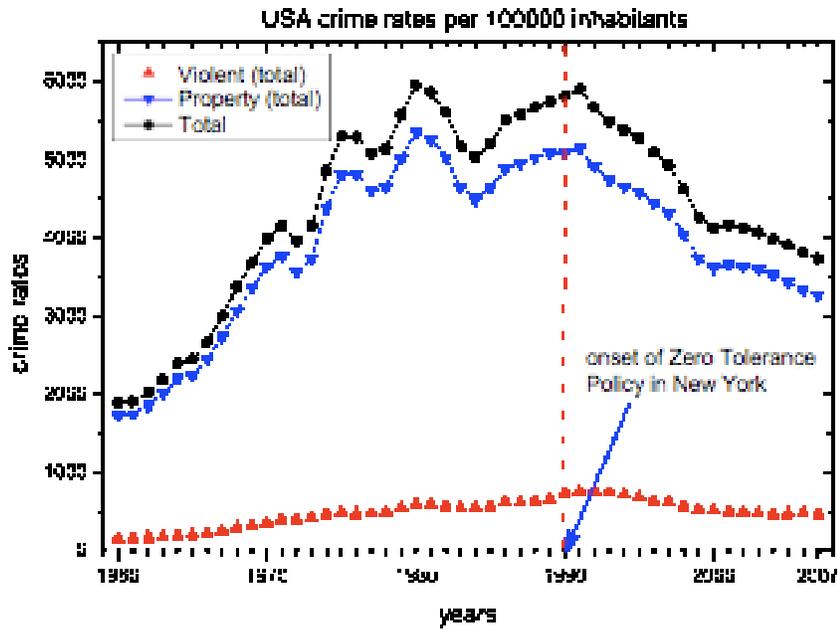
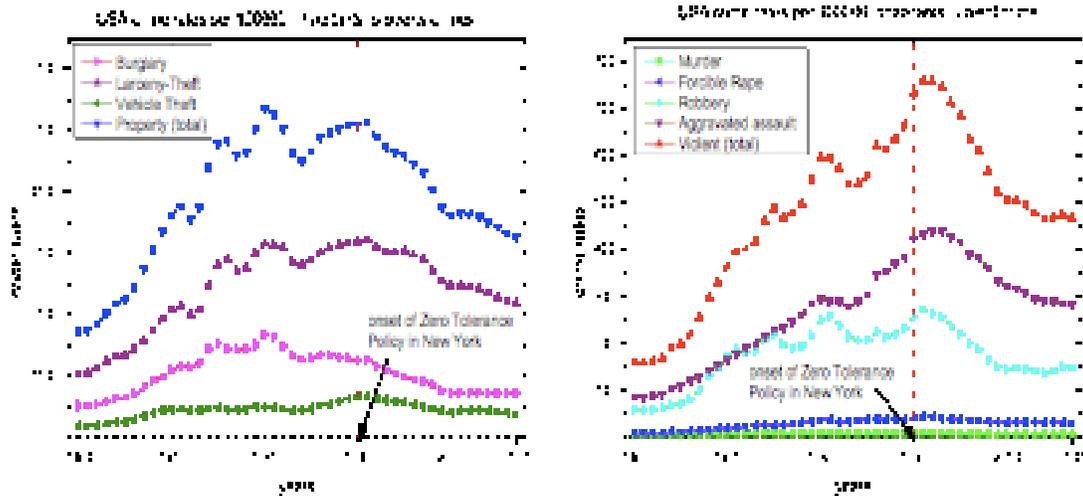


Figure 1: Crime rates per 100,000 inhabitants

Figures 2 and 3 are also representative of the same statistics as before, but this time violent crime and property crime are both separated into their component parts (also from Gordon, 2010).



Figures 2 and 3: Crime rates per 100,000 inhabitants for property crime and violent crime.

Figures 1, 2 and 3 are more or less the same graph. So, we can see the change in crime levels over the 47 year period.

These three graphs give us a very good idea of how crime has been changing over the course of the last several decades and also points out that strict law enforcement can, and does, have a strong impact on the direction and magnitude of the change in criminal activity. While this effect may lag by a couple of years, in order for the resources and policies to take hold, these types of programs such as zero-tolerance policies and the like do have an impact on the rate of crime, and they seem to be behaving properly.

Basic Models and Economic Contributions to Crime

The idea that criminals act according to rational decision making, and respond to incentives based on the expected gains and losses they face when committing a crime

dates back to the 18th and 19th century (Beccaria, Bentham). However, it was not until the work of Nobel Laureate Gary S. Becker (1968) that we have a more timely, modern approach to modeling criminal behavior from an economic point of view. In his work, Becker sets forth a social loss function, L , which is a function of the costs and benefits of crime from the criminals perspective. The magnitude of the social loss is influenced by the number of offenses O , the probability of conviction p and the costs to offenders due to the punishment they receive if caught f (we usually think about this as the amount paid in fines or legal fees, or the discounted value of loss income flows from imprisonment or other types of incarceration). The model takes the form:

$$L = D(O) + C(p, O) + fpO,$$

where $D(O)$ refers to the social loss from offenses (damages to society of committed crimes), $C(p, O)$ is the social cost of apprehension to society (such as arresting the offender and any legal acts required to punish the alleged offender), and the final term represents the loss to the convicted criminal. The model can be used in order to minimize L , thereby determining the efficient allocation of crimes to be punished and the number to be ignored. Becker's model enables us to think about the determining factors of modifying policy to best suit the needs of society. As stated before, almost all of the literature about economic approaches to crime stem from Becker's work. Many of the papers and studies to follow exhibit some of the flavor of his paper and are supported greatly by his work.

The Alchian-Allen theorem is another integral step in our analysis of criminal activity. While not directly related to crime, the theorem does give us good insight on how to think about and approach crime from a different point of view, that is by thinking about crime types as separate goods rather than just illegitimate acts against society. In their book titled *University Economics* (1964), Armen Alchian and William R. Allen lay the foundations for a theory about the substitutability of two goods. The theory states that when two substitute goods (such as a high and low quality version of the same good) are both increased by the same fixed amount, such as a tax, the individual will tend to increase consumption of the high quality good. This stems from the fact that the increase in fixed cost decreases the relative price of the high-quality good. Alchian and Allen's theorem has been studied quite heavily over the years and tested throughly in previous literature. Bertonazzi, Maloney, and McCormick (1993) tested the theorem by studying the affects that consumers experienced when thinking about how to invest their money in Clemson University football tickets. There were able to test the theorem quite well and found that fans that traveled the greatest distances to attend football games chose to purchase the best tickets (more expensive), relative to other fans. Alchian and Allen's theorem "consistently provides a theoretical explanation for apparently anomalous behavior". This helps in our analysis since the threat of added punishment from the university acts like a fixed cost of the potential offender. Crime types can be ordered according to their severity and we can use this theory to better understand how offenders will choose, which is the better crime to commit based on the potential costs and

benefits. Further explanation and association to this paper will follow in subsequent sections.

Furthermore, the economic approach to crime is investigated fairly heavily by Levitt and Miles (2006) in which they lay out four distinctive characteristics that set the economic approach from the broader approaches taken by the other social sciences. The four characteristics of the economic approach to dealing with crime that the authors lay out are *a)* an emphasis on the role of incentives in determining the behavior of individuals, whether criminals, victims, or those responsible for enforcing the law; *b)* the use of econometric approaches that seek to differentiate correlation from causality in nonexperimental settings; *c)* a focus on broad, public policy implications rather than evaluation of specific, small-scale interventions; and *d)* the use of cost-benefit analysis as the metric for evaluating public policies.

