

**POLICE NOTIFICATION AND POLICE RESPONSE BEHAVIORS TO  
PHYSICAL ASSAULT VICTIMS: A FOCUS ON GEOGRAPHIC CONTEXT**

by

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A dissertation submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Criminology

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## **ABSTRACT**

National level data indicates that while crime victims do report crime to the police, the number of crime victimizations that are reported is less than half (Baumer & Lauritsen, 2010). Additionally, scholarship on rural criminology has been gaining ground, but rural crime in general ranks among the least studied problems in criminology throughout the twentieth century (Donnermeyer, 2012). This research connects the literature of victimization reporting, police response behavior, and rural criminology, in an analysis to understand rural and urban differences in the police notification behavior of physical assault victims and police response behavior to physical assaults. Using the incident-level extract file of the NCVS for 1992-2012 this research has an n-size of 23,729. There are two main dependent outcomes: police notification of physical assault and police response behaviors to physical assault. These outcomes are measured through six dependent variables to examine the research questions (1) Does geography have an effect on the likelihood that victims of assault will notify the police? (2) Does geography have an effect on police response behaviors in the form of time to arrive on the scene and decision to arrest? Findings indicate differences between urban and rural areas in the probability of physical assault notification and the police response behaviors. These findings are understood through Black's (1974, 1976) theory of the mobilization of law. Limitations and avenues for further research are discussed.

## **Chapter 1**

### **INTRODUCTION**

National-level data indicates that over the past few decades, crime victims have increased their willingness to report to police. Despite this increase, however, today less than half of all crime victimizations are reported to police (Baumer & Lauritsen, 2010). Unfortunately, victimizations not reported to the police eliminate several outcomes for the victim, the offender, and the criminal justice system workers (e.g., the police). These outcomes include specific and general deterrent effects wrought by the criminal justice system and supported by victim services. Specific deterrence—preventing an individual from crime—cannot work if individuals who commit crimes are not apprehended and punished for their offenses. General deterrence—preventing the general public from committing crime—cannot work if would-be offenders perceive the likelihood of being detected and punished by police, as low. Understanding police reporting behavior is important because policy makers and scholars cannot judge the deterrent effect of a criminal justice policy if criminal incidents are not reported to the police. Victimizations that are never reported to the police affect both specific and general deterrence mechanisms of the criminal justice system, and decrease any potential such mechanisms may have for reducing crime.

Reporting to the police is also important because reporting may carry positive outcomes for the victim as well as the criminal justice system (Rennison, Dragiewicz, & DeKeseredy, 2013). First, non-reporting weakens the criminal justice system's ability to respond to crime. Reporting to the police may have consequences for the

offender and offer protection to the victim(s). Additionally, providing documentation of the incident to court officials can be useful in future proceedings and filings (Klein, 2009). Social service and victim services may be made available through reporting (Kaukinen, 2002a, 2002b; Logan, Evans, Stevenson, & Jordan, 2005). Fourth, as noted above, reporting victimization to law enforcement may have a deterrent effect on future offending (Bachman, 1993; Felson, Ackerman, & Gallagher, 2005; Willson, McFarlane, Lemmey, & Malecha 2001). Finally, reporting victimizations to police provides researchers with more empirical data to create stronger theories surrounding criminal activity and victimization experiences, and specific to this study, stronger theories surrounding the help seeking behavior of assault victims.

Once victimizations have been reported to the police, police officers are usually the first agents of the criminal justice system to respond to the victimization. Thus, police response plays a pivotal role in each victimization incident and the criminal justice system as a whole. It is important to examine if the police come to a scene once they have been notified because citizens notifying the police are placing trust in law enforcement to come to their aide. Unfortunately, research has noted that officers do not come to the scene of every notification they receive. For example, one study found that officers only report to the scene of an assault eight out of ten times (Jasinski, 2003). This indicates that in 20% of cases where the police were notified of an assault by the victim, police did not respond.

The time that it takes police to arrive at the scene, after they have been notified, has been found to be related to offender apprehension (Blake & Coupe, 2001; Cihan, Zhang, & Hoover, 2012; Clawson & Chang, 1977; Coupe & Blake, 2005; Wilson, 1950), and apprehending offenders increases the number of closed cases in

the criminal justice system. Additionally, research has noted that a shortened police response time increases citizen satisfaction with the police (McEwen, Connors, & Cohen, 1984; Brandl & Horvath, 1991), which promotes positive police-community relationships and increases the likelihood that the citizens will continue to rely on the police for aide and protection.

Once the police have been notified of the assault, and arrive on the scene, the police officer has a decision to make an arrest. The officer's decision to arrest is important to examine because arrest is not mandatory for all victimizations, and we know that police are often the first deciding entity in the arrest of offenders. Scholars have examined several avenues to explain an officer's decision to arrest, including individual factors of the actual officer, varying stages in the decision process of the officer, and victim and offender characteristics.

In an exploratory effort to examine both police notification and police response behaviors, the current research project involves two main outcome variables. The first outcome variable, police notification, will be examined through exploration of the factors related to the police notification behavior of assault victims, specifically, victims of physical assault. Analysis will seek to uncover the variables related to the likelihood of police being notified of physical assault and the likelihood that the victim is the individual who notifies the police of the assault. The second outcome variable, police response behaviors, will be examined through the perceptions of physical assault victims. That is, after police have been notified, uncovering what the police response behaviors are as reported by the victims. Specifically, analyses will look at four police response behavior variables: whether or not police arrived at the scene

after notification, the time taken to arrive on the scene, and whether an arrest was made while at the scene of the physical assault or as a follow up measure.