While considering these differences in the general approach to crime, Levitt and Miles also delve into the contributions that economic research has added to the criminology literature. They start by measuring the impact of the criminal justice system; such as , the scale of imprisonment, capital punishment, and racial profiling. They continue by investigating the impacts of other factors that influence crime outside of the criminal justice system like concealed weapons laws and legalized abortion.

Although economics has made leaps and bounds to contribute to the study of criminal activity, the cornerstone still lies with Becker's work. Our paper that follows, treats his work as such and much of the other literature and the analysis to follow rely heavily on Becker's work. Through Becker's paper and the basic economic assumption

that individuals maximize their utility subject to constraints and respond to incentives, there have been a number of studies produced to try and determine the efficient amount of punishment and deterrence to use in order to minimize Becker's social loss function. "There are two different aspects of punishment: the frequency at which illegal actions are punished and the severity of the punishment itself" (Gordon 2010). When dealing with punishment schemes for specific crimes, it is important to determine if punishment in and of itself has any deterrent effects on criminal activity. For the most part, we think that punishment does have a negative effect on criminal activity, but in some cases (the type and frequency of crimes) the deterrent affect seems to come from the probability that the offender will be caught, rather than the severity of the actual punishment itself (Eide 1999).

Punishment and Deterrence

So, we tend to believe that increasing the probability of punishment for committing a crime while influence criminal behavior more effectively than punishment schemes themselves. This fact has been shown through numerous studies based on the perception of risk among offenders. These studies have found that those criminals with experience in criminal activity have a lower estimate of the risk of punishment than those who have no experience with similar activities (Claster, 1967; Horney and Marshall, 1992; Jensen, 1969; Jensen et al., 1978; Teevan, 1976; Tittle, 1977; Waldo and Chiricos, 1972). Since we think that the probability of punishment is a deterrent for criminal behavior, we would expect inexperienced criminals to be less likely to commit a crime,

relative to their more experienced counterparts. If someone who has never robbed a bank before estimates that they will be caught 9 times out of 10, they will more than likely not even attempt the act. Whereas, a seasoned bank robber might estimate (from personal experience) that he will get caught only 5 out of 10 times, will be more likely to attempt the act.

Wilson and Kelling (1982) investigate ways to increase the deterrence affect of punishment through what is termed “Broken Window Theory”. That is, if a window in a building is broken and left unrepaired, then soon, all of the windows will be broken. This comes from the belief that many might hold in which if one window in a building is broken and no one cares enough to fix it, then it is assumed that they don’t care about the building in general. Once the building goes without repair, society takes a conceived view that the building is not meaningful and the rest of the building will be vandalized as well. “Vandalism can occur anywhere once communal barriers - the sense of mutual regard and the obligations of civility - are lowered by actions that seem to signal that ‘no one cares’”. Through this theory, Wilson and Kelling look at a natural experiment created by the state of New Jersey in the mid- 1970’s. During this program called the “Safe and Clean Neighborhoods Program”, the state provided cities and towns with funds to get police officers out of their cars and required them to be on foot-patrol at certain times in an attempt to lower crime rates. In the end, the foot-patrol officers and the program had not lowered crime, however surveys of citizens in the areas where foot-patrol had been implemented reported a higher level of perceived safety and happier residents than before the program had been started. They go on to state that this comes about because residents

feel more connected and cared about by police officers who are on foot, rather than simply patrolling the streets in their squad cars. Easier access to police officers by citizens and a higher level of ability of the officers to maintain the neighborhood “rules” and norms, made citizens feel better about their surroundings.

This program seems to be a good way to go about increasing neighborhood morale and making citizens feel safer, but it might not be the best program of deterrence for all areas of the country. For example, New Jersey is a small, urban state, making it easier for patrolling officers to hit the streets and deal with problems more affectively than they might be able to in say, Los Angeles, or the South Eastern states. Using such a program does however point us in the right direction when thinking about the best forms of deterrence for criminals.

Fundamental assumption and conditions of a society state that the purpose of the citizens and members of that particular society are tasked with the job of maintaining social order, as well as insuring that other members behave predictably (more or less). This job and process is how social norms are established and give order and structure to the society. Tittle (1969) uses this idea, along with other information gathered through research to investigate the magnitude and associations between the severity and certainty of punishment and crime rates. He goes on to state that “the crucial question is not simply whether negative sanctions deter, but rather under what conditions are negative sanctions likely to be effective”. Tittle shows, much like the Horney and Marshall paper, that the magnitude of criminal acts is usually positively related to the severity of punishment one might endure if convicted of a crime, but is *negatively* correlated with the certainty of

punishment. This would continue to point us in the direction of a belief that certainty of punishment is a better deterrent of criminal activity than the actual punishment itself.

Tittle lays out four major implications of his work which follow here; 1) it is reasonably clear that punishment, particularly *certain* punishment, does have some relationship to the amount of crime that becomes known to the police; 2) a second observation suggested by the magnitude of the associations is that official penalties alone cannot fully account for rates of deviance; 3) the data suggest that the relationship between official negative sanctions and crime is complex rather than simple and straightforward; and finally 4) the data show that greater certainty of punishment is, in almost all cases examined here, associated with lower offense rates, it would seem that proposals to reduce crime by improving law enforcement are reasonable.

In his highly cited paper Isaac Ehrlich (1973) investigates the participation of individuals in illegitimate activities and concludes that they respond to incentives in much of the same way as those individuals participating in legitimate activities. Ehrlich goes on to state that “our theory suggests that the extent of individual offenders’ response may vary (negatively) with the extent of their specialization in illegitimate activities and so may not be uniformly high or low”.

This sounds a lot like Becker’s theory of rationally acting criminals. In fact, it is quite similar and both can be extended into the realm of our investigation. Since we know that individuals, both criminal and non-criminal, respond to incentives and that one of the best ways to deter crime is through high probability of detection, the two seem to tie together quite nicely. We can infer from both sides of this argument, that a heightened

awareness of criminal activity by law enforcement and an increased level of resources devoted to criminal deterrence would be a great way to incentivize criminals to substitute legitimate means of behavior or their current illegitimate activities.

The Age Distribution and Crime on Campus

This section of the literature review will turn our attention to the relationship between crime rates and the distribution of age across criminals. We will begin by looking at cases in which crime is associated with younger individuals (which is becoming a more pronounced trend in recent years) and will continue into the discussion of crime rates on college and university campuses which is where this paper centers itself.

One of the oldest and more popular assumptions and claims made in the realm of criminology is one in which crime peaks at an early age, around late teen years and early 20's and then slowly (or sharply for some crimes) declines as the individual becomes older, and perhaps wiser (Quetelet 1831; Parmelee 1918). Traditional sociological views about the behavior of crime across the age distribution stems from the "Hobbesian assumption that human behavior is not inherently conforming and that the 'problem of social order' facing any society is a recurring one" (Steffensmeier, et al. 1989). Steffensmeier and his associates conclude, against other studies, that the age distribution of crime is in fact variant across time and crime type. By looking at the Uniform Crime Report provided by the FBI for 1940, 1960, and 1980 they were able to make several inferences indicating that the age distribution does in fact change with age and crime

type, and is usually different among the type of crime. In their paper they generate a graph of the distribution for three crimes: burglary, fraud, and gambling for the 1980 UCR (Fig. 1, pg. 816). This graph is not reproduced here but we can see the differences in the shapes of the three distributions both in the intensity of the peak and also in the rate of decline across age. For example, burglary is shown to peak around the age of 15 to 17 and then decline sharply thereafter, around age 18 and continues to decline across the individuals life span. Secondly, the distribution for fraud has a similar shape in that it peaks and then declines (now at a slower rate than burglary). In the case of fraud, the peak occurs around the age of 23-25 and then thereafter decreases quite slowly across the relevant range. Finally, for the figure provided in their paper Steffensmeier, et al. show that the gambling distribution is quite different from the others. Having a low participation rate, increasing to a peak around 25 years and then continuing more or less at the same rate until around 50 where it then begins to decrease slightly.

These age distributions give a clearer view into how individuals react to criminal activity. Crime types are quite different across age groups in that differently aged individuals tend to participate in different types of crimes. Since our paper focuses in on the college-age individual it is important to use this type of information to better understand how students behave and choose to participate in crime. The majority of the criminal activity (16 of the 20 crime types) provided by the Steffensmeier paper have a peak age of the offenders being between the ages of 16 and 24, which is exactly where our analysis occurs.

Finally, in their paper; Volkwein, Szelest, and Lizotte (1995) investigate the relationship between student and campus characteristics and the amount of crime on campus. This was at the time, and still is a major issue that parents and students alike are faced with each year when deciding where they want to attend college. In their study, the authors examine the correlation between campus and student characteristics and crimes rates to better understand how institutions of higher education can use their particular situation to combat crime.

These authors give five major points of their findings and conclude that first, campus crime rates are falling. The authors find that crime rates are decreasing across campuses substantially in all crime categories, with the exception of motor vehicle theft (which has been remaining constant). They even go on to say that this information does not stem from misreporting of information, since accurate data on campus crime is such a big thing these days. College and universities find it beneficial to be truthful and honest about crime at their institutions, especially about violent crimes such as rape and assault. Second, campuses are on average much safer than the communities where they are located. “The cities and counties in which colleges are located generally experience twice the rate of property crime and ten times the rate of violent crime than the campuses themselves.” The authors go on to conclude that underreporting of crime is not much of an issue, if anything crime rates are over-reported on campuses, which lead to overestimates of the likelihood of students being victims.

Third, major differences in crime rates exist at different types of colleges and universities. Their study shows that medical and health school students are three times

more likely to be affected by violent crime and seven times more likely to be affected by property crime than those students at two-year colleges. Fourth, campus and student characteristics are the best predictors of campus crime. They find no crime spillover from the surrounding community into the campus, and show that the number of student organizations, wealth of the student body and campus, and the universities mission are all extremely important in determining the level of crime on campus. Finally, violent crime and property crime show different types of causality. They go on to point out that “these results reflect the fact that property crime is relatively rational or goal oriented, compared to violent crime, which is both infrequent and intensely irrational”.

Federal Bureau of Investigation Studies

Another study, “Crime in Schools and Colleges: A Study of Offenders and Arrestees Reported via National Incident-Based Reporting System Data”, is an extensive report provided by the FBI’s Criminal Justice Information Services Division. It breaks down criminal activity among both university (and college) institutions, as well as middle and high schools across the United States. The objective of the report is to study the information provided to the FBI’s UCR system about criminal activity in colleges and schools across the country. It examines the characteristics and causes of crime at these institutions, as well as the characteristics of arrestees over the period from 2000 to 2004. As we can see, this fits in well with this term paper because it is a real study of what this paper seeks to address. By looking at characteristics of arrestees, which is a shortcoming of this paper, the FBI was able to gather information about which type of offenses are the

most common on school campuses as well as what aspects of the individual influences them to commit such crimes.

Much like the previous report, the FBI's study "Synopsis of Crime in Schools and Colleges: A study of National Incident-Based Reporting System (NIBRS) Data", goes more in-depth with the analysis of criminal aspects. More information is provided about which types of people commit certain crimes on school and university campuses and which crimes seems to be the most common. "Most offenders (38.0 percent) were 13 to 15 years old. Offenders comprising the second largest age group (30.7 percent) were 16 to 18 years old, followed by those offenders aged 19 years or older (18.2 percent) and those 10 to 12 years old (11.0 percent). Offenders 9 years of age and under accounted for 2.1 percent of the offenders. Males accounted for 76.7 percent of offenders who committed school crimes."

CHAPTER 3

BACKGROUND INFORMATION AND CRIME DEFINITIONS

This study is mainly concerned with the relative ratios of crime for both on-campus and off-campus offenses. In order to better understand the models and resulting analysis, it is important to first investigate how the criminal justice system defines certain offenses and the reasons the law requires reporting of such offenses for public knowledge.

The United States government and President Lyndon B. Johnson signed in law the Freedom of Information Act (FOIA) on September 6, 1966. This law allows for the full or partial release of previously unavailable information that is controlled by the United States government. The law allows citizens to obtain information at any time, as long as it meets the requirements set forth by the FOIA and the government. Similarly, President George Bush signed into law the Student Right-to-Know and Campus Security Act (Public Law 101-542) in 1990. The law pertains specifically to college and university campuses and requires them to distribute security reports to both current students and employees and also to any applicant or prospective student or employee (Federal Register, 1992). In a report by Janosik (1999), in which he studies the impact of the Act on campus security and student behavior, he outlines two major purposes of the legislation.

- 1) By requiring institutions to report specific statistics, open their criminal activity logs, and share information about their crime prevention programs to prospective students

and their parents, information about campus safety can be factored into the college choice decision.

- 2) By notifying students, faculty, staff, and other visitors of criminal activity occurring on campus, individuals can be made aware of the potential risks and make active choices about their personal behavior.

Another omitted advantage of the legislation is the signaling and deterrent affects of criminal activity. It would seem that if an institution is required to inform all of its students, faculty, and staff about criminal activity, they would be more aware of such activity and would devote the necessary resources to deter it. The signaling effect exists in that it is a signal to individuals that the university is concerned about criminal behavior and is willing to use existing and extra resources to put a stop to it.

Crime Definitions

In cooperating with both the Freedom of Information Act and the Student Right-to-Know and Campus Security Act, states and public institutions are required to report criminal information to law authorities. This information is then compiled by the Federal Bureau of Investigation (FBI) and included in the bureau's Uniform Crime Report (UCR). The FBI has been reporting and requiring states to submit information to for the UCR since the 1930's.

The UCR used in this particular study includes the reports of crime by state, as well as the crimes of college and university campuses within the states for the years of 2005 - 2008, and are included for all 50 states. The report for state and university crime

include information for two separate crime categories, violent and property crime, which then include criminal information within themselves. Violent crime consists of murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault. The property crime category included information for offenses of burglary, larceny-theft, motor vehicle theft, and arson. Definitions of each crime and the possible punishments associated with each offense are included below. We use such definitions and measures of punishment severity in order to gain a better understanding of how the law views such criminal activity.

The first offense category that we are investigating is that of criminal homicide, or murder and non-negligent manslaughter. The FBI defines this offense quite thoroughly, and gives an official definition as the willful killing of one human being by another. It does however exclude deaths due to negligence, attempts to kill, assaults to kill, suicides, and accidental deaths. The UCR also defines, what they term as “justifiable deaths”, as deaths of individuals who are killed by officers in the line of duty, and also those killed while committing a felony. This definition gives a concise definition on which we can make inferences of both campus and non-campus criminal activity in which a person loses their life. Have such a definition will help up to distinguish between offense categories in order to make more informed analysis decisions on our model.

Secondly, the FBI gives a definition of forcible rape in which they specify the act as the carnal knowledge of a female forcibly and against her will. Rapes are force and attempts or assaults to rape, regardless o the age of the victim, are included. Statutory

offenses (no force used , victim under age of consent) are excluded (FBI Uniform Crime Report).