This research will also examine both police notification and police response behaviors within the context of rural versus urban locations. As such, this inquiry fits into a larger field of inquiry, rural criminology. Rural criminology places geography at the forefront of inquiry into crime causation, persistence, and desistance. Rural criminology strives to recognize that rural areas are not simply mini-urban areas, and that rural areas should be treated as separate and distinct from their urban counterparts. This is important to understand rural areas as contextually different from urban areas, with different crime rates, social needs, and police response behaviors. Scholarship on rural criminology has been gaining ground, but rural crime in general has ranked among the least studied problems in criminology throughout the twentieth century (Donnermeyer, 2012). This project aims to help to fill this lack of attention to rural crime and shed light on police notification and police response behaviors to physical assault victims in a geographic context.

In connection to the current project, there is a lack of research examining reporting behavior for assault victimization across geographic context, and whether urban police response behaviors may vary from rural police response behaviors. For example, while there is a great deal of research that has examined police reporting behavior over time (Baumer & Lauritsen, 2010), reporting specific types of crimes to the police such as rape (Bachman, 1998), or reporting overall violence against women (Rennison et al., 2013), few have examined the geographical context within which police reporting behavior takes place (for exception, see Xie, 2012).

To help fill some of the gaps surrounding reporting behavior, police response behavior, and the effect of geography, there are two guiding research questions for this project. (1) Does geography have an effect on the likelihood that victims of physical assault will notify the police? (2) Does geography have an effect on police response behaviors in the form of time to arrive on the scene and decision to arrest? Overall, past research has found that many of the characteristics associated with reporting crimes to the police are also associated with arrests by the police (Jasinski, 2003). These characteristics include such measures as the race of the victim and offender (Bachman, 1996; Howerton, 2006), and the relationship between the victim and offender (Felson & Ackerman, 2001; Jasinski, 2003). Thus, this research will illuminate the effect of geography through the use of similar independent variables, or predictors, of both police notification and police response behaviors.

One way to understand a victim's decision to notify the police of his/her assault and police response behaviors to the assault is to view these behaviors as activating, or mobilizing, the law and legal system. Several previous studies that examined victim reporting or police response behaviors have focused on descriptive or explanatory factors of the individual, household, community or incident to explain the behavior. This study will take one step further by exploring the explanation through the lens of social structural theory, the application of geographic context. In order to theoretically ground the exploration of victim reporting and police response behaviors, this research will employ a framework shaped by Black's (1973) theory of the mobilization of law and his more general theory of the behavior of law (1976).

Black's mobilization of the law can be applied when victims proactively mobilize the law and call the police to notify them of an assault, and reactively when

the police mobilize the law and arrest an offender. There have been few scholars that have utilized Black's theoretical postulating in the study of police notification (Copes, Kerley, Mason, & Wyk, 2001; Kuo, Cuvelier, Sheu, & Chang, 2012) or police response (Avakame, Fyfe, & McCoy, 1999), and there has only been one study, to date, that has applied Black's theory (1973, 1976) to data from the National Crime Victimization Survey to understand reporting practices and police response. Avakame and colleagues (1999) concluded that Black's original theory may have utility in explaining the factors of police notification and police response, but postulated that the theory must be revised. Using a contemporary sample of NCVS data, this research will use a theoretical approach of Black's framework to aid in understanding police reporting behavior and police response behaviors.

### **Organization of Chapters**

This chapter has provided a brief introduction to the research questions surrounding victim reporting of physical assault to the police and police response behavior to notification. Additionally, it illustrated the importance of investigating these concepts with attention to geographic location. Chapter two is devoted to the theoretical framework utilized in this research, Black's (1973) theory of mobilization of the law and his understandings of the behavior of law (1976). Chapter two also summarizes the extant literature that examines police notification and police response behaviors using Black's (1973, 1976) theoretical underpinnings. Chapter three presents a thorough review of the literature surrounding police notification and police response behaviors. This chapter also introduces rural criminology and the relationship of this body of literature to the current project. Chapter four discusses the methodology and analytic strategy that will use data from the National Crime

Victimization Survey (NCVS) concatenated incident-level file for 1992-2012.

Chapters five and six present the quantitative data findings and implications for police notification and police response behaviors, respectively. In chapter seven, conclusions are made along with a discussion of the study limitations and directions for future inquiry into the areas of police notification and police response behaviors.

## Chapter 2

### **THEORETICAL FRAMEWORK: BLACK'S THEORY OF THE MOBILIZATION OF LAW AND THE BEHAVIOR OF LAW**

Donald Black, a prolific legal scholar, theorized that the law is not only a concept that has an observable behavior in the social world, but that it is also a quantitative variable with frequency or severity increasing or decreasing based on five aspects of social life: social stratification, morphology, culture, social organization, and social control (Black, 1976). Simply put, Black contended that law is a quantifiable variable influenced by five conditions, where law can be seen as the dependent variable and social stratification, morphology, culture, social organization, and social control are viewed as independent variables. Prior to theorizing the law as a quantifiable entity, Black (1973) first proposed his mobilization of law theory, which explained how the criminal justice system acquires cases. Scholars can observe the influence of Black's theory of the mobilization of law on his subsequent work. The current study will combine the ideas from both of Black's theoretical propositions to understand assault victims' decision to notify the police and subsequent police response behaviors. Presented below are the salient concepts from the theory of the mobilization of law: legal intelligence, the availability of law, the organization of discretion, and legal change. Next, the theory of the mobilization of law was expanded to understand the five conditions of modern social organization from the behavior of law.