Next, the category of robbery is considered. The robbery data provided by the UCR includes acts of the intentional taking or attempt to take anything of value from the care, custody, or control of a person or persons by force or threat of force or violence and/or by putting the victim in fear. Crimes that might seem to closely resemble robbery such as burglary and larceny-theft are not included in the violent crime sub-category, because they do not include putting another persons life in danger or imposing harm or fear on another human being. These two are reserved for the property crime section due to the nature of the acts and the fact that they include acts against property alone, not another person. Burglary and larceny-theft are defined below and their definitions will help to better distinguish them from robbery.

The final offense in the violent crime section is aggravated assault. FBI data include acts of an unlawful attack by one person upon another for the purpose of inflicting severe or aggravated bodily injury. Simple assaults (fighting or general attacks) are excluded. Aggravated assault includes those attacks in which the assailant is in the possession of a weapon and is intending to use it to inflict or cause death or bodily injury upon the victim.

The next four offense definitions are reserved for those offenses that are considered to be “property crimes”. They are distinguished between violent crimes since the intention is not to harm or endanger another person, but rather to damage or disturb private property. The first property offense that we consider in the data is burglary

(breaking and entering). The FBI defines this offense as the unlawful entry of a structure to commit a felony or a theft (attempted forcible entry is included).

Next we investigate the number and magnitude of offenses classified as larceny-theft (excluding motor vehicle theft). We see from the data set that there is a huge number of larceny-theft offenses among college students over the relevant time period, making this the largest category of criminal offenses we are investigating. We define this offense as the unlawful taking, carrying, leading, or riding away of property from the possession or constructive possession of another. The FBI gives examples ranging from stolen bicycles to pocket-picking and shoplifting. Basically they define this criminal act as stealing property that is not taken by force or violence. Crimes such as embezzlement and check fraud are exempt from this category and have their own definitions, which we do not investigate or consider here.

Motor vehicle theft is next, and this is considered to be the theft or attempted theft of a motor vehicle. It is fairly self-explanatory, with the only exception being the definition of a motor vehicle itself. The law defines a motor vehicle as being self-propelled and running on land, not rails. Boats, heavy machinery (construction equipment), airplanes, and farming equipment are excluded from this category. Stolen items not considered to be motor vehicles such as the ones listed above are put into other categories and investigated as such.

The final criminal category examined in our paper is that of arson. Fairly straightforward interpretation of the law says that arson is any willful or malicious

burning or attempt to burn, with or without intent to defraud, a dwelling house, public building, motor vehicle or aircraft, personal property of another, etc.

The table given below provides the crimes associated with this study and their respective punishment as the average sentence handed down for those crimes. Using this table we can rank-order the crimes according the “severity” of the punishment so that we can use them to investigate further the behavior of offenders. The data in the table is for adults over the age of 18 and those who have committed a crime, regardless of the number of the offense (whether it’s the first time, second time, or any number of times).

Figure 4: Crime categories and corresponding punishment severity

Crime	Avg. Jail Sentence In Months
Murder and Non-negligent Manslaughter	149
Forcible Rape	117
Robbery	95
Arson	84
Burglary	30
Larceny Theft	30
Motor Vehicle Theft	28
Aggravated Assault	15

We are able to use the data with from this table, the definitions of criminal activity given above, the expansive body of literature available for criminal activity, and the data set

accumulated from the FBI's Uniform Crime Report to investigate further these questions of the criminal activity among college students.

Having such definitions of criminal activity gives us a better understanding of how to interpret and think about the crime both on- campus and off- campus, and how the two might be related. Certainly there are some demographic differences between those who attend college and those who do not, and we will consider these in later sections. But based on what we know from these definitions and a fairly preliminary look at the data set we can see, as we might expect, that criminal activity is much different between on-campus and off-campus offenses. From **Table 1 and Table 2** below, we see far less violent crime on campus, with most of the criminal activity being skewed more to the property crime side of things. However, off-campus offenses are more or less evenly distributed across the two major crime categories. These two distributions and relative crime ratios is the basis for this paper, and we will try to investigate into more detail how these ratios are affected by certain characteristics, both of the offenders and also their respective environment.

CHAPTER 4

THE COLLEGE AND UNIVERSITY JUDICIAL SYSTEM

All schools in this study possess and display, both electronically and in hard-copy form, a student code of conduct. This code outlines the desired behavior of students attending the institution, as well as outlining examples and consequences of undesirable behavior. This code of conduct is provided in most institutions through the student handbook and is administered to all new students. While it is not re-issued every year to all students, the completed format is usually available through the office of student affairs, either through designated webpage on the school website or through the office itself.

As previously discussed the right to information about criminal activity for both on- and off-campus offenses is quite important to the majority of institutions, as well as their students. Each institution in this study provides well documented, easy to find information about criminal activity on their respective campus. While some institutions, such as technical colleges, follow a global code of conduct (from the South Carolina State Board for Technical and Comprehensive Education system), others have adopted their own codes of conduct for use by their students. However, all codes of conduct displayed by schools in this study display much of the same information and follow the same general guidelines when dealing with appropriate and inappropriate behavior of their students.

Previously discussed in this paper is the subject of “right to know information”. While it is not mandatory for colleges and universities to participate in the FBI’s UCR, a

number of such institutions do so. The ones who do participate find it beneficial to be upfront and truthful about criminal activity on campus. Crime reporting is beneficial in the sense that it provides prospective students and their parents valuable information about the school. In recent years we have seen a rising desire to know about safety and criminal activity on school campuses. This desire to know about crime is not only reserved for worried parents or guardians, but students seem to be more and more concerned about their own safety while at school. As we discuss in the chapter that follows, schools and their administrative staffs go to great lengths to provide students and parents with information about criminal activity.

General Outline of the Code of Conduct

As stated previously, the codes of conduct for the schools in this study follow the same general format. That is, they outline both acceptable and unacceptable behavior that may be exhibited by their student body. In most cases, the institution will outline and define certain, otherwise ambiguous terms in order to solidify the information for students and also to give strict guidelines so as to make it clear to students what the institution considers “acceptable behavior”. Furthermore, the code of conduct usually goes on to give several examples of what they consider to be “inappropriate behavior”. Inappropriate behavior in this sense is usually described to be actions along the lines of academic dishonesty, drug and alcohol violations, and even instances of sexual or physical abuse. While our particular study includes instances of murder, burglary, and theft, most codes of conduct have little to say about the more “severe” crimes, choosing

to let these matters be handled more readily by the police department of the university in cooperation with local and state governments.

Next, these codes of conduct usually outline the judicial process that occurs when a complaint has been filed or when a student is suspected to have committed a crime. Among complaint filing, and if the offense is deemed serious, the accused might be required to appear before a board of students and faculty members in order to hear the case, much like a regular judicial hearing. After the hearing the case and making a decision, the outcome is formally explained to the accused student, sanctions are given to fit the crime, and punishment for the student is then doled out. Much like the judicial systems in state and federal governments, the accused is then eligible to appeal the decision. If the appeal is granted, he or she will appear before another body of faculty and peers. A final possible appeal is sometimes permitted, and that is an appeal to the President of the institution. In these cases, the President has the opportunity to review the evidence and findings obtained through the previous two hearing and make a final decision based on his or her opinion of the situation. In this case, the President's outcome is final. There are no more chances of appeal and the sanctions handed down at this time are final and must be completed by the offender. Once the final decision has been decided sanctions are passed down and the offender is then required to carry out his or her "sentence". A further discussion of possible sanctions is discussed in following sections.

It is worth pointing out that most of the institutions of higher learning across the United States follow this same basic outline, and all of the schools in our particular study follow it as well. This adherence to a global judicial process streamlines administrative

dealing with criminal activity across campuses in this country and helps to set precedents for all schools to follow in times of need. Much like how law works on the state and federal level, these precedents dictate rulings on specific types of crimes and are used as outlines on how to handle all situations. While it may be more appealing to layout the code of conduct as a list of do's and don'ts, where a list of possible crimes is associated with a list of solid, concrete punishments, this would not be feasible. It would constrict administrations to make judgments based solely on what the code of conduct states and not take into account the entire situation. By setting up an outline and using precedents from previous cases, administrations across the country are able to take multiple examples from previous incidents and use them to make the best decision possible.

Sanctions for Inappropriate Behavior

Although it would be nice to have a specific outline of sanctions to fit each and every crime that might possibly be committed, such is not usually the case. For the most part there are clear sanctions that institutions prefer to impose on their students. Sanctions range from a warning (written or oral statement to the student explaining that the student has committed an offense recognized by the institution), to the most severe punishment, which is expulsion. Expulsion is the dismissal of a student from the institution without the ability for the student to reapply for admission. Other midlevel sanctions include eviction from university housing, restriction of privileges, monetary penalty, and suspension.

Again, no one sanction is an absolute punishment for any one offense. The panel

(or “jury”) hearing the case will decide the best punishment for the offense based on past cases and precedents (as discussed above). As stated in the Clemson University code of conduct, “sanction(s) (or any combination thereof) may be imposed upon any student found to have violated any student regulation”. This goes to show that not one offense is considered to be more important to administrators. While some may carry more weight and deserve more of a punishment than others, the administration and law enforcement take pride in considering every criminal act to be severe. By doing so they can ensure that criminal activity and its punishment are taken seriously by future students, their parents, and administration.

It is worth noting that one crime that has become increasingly important and severe within the past couple of decades is sexual assault and harassment. An increasing awareness of sexual crimes shows that it is becoming a big problem both on and off-campus. With sexual crimes on the rise, institutions have chosen to devote entire sections of their code of conduct, as well as entire departments of their faculty and staff to dealing with sexual harassment and assault crimes. At the majority of institutions, victims of these types of crimes are encouraged to file complaints and reports when they have been sexually mistreated, and colleges and universities across the country have made it a major goal to try and reduce this increasing number of occurrences. Due to the increased awareness and amount of resources devoted to protecting students from sexual misconduct, institutions are willing to do whatever it takes to act swiftly and severely. When a student has been found guilty of a sexual crime or another crime of this magnitude, the upper-tier sanctions are usually handed down. Since these crimes are so

serious and the criminal system of both colleges and universities, as well as state and local governments, treat them seriously, an offender can usually expect to be expelled from the institutions immediately for such behavior.

When thinking about which sanctions will be given to which crimes, we must first consider each sanction and each crime. It is important to develop a threshold whereby we might be able to decide which punishment fits which crime. Judging by the majority of the codes of conduct from schools in this study, we can most certainly say that most violent crimes will result in expulsion or heavy suspension from the institution. It is only when considering lower tier offenses such as property crime, and drug and alcohol violations where the line becomes blurry. In these cases it is hard to say which punishment is “right” for the crime. From the code of conduct it seems safe to say that the administration and the institutions themselves deal with these lower tier crimes, and then allow the authoritative bodies such as law enforcement to deal with more serious crimes such as violent offenses. As we have noted previously, it seems that students do not view all punishments equally. That is, when considering whether to commit a violent crime, we do not think that students will consider the affects of punishment sanctions handed down by the school. However, for lower tier crimes we would tend to believe that students might consider how suspension or academic probation might affect their lives while in school.

Therefore, it seems safe to say that we can treat violent and property crimes differently, both according to their nature as well as the sanctions they might carry if committed. According to the definitions that we have laid out, we might tend to believe

that all violent crimes are punishable by either suspension or expulsion from the school. This is due to the fact that most schools have very little tolerance for violent crime. They do however tend to be more lenient with lower tier and property crimes. Most schools will not expel a student for drug or alcohol violations. However, in our particular case, and with the crimes in this study, it is safe to say that each crime carries with it a pretty severe punishment. Even larceny-theft, which is one of the most common property crimes both on and off-campus would probably warrant suspension for some period of time, if not even expulsion if the student was convicted of multiple acts of larceny. We will return to this discussion in subsequent chapters when we start looking at the causes and crime for on-campus offenders.

Other Uses of the Code of Conduct

The student handbook not only gives information about disciplinary action, it also gives students other vital information for the judicial process. A role of the code of conduct that is just as important as laying the groundwork for inappropriate behavior and listing consequences of such behavior, these codes also outline the rights of the victims, as well as rights of the individual being accused of a crime. Explanation of rights helps to provide students with guidelines on how to go about getting through the judicial process.

It's very important for potential victims of crime to know where to turn when they feel that they have been harmed or taken advantage of. The institution is held accountable with providing students with information on how to get in touch with administrative officials, as well as law enforcement when they feel a crime has been committed. Victims

of crime have rights, and these rights are to be upheld to the full extent. All codes of conduct for this study outline the rights of victims which range from the right to attend the hearing of the accused to having the right to be informed of the disciplinary action handed down to the convicted student.

Included in the rights of students are rights of the accused. Accused students have the right to be informed formally of the accusations against them. They have the right to defend themselves in a hearing, which as stated before, takes place in front of a body of administration and leaders of the student government. These rights are also outlined in the code of conduct and available to all accused students.

Having student rights formalized and usable during a time of suspected criminal activity is vital to the judicial system. Without them the system breaks down and nothing can be done about potential infractions. As we see in normal circumstances of judicial law, formalization of charges and rights are integral to the entire process. Giving students these rights and informing them of their rights helps to make the system stand up against inaccurate information or uncertain circumstances.

In the next section, this study of criminal activity begins to take shape. We look at data from South Carolina institutions across a number of years and see where the “rubber meets the road”. Does the theory coincide with reality, and do institutional guidelines, sanctions, and characteristics have a profound influence on criminal activity?

CHAPTER 5

EMPIRICAL FRAMEWORK

Data used here is from the Federal Bureau of Investigation's Uniform Crime Report, which has been published for access to the public since 1930. Through implementation of the Uniform Crime Reporting (UCR) program, local and state agencies, as well as university and college administrations have participated in the sharing of criminal data on a purely voluntary basis. Information is provided and tabulated for each participating body and shared on the FBI website. This paper will investigate criminal activity on college and university campuses during the time period between the years 2005 to 2008. Along with crime types, the paper will also look (and attempt to pinpoint) characteristics and possible causes of campus criminal activity. Information is provided for all 50 states over the relevant range.

Select data has been acquired through the UCR for the years between 2005 and 2008, and has been used to derive some preliminary figures which we will use to gain a better understanding of the magnitude of criminal activity for both campus and non-campus offenses. The first table supplied, (**Table 1**), reports the actual *number* of offenses for each year for eight crimes, which are the most well known offenses to law enforcement across the United States. Table 1 includes the number of arrests for each category for both on-campus and off-campus incidences. For example, there were 5 total murders known to law enforcement on all the college and university campuses in the United States in 2005 (there were 7 total murders in 2006). This set of data has been

restricted to the arrests of those between the ages of 18 to 24 in order to coincide with the next table.