In 1973, Black published an article on his theory of the mobilization of law, one specific dimension of the criminal justice system. This theory included the social conditions under which the law was mobilized by both citizens and legislative agents. Black (1973) defined law as the mechanism of governmental social control and the mobilization of law as the process by which the criminal justice system obtains civil and criminal cases. As previously mentioned, less than half of all crime victimizations are reported to police (Baumer & Lauritsen, 2010) and as a result, cases are not automatically detected by the criminal justice system. Instead, the law must be mobilized in order for there to be a case in the criminal justice system. Illegal acts and awareness by the criminal justice system are connected through the mobilization of law, “Mobilization is the link between the law and the people served or controlled by the law” (Black, 1973, p. 126).

There are two ways that law can be mobilized in order to notify the criminal justice system of the illegal incident: proactive and reactive. If a citizen notifies the police of a physical assault, this is an example of the proactive mobilization of law. In contrast, if the police observe a crime and take legal action on this observation, this is a reactive mobilization of the law (Black, 1973). Black discussed four aspects of law that influence the mobilization of law: legal intelligence, the availability of law, the organization of discretion, and legal change.

*Legal intelligence* refers to the knowledge and access of the criminal justice system regarding law violations. The dark figure of crime, the crime that never makes it to police attention either proactively or reactively, is an illustrative example of a less than perfect level of legal intelligence. Because criminal incidents are not reported to police, the criminal justice system is not aware of any law violations. Thus, a

constraint of legal intelligence hinges on the education of individuals as to what actions are considered illegal, and on the agency of individuals to notify the police of illegal activities.

In contrast to legal intelligence, the *availability of the law* is not concerned with the access that the criminal justice system has to cases, but instead focuses on the access that individuals have to the law. In theory, all individuals have access to mobilize the law, both reactively and proactively. However, there are limits to the availability of the law that are often centered on constructs of social stratification. For example, the victim's geographic location to legal resources and social status may affect their decision to notify the police of an assault. First, individuals may choose to mobilize the law by notifying the police of victimization via telephone, a convenience that not every social status can afford. If the individual chooses to notify the police in person, or must be present at criminal justice proceedings or agencies (e.g., law enforcement, correctional facilities, or a courthouse), there may be transportation issues. These transportation issues and/or distance from criminal justice agencies may have an impact on whether or not individuals mobilize the law. Finally, individuals who live in a socially close knit community may be discouraged from notifying the police in fear of social rejection or retaliation. Black (1973) refers to this discouragement as anti-mobilization norms.

The *organization of discretion* refers to the well-known understanding that discretion occurs at every stage of the criminal justice process, as well as during the process of the mobilization of law—from the decision to notify the police of an illegal incident, to the decision to arrest, to judiciary decisions, and throughout probation and parole decisions. Black (1973) noted two axes by which discretion is affected: moral

diversity and discrimination. Moral diversity can be illustrated when thinking of mala in se and mala prohibita crimes. Mala in se crimes, or crimes such as rape and murder, are often viewed by society as universally and intrinsically wrong. For other crimes that may not be intentional but are still unlawful, such as speeding without knowledge of the speed limit, perceived wrongness is less homogenous. The wrongness of these crimes, known as mala prohibita crimes, is determined by the individual and can be influenced by social stratification markers such as gender, social class, race, and ethnicity. Discrimination has an effect on discretion because one can be unequal in their treatment of individuals. This inequality likely affects a victim's decision to report victimization or a police officer's decision to arrest.

The final aspect of law that is affected by legal mobilization is *legal change*. Legal change refers to change beyond legislation and includes statutes being enacted or repealed. Legal change, as a result of mobilization, refers more broadly to the formal and informal changes that occur between the criminal justice system and social control. Legal change can be achieved through mobilization of law, for example, when police enact community policing or new policing programs that bridge the officers with the community.

With this understanding of what the mobilization of law (Black, 1973) includes and the mechanisms surrounding proactive and reactive mobilization, we now turn to see the influence of this theory on his larger theory of the behavior of law (Black, 1976).

### **Social Stratification**

Black (1973) stated that the availability of the law focused on the access that individuals have to the law. However, there are limits to the availability of the law to

all individuals, and these limitations are often centered on constructs of social stratification. Additionally, Black (1973) theorized that discretion to mobilize the law can be influenced by social stratification markers such as gender, social class, race, and ethnicity. Those with less social access and power will be less likely to mobilize the law. Black (1976) expanded on these original thoughts in his first proposition about the quantity and direction of law by suggesting that the law varies with stratification. Social stratification can be understood as the process by which groups or individuals in a society are arranged in a hierarchy based on their differential access to the social and economic resources of a given society (Andersen, 2009).

Black (1976) stated that social stratification can be measured through an individual's wealth or social rank; in turn, wealth and social rank are influenced by gender, race, and age. Black claimed that those individuals who hold a higher social ranking are more likely than lower social ranking individuals to mobilize the law because they have greater availability to the law; therefore, the direction of the law in this example is downward. When individuals of a higher-ranking status mobilize the law, they are also more likely to experience a positive outcome, or the outcome they desired such as the arrest of the offender.

In literature employing Black's framework to reporting and police response, gender, race, age and income have been linked to the concept of stratification (Avakame et al., 1999; Braithwaite & Biles, 1980; Copes et al., 2001; Gottfredson & Hindelang, 1979; Kruttschnitt, 1980–1; Kuo et al., 2012; Mooney, 1986). Studies that seek to examine the descriptive factors of the victim, which promote or inhibit victimization reporting, have consistently found that crimes committed against women and older victims are more likely to be reported to the police (Bachman, 1998; Pino &

Meier, 1999; Ruback, Menard, Outlaw, & Shaffer, 1999). Additionally, race has also been used as a descriptive factor surrounding reporting. For example, Chen and Ullman (2010) analyzed the National Violence Against Women (NVAW) survey to examine the reporting decisions of female rape victims and female victims of physical assault. They found that non-white victims were more likely to notify police than white victims.

Drawing on a recent victimization survey conducted in Taiwan, Kuo et al., (2012) provided an empirical test of Black's (1976) theory that focused on victim reporting of his/her victimization to the police for the crimes of assault, robbery, and larceny. Findings yielded that female victims of robbery reported to the police approximately three times more than males. For assault victims, the only stratification measure that was found significant was income, in that low-income victims of assault were more likely to report their assault to the police than their affluent counterparts, a finding which contradicts the income findings of the likelihood of reporting for fraud victims (Copes et al., 2001) and victims of violent person crimes (Avakame et al., 1999). Specifically, Avakame and colleagues (1999) found that victims who were poor mobilized the law more than their middle-class counterparts, but victimizations of wealthy people resulted in more arrests made by the police than when victims were poor.

Using NCVS data, Bachman (1996) examined the effect of victim and offender race in police responses to violent person crimes. Specifically, Bachman examined incidents of reported robbery and aggravated assault. These incidents were reported to the police and analyzed to uncover if the race of the victim or the race of the offender had an impact on police response time to the scene, the actions of the police while on

the scene, or the likelihood of the arrest of the offender. With respect to police response, findings yielded that police response times were fastest for robberies involving white victims and black offenders, compared to all other victim-offender race combinations. In the case of the likelihood of making an arrest for assault victimizations and police response behaviors, one of the most salient predictors was police response time; if an officer arrived within ten minutes, the chances of an arrest increased. In an expansion of Bachman (1996), Howerton (2006) utilized data from the NCVS from 1992-1999 to investigate the effect of race on police responses to robbery, assault, and rape victimizations. In consideration of police response time, Howerton (2006) found that police arrived faster to the scene when the victim(s) was white, the offender(s) was non-white, the offender was a male, or if the victim was over the age of eighteen.

Several studies have examined the stratification variable of age on the likelihood of crime reporting. Copes et al., (2001) used victim survey data to examine Black's (1976) explanatory value in the case of reporting fraud victimization. Data, which was collected on the telephone through survey questions, was modeled after the NCVS' fraud victimization section. This section questioned victims who have reported fraud victimization to the police or some other formal entity. The only significant stratification variable in their analysis was age; the findings suggested that those individuals who were in the highest age category, fifty-five years and older, were more likely to report being the victim of fraudulent crimes.

Other victim reporting studies that have included the stratification variable of age have found a positive correlation between reporting and age. Several studies have found that older victims are more likely to report victimizations to police compared to

younger victims (Baumer, 2002; Brennan, 2011; Chen & Ullman, 2010; Felson et al., 2002; Watkins, 2005), while some research has focused exclusively on youth reporting behavior. For example, Zaykowski (2013) investigated reporting behaviors of youth and young adults by analyzing over 4,000 respondents in the National Survey of Adolescents. Specifically, this study examined how experiences outside of the immediate physical assault incident (i.e., past victimization, perception of assault as problematic, witnessing violence), influenced the reporting of physical assault victimization. Findings indicated that youth were more likely to report physical assault victimization, when they had witnessed violence or committed a physical assault in the past. These findings suggest that circumstances surrounding the offense may have a greater impact on youths' decisions to report an incident.

Similar to Zaykowski's (2013) analyses from the National Survey of Adolescents, findings from the NCVS have also indicated that older victims were more likely to report victimization experiences to the police, despite their decreased risk of victimization compared to younger age groups (Truman, 2011). In fact, various studies using the NCVS data have found that youth were less likely to report victimizations to police compared to adults (Hart & Rennison, 2003; Hashima & Finkelhor, 1999; Finkelhor & Ormrod, 1999, 2001), except in cases of sexual assault and rape (Hart & Rennison, 2003; Hashima & Finkelhor, 1999). Recent literature has hypothesized that age may differentially influence reporting practices across the life course (Bosick et al., 2012; Kang & Lynch, 2010). For example, Bosick and her colleagues (2012) used the NCVS data to examine how factors that influence victimization reports vary by victim age. This study examined how the relationship between victim age and reporting may vary by type of crime victimization

experienced. Findings indicated that the rate of reporting differed by crime type, but that it generally increased throughout the life course regardless of the crime. This increase in reporting as the victim ages guides future research to look at reporting over the life course and not rely on dichotomous juvenile and adult comparisons.

### **Morphology**

Morphology refers to the relational distance between individuals (Black, 1976). The concept of morphology was alluded to in 1973, when Black discussed limitations to legal intelligence in the mobilization of law. One of these limitations is morphology, the social relationship between the victim and offender. Black stated that “the greater the relational distance between the parties to a dispute, the more likely is law to be used to settle the dispute” (Black, 1973, pg. 134). Therefore, the more distant the social relationship, the more likely the victim was to reactively mobilize the law. In other words, the law was used more frequently among strangers and intimate persons.

In 1976, Black reworked this linear theory of morphology and mobilizing the law and identified it as a curvilinear relationship. That is, the likelihood of the mobilization of law decreases the closer the relationship is between the victim and offender. This likelihood will increase as the social distance between the victim and offender increases, and the likelihood then decreases as the social relationship moves closer to incredibly distant (i.e., no relationship—the victim and offender are strangers). Black discussed the social relationship among individuals not only through relational distance, but also through social integration, or participation in social life. That is, individuals who are more socially integrated into society or into law-abiding

behaviors (e.g., marriage, family life, employment), will be more likely to mobilize the law and have their offenders arrested.