Offense can be broken down into two major categories: violent crime, which includes murder, forcible rape, robbery, and aggravated assault; and property crime, which includes burglary, larceny-theft, motor vehicle theft, and arson. Separating the number of offenses into on-campus and off-campus classifications is the result of calculating:

$$1. \# \text{ off-campus offenses} = \# \text{ total offenses} - \# \text{ on-campus offenses}$$

A summary table of the number of crimes for the five- year period, including both on and off-campus offenses follows:

	2005		2006		2007		2008	
	On-Campus	Off-Campus	On-Campus	Off-Campus	On-Campus	Off-Campus	On-Campus	Off-Campus
Murder and non-negligent manslaughter	5	4195	7	3,903	12	4061	2	3958
Forcible rape	501	4945	506	3,642	485	4315	511	4299
Robbery	761	30639	808	33,444	830	35388	882	38262
Aggravated assault	1,445	85584	1505	72,378	1394	84411	1288	86336
Burglary	12,128	58106	12339	57,296	12128	60375	11693	66593
Larceny-theft	77,372	149067	75450	89,470	70619	177704	71751	148077
Motor vehicle theft	3,058	32256	3070	28,948	2611	25297	2342	15593
Arson	433	1691	434	1,297	405	1782	385	13450

Table 1: Total number of offenses for each crime category for on- and off-campus crimes for each year in the study.

As we can see from a preliminary glance at this table, the number of off-campus crimes is considerably higher for all of the offenses listed; relative to the number of offenses on-campus. We can attribute some of this difference to the fact that demographic characteristics are not taken into account for this data set due to the large number of observations, and the inclusion of individuals who might have been arrested twice in the same year. It is important to recognize that these are the *number of offenses known to law enforcement*, not the frequency of each crime. For example, there were 5 on-campus crimes of murder in 2005, *not* 5 people murdered on campus during 2005.

This lack of demographic information does produce a few shortcomings in the data. Since we cannot control for factors such as socioeconomic background of both the individual and their families, and since we know from past research that smarter, wealthier individuals are the ones that attend college most frequently, it is hard to make perfectly accurate inferences about the differences in crime levels in this case. However, controlling for the age range of individuals and using percentage estimates of crime in relation to the total number of offenses for both on and off-campus crimes, we can correct and control for some of these effects. The Uniform Crime Report does not take into account demographic information due the overall size of the data set and the size of the range of years for all of the information in the report.

After a general overview of the total number of specific offenses, we can begin to the look at the magnitude of each type of offense in relation to the total number of offenses over the course of each year. In doing this type of analysis, we can determine which crimes occur more frequently than others.

The second table that is used for further analysis, (**Table 2**), are the number of offenses known to law enforcement on all of the college and university campuses across the U.S. for the relevant time period in percentage terms. We have assumed that, on average, the age range for college students is between 18 and 24. This also includes crimes identical to those in Table 1.

The frequency presented in percentage terms gives a clearer picture of the distribution of criminal activity. After restricting the data to the predetermined offense types and the appropriate age ranges, we sum the number of crimes over all the age

groups, divide by the total number of off-campus offenses and generate a percentage value, which represents that crime as a fraction of total crime. For example, the steps in the process are as follows:

- 1) **Murders as a % of total off-campus crime = © off-campus murders/© off-campus offenses (repeat for all relevant offenses)**
- 2) **Murders as a % of total on-campus crime = © on-campus murders/© on-campus offenses (repeat for all relevant offenses)**
- 3) **Multiply these values by 100 for percentage terms.**
- 4) **Compare the percentages for both on and off-campus offenses over the relevant range of years to see the differences in crime rates.**

These steps are summarized in the following table, which gives both on-campus and off-campus crimes as a percentage of the total number of on-campus and off-campus offenses respectively.

	2005		2006		2007		2008	
Offense	On-Campus	Off-Campus	On-Campus	Off-Campus	On-Campus	Off-Campus	On-Campus	Off-Campus
Murder and non-negligent manslaughter	0.005	1.145	0.007	1.344	0.014	1.032	0.002	1.086
Forcible rape	0.523	1.349	0.538	1.268	0.548	1.097	0.575	1.179
Robbery	0.795	8.36	0.858	11.516	0.938	8.997	0.993	10.498
Aggravated assault	1.51	23.353	1.599	24.922	1.575	21.46	1.449	23.689
Burglary	12.673	15.855	13.109	19.729	13.706	15.349	13.159	18.272
Larceny-theft	80.846	40.675	80.164	30.867	79.809	45.179	80.752	40.629
Motor vehicle theft	3.195	8.801	3.262	9.968	2.951	6.431	2.636	4.278
Arson	0.452	0.461	0.461	0.447	0.433	0.453	0.433	0.369

Table 2: Offenses as a percentage of total crime for each crime category for on- and off-campus crimes for each year in the study.

It can be seen that once again off-campus offenses represent a much higher percentage of the total number of offenses than do on-campus crimes, with the exception of larceny-theft.

Larceny-theft is defined as the *unauthorized taking and removal of the person property of another by an individual who intends to permanently deprive the owner of it; a crime against the right of possession*. It seems rather strange that this would be the only offense that has a greater proportion of total crime for on-campus offenses. However, theft on college and university campuses does seem to be quite prevalent due to the close proximity of neighboring residences and a relatively large population in such a small area.

It does seem that demographic characteristics do have an effect on the number of violent crimes that we see across the United States. Violent crimes are higher for off-campus offenses in every case that we see from this sample of data. This makes sense, as we see more gangs and violence in highly populated, metropolitan areas, which in most cases are not the home of university or college campuses (with a few exceptions). However, it does seem odd that property crime does hold such a large percentage of total crime on campuses. One would think that if differing socioeconomic backgrounds are accounted for, due the nature and population characteristics of college students we would see all types of crime at their lowest possible levels, on campuses. This does not seem to be the case here.

One would also tend to believe that more heinous crimes are kept at such a low point regardless of the punishment schemes set forth by university administration. In the case of murder, we would usually assume that most students would be indifferent to how they would be punished by the university in light of their possible punishment by federal and state laws. In the subsequent sections we turn our attention to a more narrow view of the data.

South Carolina Institutions

In order to complete our analysis and determine what influences criminal activity in institutions of higher learning, we must look at data for a range of institutions. Since our analysis investigates the criminal activity in the state of South Carolina, several institutions from across the state have been studied in an attempt to better understand the causes of crime. We will look at 21 public and private institutions, which have provided information about crime to the Federal Bureau of Investigation for use in its Uniform Crime Report (UCR). We look at each school over the range of years from 2005 to 2008, as well as certain characteristics about each school (Panel Data). A set of data has been compiled which looks at the institution over the years in the range, a list of eight crimes that the FBI reports for each school, and several characteristics which range from student enrollment, to race of students, to county information where the school is located. The table below is a summary table of all variables in our study as well as the minimum and maximum values, standard deviation, and mean for each variable. As was stated before, since the UCR is a voluntary study, variables are not available for all schools, across all

years. However, enough information is provided to make the data set reasonable and valuable to our investigation.