When examining the relationship between the victim and offender, scholars have found that when the offender was a stranger, victims were more likely to report victimization than when the offender was known (Copes, et al., 2001); and when the offender was an intimate partner or family member of the victim, the victim was less likely to report the victimization to police (Block, 1974; Gartner & Macmillan, 1995). In contrast and more recently, Felson et al. (1999, 2002) found that crime perpetrated by intimate partners and family members was more likely to be reported to the police. Intimate partner violence has received more research attention than any other aspect of women's victimization when using the NCVS (Heimer, 2008), but focusing exclusively on violence by intimates ignores other significant sources of violence in not only women's lives, but also men's (Lauritsen & Heimer 2008). Overall, some research has focused exclusively on familial relationships (Kang & Lynch, 2010), some disaggregated the relationship further to examine (ex)-spouses and (ex)-partners, family, friends, other well-known people, acquaintances, and strangers (Felson et al., 1999), while others simply dichotomized the relationship into known or stranger (Bosick et al., 2012).

Within the body of literature examining the influence of social relationships on violent and non-violent behavior, studies looking at the victim-offender relationship specifically for physical assault victimization are fewer in number. Some authors who examined non-sexual violence, such as assault, found that when the offender was an intimate partner, the victim was less likely to report to police (Block, 1974; Gartner & Macmillan, 1995). Others, however, found that victimization was no

more or less likely to be reported when the offender was an intimate partner when compared to other victim-offender relationships (Felson et al., 2002; Felson & Paré, 2005). Studies concluded that reporting assault was higher when the offender was an ex-spouse or a non-familial acquaintance rather than a stranger (Felson et al., 1999, 2002). Concurrently, findings were published that illustrated that simple assault victimization was more likely to be reported when the offender was a family member than a stranger (Baumer, 2002), findings which support Black's original hypotheses. These equivocal conclusions about social relationship between the offender and victim and the likelihood of reporting assault calls for this relationship to continue to be scrutinized and empirically examined.

With respect to the impact of morphology on the outcomes of police response behaviors, in her 1996 study, Bachman used the NCVS in a racial analysis of police response behaviors and concluded that police were less likely to make an arrest for assault incidents that involved black offenders and white victims that were nonstrangers. Felson and Ackerman (2001) also used the NCVS to examine whether the social relationship between the victim and offender had an impact on whether or not the police made an arrest for simple assault. Findings indicated that the police were more likely to make an arrest when the offender was an intimate partner than when the offender was a stranger.

In addition to defining morphology as the relational distance between individuals, Black (1976) also stated that morphology referred to social integration, the victim's level of participation in social life. That is, individuals who are more socially integrated, such as being married or employed, will be more likely to mobilize the law and have their offenders arrested. While there is empirical evidence that

indicated married victims may be more likely to report assault victimizations (Baumer, 2002) and all crimes (Gottfredson & Hindelang, 1979), others research has found contradictory evidence that married victims were actually less likely to report such incidents compared to other relationship categories (Chen & Ullman, 2010; Kuo et al., 2012).

### **Culture**

The third aspect of social life, culture, was defined by Black (1976) as “the symbolic aspect of social life, including expressions of what is true, good, and beautiful” (pg. 61). Culture provides the prescriptions for social behavior in society. Black (1976) postulated that culture influences the mobilization and behavior of law and that there is a correlation between the quantity of law and the quantity of culture. Therefore, where there exists more culture, there exists more law and vice versa. In the case of the mobilization of the law, individuals who possess more culture (e.g., higher levels of education or literacy) are more likely to mobilize the law because they are more aware of their rights, social positions, and options than those with less education and culture (Avakame et al., 1999).

The majority of past scholarship that has applied Black’s theory to reporting behavior and police response behavior has operationalized culture via the education level of the victim (Avakame et al., 1999; Copes et al., 2001; Kuo et al., 2012). When examining studies of assault victim’s choice to report to the police, Baumer (2002) and Chen and Ullman (2010) found a relationship between a victim’s education level and the likelihood of reporting an assault to the police, but these similarities somewhat dissipate when assault was disaggregated by assault type. In the NVAW survey data, victims without a college education were more likely to report the incident to the

police (Chen & Ullman, 2010), and NCVS findings showed that victims with a higher level of education were less likely to report a simple assault, while educational levels had no effect on reporting an aggravated assault (Baumer, 2002). In their study of applying Black (1976) to fraud victims, Copes et al., (2001) concluded that with respect to culture, individuals with the highest levels of education, except those with a business degree, reported their victimization more often than those with lesser amounts of education. Overall, the findings of the mobilization of law through police notification were mixed. While it appears that education does have an effect on the likelihood of reporting crime, the direction of the relationship is not consistent.

### **Social Organization**

Black's (1976) fourth influential condition of the behavior of law is the capability in society for group agency, what he calls social organization. Those who are highly organized are more likely to mobilize the law than those who are not as highly organized. One way to operationalize this organization is through individuals' ability to form group organization. The ability to socially organize as a group means that groups are more likely than individuals to mobilize the law. This axis of social organization will not be explored in the current analysis because the current analysis focuses on individual victims of physical assault who notify the police of their assault. However, social organization is of mention here for completeness as it was part of Black's original theory.