Variable	Obs	Mean	Std. Dev.	Min	Max
Year	84	2006.5	1.125	2005	2008
Institution Type	84	3.119	1.484	1	6
Student Enrollment	74	7210.405	8028.969	779	35455
Murder and Non-Negligent Man Slaughter	73	0	0	0	0
Forcible Rape	73	.589	1.211	0	7
Robbery	73	1.548	2.630	0	11
Aggravated Assault	73	2.836	4.031	0	16
Burglary	73	22.425	34.112	0	147
Larceny Theft	73	86.904	103.609	0	567
Motor Vehicle Theft	73	2.671	4.200	0	19
Arson	73	.493	1.056	0	5
Total Property Crime	73	111.986	126.222	0	613
Total Violent Crime	73	4.973	6.614	0	25
In State	84	5506.476	6245.032	581	27518
Out of State	84	1456.369	2108.498	49	8656
Full Time	84	7955.405	6045.78	685	28335
Part Time	84	1975.821	2571.173	31	8329
Black	84	1588.643	1558.133	25	5663
American Indian	84	24.702	27.760	0	115
Asian	84	122.524	187.804	0	904
Hispanic	84	122.012	153.796	1	676
White	84	4633.81	5647.249	2	24221
Unknown	84	284	606.695	0	2959
County Population	84	238880.3	134657.1	15307	438119
Out of State Tuition	84	14641.81	6029.574	4436	28540
In State Tuition	84	9384.536	6731.502	590	28540
Campus Police	77	16.883	14.185	1	57
Campus Civilian Law Enforcement	77	9.013	12.399	0	52
Total Campus Law Enforcement	77	25.896	24.165	1	85
County Police	84	232.226	154.113	11	491
County Civilian Law Enforcement	84	125.405	155.101	2	471
Total County Law Enforcement	77	336.675	224.342	8	711
% On Campus Housing	84	42.345	33.748	0	100
% Off Campus Housing	84	57.655	33.748	0	100
Per Capita County Income	84	31101.81	4946.653	20989	39581

Table 3: Summary Statistics

As the basis of this study, we are using regression analysis to find the influences of criminal activity across these South Carolina institutions over the relevant range of years. In order to begin this study, we run a few preliminary regressions to get a better understanding of what kind of data and relationships we are dealing with. The first regression is one that looks at the relationship between school characteristics and violent crime. We will recall that violent crime includes criminal activity that usually includes harm to the victim. The specific crimes include murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault.

The regression below is one using the STATA command “xtreg”. This regression generates estimates to account for both fixed and random effects. Two columns of estimates are generated, yielding the following regression.

	Fixed	Random	Difference	Std. Error
Institution Type	2.8296	-.3101	3.1396	4.214
Student Enrollment	-.0124	-.0163	.0038	.0101
In-State	.0136	.0136	2.29e-06	.0104
Out-of-State	.0107	.0148	-.0041	.0086
Full-Time	.0043	.0038	.0005	.0032
Part-Time	-.0034	.0029	-.0063	.0064
Black	-.0089	.0027	-.0117	.0062
American Indian	-.0445	-.1378	-.0933	.1316
Asian	-.0060	-.0214	.0150	.0718
Hispanic	-.0819	.0193	-.1013	.0571
White	.0035	-.0012	.0046	.0025
County Population	.00019	2.60e-06	.0002	.00025
Out-of-State Tuition	.0007	.0001	.0005	.00049
In-State Tuition	.0004	-.0001	.0005	.0013
Campus Police	-.3142	.0944	-.4087	.3292
Total Campus Law Enforcement	.0821	.0471	.0349	.2078
County Police	-.0943	-.0006	-.0934	.1243
County Civilian Law Enforcement	-.0235	-.0061	-.0174	.0287
% Off Campus	1.0133	-0.634	10771	.7066
Per Capita Co. Income	.0005	-.0002	.0007	.0007

Table 4: Regression for Total Violent Crime

As we can see from the coefficients, fixed and random effects give different estimates. Where one variable has a positive effect on violent crime in one category, the other shows a negative influence. However, the interpretation remains the same for particular estimates. Since this is a linear regression, we can take these coefficients literally. For example, we can say that for every one instate student the amount of violent crime increases by .0136 offenses on average, for this sample.

The same is true when we do the same regression for property crime. We look at the same variables, however this time our dependent variable has changed and we look at the effect of these explanatory variables on the amount of property crime. The effects of these variables have changed in this case and we see different influences on the amount

of property crime.

	Fixed	Random	Difference	Std. Error
Institution Type	33.8656	-.7764	34.6420	21.7589
Student Enrollment	-.1587	-.2319	.0732	.0237
In-State	.1785	.2174	-.0388	.0279
Out-of-State	.0244	.1654	-.1411	.
Full-Time	.0285	.0385	-.0099	.
Part-Time	-.0368	.0005	-.0373	.02351
Black	-.0165	.0484	-.0649	.0311
American Indian	.8441	-1.7671	2.6112	.2738
Asian	-.9142	-.3745	-.5397	.3367
Hispanic	-.8722	-.6627	-.2096	.2463
White	.0435	.0323	.0112	.0091
County Population	.0030	.0005	.0026	.0013
Out-of-State Tuition	-.0009	.0023	-.0039	.
In-State Tuition	.0077	-.0009	.0086	.0067
Campus Police	-.9926	1.7551	-2.7477	.4307
Total Campus Law Enforcement	-.6233	.1681	-.7914	.6142
County Police	-.9107	-.1516	-.7591	.6496
County Civilian Law Enforcement	-.0353	-.0824	.0472	.1141
% Off Campus	-5.0292	-.6694	-4.3598	3.9098
Per Capita County Income	-.0039	-.0057	.0017	.0028

Table 5: Regression for Total Property Crime

As before, the regression generates estimates for fixed and random effects on the dependent variable. Again we see deviations in effects; fixed effects are still different from random effects. However, the interpretations remain the same. Since the variables and dependent variable are linear in nature, we interpret the effects as we did for the violent crime regression. That is, we can say that when the student enrolment increases by one student, the amount of property crime decreases by .159 offenses.

Now is a good time to say something about these two regressions that is troublesome. In looking at some of the coefficients, some of the results are not what we

would usually expect to see or believe. In our case this is due to the nature of the data set. This particular data set is considered *panel data*, in that the observations consist of institutions across time. Since we are looking at South Carolina schools across a four-year period, there tend to be differences in both the university characteristics due to differences in the school as well as differences due to the change in time.

As state previously, the original two linear regressions are biased in that they do not account for institutional specific and time specific effects in the data set. Unfortunately this bias will make the outcomes of the coefficients unreliable, so it is in our best interest to correct the regression and get estimates that reflect the institutional and time effects. As we see from the two regressions, there are two different sets of coefficients, and therefore difficult to decide which estimates are the “correct” ones to use. We must use hypothesis testing to get a better idea of which set of estimates, fixed or random” to use. In order to account for these differences, and make a decision about which set of estimates to use, the Hausman test is performed. This will test the data for both fixed and random effects and give a better idea about which coefficients to use from each regression. The commands for the Hausman test is as follows:

1) Test: Ho: difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(14) &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\ &= 15.62 \\ \text{Prob}>\text{chi2} &= 0.3368 \end{aligned}$$

2) Test: Ho: difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(15) &= (b-B)'[(V_b-V_B)^{-1}](b-B) \\ &= 77.22 \\ \text{Prob}>\text{chi2} &= 0.0000 \end{aligned}$$

($V_b - V_B$ is not positive definite)

From this hypothesis testing we can tell which set of estimates to use from each regression to get the appropriate interpretation. From test (1) we fail to reject the null hypothesis that there are systematic differences between observation, and from test (2) we can reject the null hypothesis. This turns out to be the cornerstone of our study. Failing to reject the null hypothesis for violent crime cements the fact that university sanctions have no impact on the amount of violent crime. That is, since there are no differences between institutional sanctions for violent crime, we can attribute the effects as random. On the other hand, the hypothesis test shows that we fail to reject the null in the case of property crime. We do believe in this case that university sanctions do have an impact on the amount of property crime, so there are fixed effects for property crime.

The only difference here is that for property crime we would tend to believe that institutional sanctions would have an effect in deterring property crime. Property crimes tend to be less heinous, by definition. In this case we tend to believe that if a student is convicted of robbing another student or sneaking into a dorm and stealing private property, the school would be more apt to suspend or put the offender on some type of probation rather than expelling them (as would most likely be the case for violent crime). So, because of this we can say with some conviction that sanctions do deter participation in property crimes a great deal more than they deter participation in violent crimes. So, in effect, we believe that sanctions do not effect participation in violent crime but they do effect participation in property crime.