### **Social Control**

The final influence on the behavior of law is the effect of social control. Law is one form of social control (Black, 1973) and other forms include "etiquette, custom,

ethics, bureaucracy, and the treatment of mental illnesses” (Black, 1976, pg. 105). Black postulated about measuring social control in physical settings. That is, that public settings and daytime have higher levels of social control than private settings and nighttime. According to Black, as social control increased, so did the likelihood of the mobilization of law. For example, the more often informal social control is used in an effort to decrease crime, the less often the law will be mobilized as a form of formal social control.

In their application of Black’s theory to police reporting behaviors and police response behaviors, Avakame and colleagues (1999) measured social control through four indicators: a geographic location variable capturing the crime location as urban or suburban/rural, whether the crime occurred in a private or public location, whether the crime occurred indoors or outdoors, and whether it occurred during the daylight or in the dark. Findings indicated that victimizations in private locations were more likely to be reported to the police and result in an arrest. Victimization occurring in urban areas, at night, or outdoors were more likely to be reported to the police but less likely to result in an arrest.

In a more recent application of Black’s theory to the likelihood of reporting assault victimization to the police Kuo and colleagues (2012) operationalized the domain of social control through the use of two variables. The first variable was whether the crime occurred in a public or a private location and the second was whether the crime occurred in the daytime or the nighttime. Findings of those individuals who reported physical assault indicated that those victims who were assaulted at night were more likely to report the assault to the police. There were no

statistically significant findings for the public/private variable in the likelihood that assault would be reported to the police.

### **Control Variables – Weapon Presence and Injury**

Finally, variables which focus on weapon presence and injury sustained from the assault were included in analysis as control measures. These control measures were not linked directly to Black's theory, but have been shown to have a relationship with police notification of crime and police response behaviors (Avakame et al., 1999). They aim to capture the seriousness of the offense and have been used in past literature surrounding victim reporting behavior (Avakame et al., 1999) and police response behaviors (Felson & Ackerman, 2001; Howerton, 2006; Jasinski, 2003).

The first measure included was whether or not a weapon was present at the time of the assault. Some studies have illustrated that the presence of a weapon increases reporting likelihood (Akers and Kaukinen, 2009; Baumer, 2002; Brennan, 2011; Felson et al., 2002, 1999). In their study that examined the reporting behaviors of intimate partner violence victims, Akers and Kaukinen (2009) found that for victims who had been involved in a domestic incident involving a weapon, the odds of reporting this behavior were 50.2% higher than victims who had not been attacked with a weapon. In contrast to this finding, Zaykowski's (2013) study on youth showed that the use of a weapon actually decreased the likelihood that a victim reported the offense to authorities (e.g., teacher, principal, etc.).

When examining how weapon use was methodologically captured, though one study included when a weapon was present and a qualitative description of the weapon (Bosick, et al., 2012), the presence of a weapon is often dichotomously presented as present or not in NCVS analyses that examined reporting behavior (Avakame et al.,

1999; Rennison et al., 2013; Xie et al., 2006) and police response behavior (Howerton, 2006; Jaskinski, 2003).

When examining injuries sustained and reporting behavior, some research has concluded that if a victim sustained an injury during an assault, he or she is more likely to report the incident to the police regardless of demographic factors (Baumer, 2002; Felson et al., 2002). This highlighted injury as having an important relationship with assault reporting. Recently, Apel, Dugan, and Powers (2013) merged incidents of non-lethal violence from the NCVS with incidents of lethal violence from the Supplemental Homicide Report from 1992-2008 to examine the situational characteristics that predict injury and injury severity from physical assaults. Analyzing over 132,000 incidents, they classified injuries into four categories (no injury, minor injury, serious injury, and lethal injury), and found that younger victims in their teens and 20s, as well as racial minorities, were more likely to report an injury as a result of a physical assault. This supports previous literature that found minorities, males, and younger individuals are more likely to suffer an injury from a physical assault (Apel et al., 2013; Bachman, Saltzman, Thompson, & Carmody, 2002; Felson, 1996; Felson & Messner, 1996; Hashima & Finkelhor, 1999).

### **Summary**

Drawing on the above presentation of theoretical framework, the current research will seek to understand victim's police reporting practices for physical assault and police response behaviors for physical assault. The quantitative analysis will examine the proactive mobilization of law by victims who report their victimization to the police, as well as police response behaviors, through the five social conditions of modern social organization: social stratification, morphology, culture, organization,

and social control. Presented below is a literature review of the salient literature surrounding police notification of assault victimization and police response behaviors. Specifically, chapter three opens with an overall look at the descriptive studies of victimization reporting literature and police response literature, moves into an explanation of rural criminology, the relationship between rural criminology, the mobilization of law and physical assault reporting and police response behaviors in a geographical context.

## **Chapter 3**

### **LITERATURE REVIEW**

#### **Notification Behavior**

Research examining the reporting of victimization to law enforcement officials is present within both sociological and criminological literature. Scholars have examined a multitude of different topics including how victim and offender characteristics influence police reporting, how community and neighborhood context foster or inhibit reporting, variations in reporting based on incident characteristics, and reporting trends over time and space. This review begins with literature surrounding notification behavior and police response behavior. Next, literature connecting these two outcome behaviors specifically to physical assault is presented. Finally, literature is presented to tie rural criminology, theory, and the outcome measures together.

There are numerous responses that victims may engage in during and following a victimization experience. Some victims may notify formal authorities, others may choose to rely upon informal social supports, and still others may do nothing. Formal avenues that may be taken after victimization include contacting formal entities such as law enforcement, mental health workers, and/or medical personnel, while informal avenues may include seeking help from social networks such as friends, family, or co-workers.