After all of this, we can now make some inferences about what does and does not

effect crime in each particular situation. In the case of violent crime we see in- and out of state students, full and part time student classification, black and Hispanic students, out of state tuition, surrounding county population, and the number of campus police and law enforcement all having positive effects on the amount of violent crime. That is to say, when these facts increase, the amount of violent crime also increases. In the same vein, institution type, student enrollment, the number of American Indian, Asian, and white students, the amount of in state tuition, surrounding county law enforcement, the percentage of students living off campus, and the per capita income of the surrounding county all impact violent crime negatively. That is, when these factors increase, the amount of violent crime decreases.

Similarly, when we move to property crime, we see that institution type, the number of in-state, out-of-state, and full time students, American Indian and white students, surrounding county population, and the amount of instate tuition all have positive effects on the amount of property crime. At the same time, student enrollment, part time, black, Asian, and Hispanic students, the amount of out of state tuition, campus and county police and law enforcement, the percentage of students living off campus, and the per capita income of the surrounding county all have negative impacts on property crime.

Using this information, institutions can make better judgments about how to go about deterring participation in criminal activity. As the data shows, it is quite straightforward to pinpoint characteristics that effect property crime while it is not so easy to see influences on violent crime. However, we can conclude that university

sanctions do not have much of an impact on the level of violent crime. This is due to the fact that expulsion is the primary punishment for violent crimes, and influences of the level of violent crime are mainly due to random changes in university characteristics. On the other hand, we do see evidence that sanctions and characteristics do have an impact on the level of property crime. Since the institutions can effectively punish students for property crime with sanctions other than expulsion, institutional characteristics seem to have fixed effects on the level of property crime.

Difficulties with the Data

Due to the results of these calculations, it is safe to say that university sanctions do in fact have an impact on the behavior of the student body. While we might not be able to say all the time that they incentivize students to substitute towards more serious crimes, we can say with some certainty that they do in fact keep crime rates lower than those in the surrounding areas. While we must make some assumptions regarding the demographic characteristics of both students and non-students, the assumptions are not so outlandish that they retract meaning and insight from the outcome. While we might be able to say that smarter, richer, and younger individuals attend college that does not necessarily mean that those committing the majority of the crimes are the smartest and richest ones. In many cases, those who commit crimes in college and get into trouble with the administration are those individuals who are not the smartest students around.

So, we can account for the differences in demographics since we have such a wide array of institutions. If we only studied private, 4-year colleges in our sample, then

the demographic differences in students and non-students might play a vital role in the differences in criminal activity. However, since we have private and public colleges, as well as a wide variety of both 4-year universities, technical colleges, and medical schools, the data somewhat sort themselves out and give us a good feel of the average affects of the sanctions and the differences between those who attend college and those who do not.

We also cannot say perfectly whether those crimes reported by the institutions in this particular sample were all committed by students. That is, if a burglary was reported by the University of South Carolina, it is difficult to say with certainty that the offender was in fact a student of the university. It could also have been a crime committed on campus by a person who lived near by, but was not necessarily a student. This does give a certain drawback to the data, but it is not so much of a problem that it detracts from the results given by the data.

There is also some discrepancy between the ages of the two groups. While the group of college students is most likely contained by those individuals between the ages of about 17 to 24, the age of those included in the county data might be outside of this range. However, we know from the background literature about the age distribution of criminals, motor vehicle theft and burglary are crimes most often committed by the younger age groups. With this information we could say that the majority of the crimes contained in the county data are most likely younger individuals. While they might not all be in the 17 to 24 age group, there is a relatively high probability that the majority of these individuals are close to that age range and will not differ greatly in characteristics from the college students.

Finally, there is always going to be some ambiguity in results when dealing with a data set, which is not very large. Since there are only 16 observations all with 4 total years of data, there might be some misinterpretation or bias in the results. Missing values, or unreported information from some of the institutions during the time period also add to the bias in some of the results. Since the UCR is voluntary and some institutions, counties, and states do not report all of the information about criminal activity for all years, there is bound to be some missing information and some bias in the data set. The UCR is a huge database and an extremely extensive report published every year, and there are without doubt going to be measurement errors or misreporting errors due to the expansiveness of the data set. While the data set is not perfect and there are some assumptions that must be made in order for the results and calculations to offer a cohesive and tangible story, this study works out fairly well and the interpretations are fairly straightforward and accurate.

CHAPTER 6

CONCLUSIONS

As stated in the introduction, the purpose of this paper is to investigate the relative magnitude of crime for both on-campus and off-campus offenses, as well as to look at the institutional characteristics that influence campus crime. We can see from the analysis that institutional sanctions do in fact have an impact on crime participation, and differing sanctions across institutions are what determine the influential characteristics. That is, given that students know the probability of being punished for committing a criminal act, as well as the type of punishment, we see different institutional characteristics influencing participation in violent crime rather than participation in property crime.

This is quite important when thinking about how institutions should go about structuring their judicial systems to deter criminal acts. Analysis found here for these South Carolina institutions shows that students do in fact respond to institutional sanctions. If a student is indifferent between committing a violent crime and committing a property crime, possible punishment is the only thing that will cause them to choose one or the other. We can see from our analysis that random changes to institutional characteristics determine the level of violent crime. In the same way, fixed changes to institutional characteristics will determine the level of property crime, in our sample. In our sample institution type, student enrollment, the number of American Indian, Asian, and white students, the amount of in state tuition, and the number of county law enforcement have negative effects on the amount of participation in violent crime. On the other hand, student enrollment, part time, black, Asian, and Hispanic students, the

amount of out of state tuition, and the number of both campus and county law enforcement all have negative effects on the amount of participation in property crime.

In the end, our analysis shows that there are not institutionally specific punishments for violent crime. All institutions in our sample punish violent crime more or less the same way; with expulsion. This hypothesis is confirmed by the hypothesis testing since the regression for violent crime yields random effects (which should be used to interpret the effect for violent crime), and the regression for property crime yields fixed effects. In the same vein, the analysis is correct in that by generating fixed effects for property crime, we can say with some certainty that punishment for property crime *is* institutionally specific. That is, different institutions punish property crime offenders differently. This inference matches our intuition in that we would tend to believe that there should be only one punishment for heinous violent crimes (expulsion), and more options for punishment of less severe property crimes (suspension, probation, etc.).

By using this type of analysis, schools across the state of South Carolina, as well as across the United States, might be able to better pinpoint which institutional characteristics influence crime participation. Using such information could help these institutions to change certain aspects of their admissions policy, campus culture, etc. in order to attract and retain students that are unlikely to commit these types of criminal acts.

APPENDIX

Name of Institution	Average Enrollment for 4 yr. period	Type of Institution	County
Benedict College	2,623	Private 4-year	Richland
Bob Jones University	3,950	Private 4-year	Greenville
Clemson University	17,292	Public 4-year	Pickens
Coastal Carolina University	7,639	Public 4-year	Horry
College of Charleston	11,368	Public 4-year	Charleston
Columbia College	1,475	Private 4-year	Richland
Denmark Technical College	1,444	Public 2-year	Bamburg
Francis Marion University	3,911	Public 4-year	Florence
Lander University	2,677	Public 4-year	Greenwood
MUSC	2,491	Public 4-year	Charleston
Midlands Technical College	10,761	Public 2	Richland
South Carolina State University	4,514	Public 4-year	Orangeburg
The Citadel	3,322	Public 4-year	Charleston
Trident Technical College	11,771	Public 2-year	Charleston
University of South Carolina	26,830	Public 4-year	Richland
Winthrop University	6,400	Public 4-year	York

Figure 5: South Carolina College and University Information

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