Although less than half of all crime victimizations are reported to police, a recent study by Baumer and Lauritsen (2010) that utilized NCVS data from 1973 through 2005 concluded that police notification, or the likelihood that victims will

report crimes to the police, has increased nationally over the past thirty years. Other studies that have examined various types of crime using the NCVS data have also found this increase in reporting behavior (Baumer, Felson, & Messner, 2003; Orcutt & Faison, 1988; Xie, 2012). Thus, while victims may be less likely to seek help through formal avenues, such as reporting the crime to the police (Davies, Block, & Campbell, 2007; Kaukinen, 2002a), the rate of reporting appears to have increased (Baumer et al., 2003; Baumer & Lauritsen, 2010; Orcutt & Faison, 1988; Xie, 2012).

Baumer and Lauritsen's (2010) findings uncovered that 40% of nonlethal violent incidents and only 32% of property crimes were reported to police, highlighting that non-reporting is an issue among victims in the United States. Thus, one aim of victimization research is to illuminate the problem of non-reporting, also coined the "dark figure of crime," that is not reflected in official police data. Unlike police reports, victimization surveys such as the NCVS allow researchers to investigate why victims report or do not report their experiences to police.

Overwhelmingly, research has found that the severity of the crime plays a key role in the victims' decision to report the victimization to the police. More severe crimes, such as murder and robbery, have an increased likelihood of being reported. Furthermore, the severity of the crime can be related to community or neighborhood characteristics, such as disadvantage (Baumer, 2002) and education levels (Ruback & Menard, 2001), the seriousness of the incident (Bachman, 1998; Skogan, 1984), the relationship between the victim and offender (Gartner & Macmillan, 1995), effects of bystanders or third parties present during the incident (Greenberg & Ruback, 1992; Mason & Benson, 1996), and victim attitudes toward the police (Garofalo, 1977; Van Dijk, 1982).

## **Police Response Behavior**

Citizens want to know that the police are doing their job as protectors of the communities in which they live. As such, knowing that the police will come when called is a common desire and aides in positive police-citizen contact (Lynch, 2002). Knowing that the police come when they are notified of an incident may be positively related to subsequent contacts with the police for other victimization incidents. Time to arrival on the scene after notification, otherwise called police response time, refers to the time which lapses between police notification and police arrival to the scene or victim(s). Time to arrival may also have an impact on subsequent reporting and the relationship between individuals in the community and law enforcement.

The rapid nature of response after notification has been found to be related to the apprehension of the offender(s) (Blake & Coupe, 2001; Cihan et al., 2012; Clawson & Chang, 1977; Wilson, 1950) and citizen expectations (Brandl & Horvath, 1991; Percy, 1980). Citizen expectations can be positive or negative, and research has noted that a shortened police response time increases citizen satisfaction with police (McEwen et al., 1984; Brandl & Horvath, 1991). Almost 30 years ago, McEwen and his colleagues (1991) examined the relationship between citizen satisfaction and police response time across four different cities and concluded that a slow response time from the police resulted in reduced citizen satisfaction. For serious offenses, police response time affected reported satisfaction with the police (Brandl & Horvath, 1991). Citizen expectations and police response time are salient to the current study because prior contact with the police may affect subsequent reporting and satisfaction of prior contact outcomes may also affect subsequent reporting.

Recently, Cihan and colleagues (2012) examined the relationship between rapid police response times and neighborhood characteristics. Their research focused

on the relationship between response rate to in-progress burglaries and if an arrest was made. Findings suggested that disadvantaged neighborhoods experienced quicker police response times. Disadvantaged neighborhoods were operationalized as socially disorganized. These neighborhoods were characterized by identifiers such as those with high concentrations of immigrants, residents who lived below the poverty line, were on public assistance, or were unemployed. Race also plays a role in police response to reports of victimization. In 1996, Bachman utilized data from the NCVS from 1987-1992 to investigate the effect of race in police responses to violent person crimes. Specifically, Bachman examined robbery and aggravated assaults which were reported to the police to understand if the race of the offender or the victim had an impact on police response time to the scene once they had been notified, the actions of the police while on the scene, and the likelihood of the arrest of the offender. Similar to the current research, both of these authors used the NCVS dataset to understand the predictors of police response time and the likelihood of an arrest.

According to Cihan and colleagues (2012), the largest caveat in response time literature focused on the likelihood of apprehending an offender. Some studies have found mixed results concerning speedy response times being positively correlated with likelihood of arrest, but the correlation of response time and arrest remains paired in the literature because it is thought that if rapid response rates increase the likelihood of arrest, and high arrest rates decrease the amount of crime committed, then rapid response from law enforcement will ultimately aide in decreasing crime rates. While Cihan et al., (2012) examined response rates and arrest in tandem, it did highlight the importance of understanding both these outcomes. This research will treat these as separate outcomes, not as one predicting the other.

## **Notification Behavior and Police Response Behavior to Physical Assaults**

Research examining crime reporting to the police and police response behaviors often focuses on specific crime outcomes such as rape, robbery, aggravated assault, and simple assault because person offenses are considered more serious than property offenses. This is often because serious crimes are more likely to be reported to police compared to less serious offenses (Bachman, 1998; Baumer & Lauritsen, 2010; Gottfredson & Hindelang, 1979; Laub, 1997). Serious offenses often involve person to person crimes, the use of a weapon to threaten or harm, serious or minor injury, or the loss of valued property. The crime of assault is examined in the current research for two reasons: a) assaults represent the largest percent of all nonlethal violent crimes, and b) assaults are significantly different in context compared to rape/sexual assaults and robberies, which would make combining assaults with these offense categories problematic.

Furthermore, while there is a large volume of research that has examined the reporting behaviors of victims of intimate partner violence, rape and sexual assaults, there have been few studies that examined correlates of notification of physical assault to police. Additionally, virtually no studies have examined the notification of physical assault victimization and police response behaviors within the context of geographic location.

Police response behavior refers to the actions engaged in by police once they have been notified of a physical assault. Specifically, the research questions in this study examine whether or not the police arrived on scene after being notified, how long it took the police to arrive on the scene, whether or not an arrest was made at the scene, and whether or not an arrest was made as a follow up to the victimization.

### **Connecting Rural Criminology, The Mobilization of Law, Police Notification, and Police Response Behaviors**

As discussed above, Black (1973) noted that law is one form of social control. According to Black, as social control increased, so did the likelihood of the mobilization of law. However, it is important to understand that the direction of the relationship depends on which type of social control is being exercised: formal social control or informal social control. Social control can be defined as “the use of sanctions and rewards within a group to influence and shape the behavior of individual members of that group” (Schmallegger, 2014, p.15). When social control is exercised by the criminal justice system or through government agencies, it is considered formal social control. When such control is exercised by entities such as family and friends, it is known as informal social control. In relation to Black’s theory, the more often informal social control is used in an effort to decrease crime, the less often the law will be mobilized as a method of formal social control.

A major component of the current research is the focus on geographic location of physical assault victims and if the location of the assault (urban or rural) has an impact on notification and police response behaviors. Prior research has noted that areas characterized as rural are often associated with high levels of informal social control. In fact, Rennison et al., (2013) noted that “... the NCVS reveals that for many crimes, reporting rates vary across urban, suburban, and rural areas. It is speculated that lower reporting of crimes in rural areas is a function of stronger means of informal social control” (p. 144), as supported by research findings from Carrington (2007) and Hogg and Carrington (2006).

Extending Black’s (1976) theory to subsamples of rural-only victimizations and urban-only victimizations will aide in the merging and expansion of several

bodies of literature. This analysis of geographic specific victimizations on the backdrop of geographic location will attempt to fill gaps in the literature surrounding the mobilization of law, police notification behavior, police response behaviors, and the growing field of rural criminology. To illustrate the connection and importance of the current research, the following sections introduce rural criminology and the literature connecting rural geography with this study's dependent variables, police notification and police response behaviors.

Historically, scholarship surrounding rural criminology, the study of crime in rural areas, first appeared in the 1930s (Clinard, 1942, 1944; Jones, 1939; Smith, 1937; Sorokin & Zimmerman, 1929; Sorokin, Zimmerman, & Galpin, 1931). Early research in rural criminology uncovered somewhat unsurprising findings including evidence that delinquency rates in rural counties increased when the counties were situated near larger populations (Smith, 1937) and that rural offenders were less likely to be involved in criminally organized groups (i.e., gangs) than their urban counterparts (Clinard, 1942, 1944). This early approach to rural criminology was widely influenced by the theoretical underpinnings from the Chicago School and concentric zone theory, which viewed rural areas as appendages that were distant lands from the nearest urbanized area (Donnermeyer & DeKeseredy, 2008).

Although there has been a recent increase in the scholarship concerning rural criminology (Donnermeyer, Jobes, & Barclay, 2006; Weisheit & Donnermeyer, 2000; Weisheit, Falcone, & Wells, 2006), many of these pieces still exclusively use theories influenced by the Chicago School (e.g., social disorganization) that view rural areas as disorganized and lacking the ability to regulate through forms of social control. Some scholars contend that this research should move away from these limited antiquated

notions and aim to examine rural areas “in terms of their own social organization and culture....[which is] far more complex than proximity of cities or various sizes” (Donnermeyer & DeKeseredy, 2008, p. 9). The term ‘rural’ is a concept that is easily understood at a common-sense level, yet difficult to define (Anderson, 1999). Because rural areas exhibit commonalities with, and important differences from, urban areas (Wells & Weisheit, 2004) characterizing them as mini-urban areas, which is common in research, fails to examine rural areas as having their own structure, culture, and processes, that are distinct from urban areas. There is a relationship between rural and urban areas but it is not unidimensional. Instead, varying demographic, economic, social, and cultural characteristics are all part of a multidimensional construct of rural life (Marshall & Johnson, 2005; Weisheit, Falcone, & Wells, 1996).

The current research will add to this growing body of literature that stresses the importance of looking at rural and urban areas as qualitatively different from one another. If this research supports Black’s theory surrounding social control - that those areas with higher levels of informal social control will be less likely to mobilize the law as a form of formal social control - then the results will highlight a significant relationship between informal social control and police notification and response behaviors. That is, rural residents will be less likely to notify the police of their physical assault victimizations and police in rural areas will be less likely to make an arrest on the scene or as a follow-up measure.

Prior research has highlighted that the decision to report crime to the police may vary according to contextual elements such as time (Baumer & Lauritsen, 2010) and place (Gibson & Kim, 2008). Despite national trends indicating that police

reporting has increased in the past 30 years, these trends may be reflected differently by individual states, cities, regions, and geographic locations within cities or rural areas. This is certainly true, for example, when crime rates that may be decreasing at the national level, may be increasing within particular cities or towns. In order to determine if national trends do reflect local trends, research must situate itself within a more specific geographic context. Examining crime in a geographic context is not foreign to the fields of criminology and sociology (Donnermeyer & DeKeseredy, 2008), though there is a lack of research examining reporting behavior for assault victimization across geographic context. This dearth is not surprising since rural crime in general has ranked among the least studied problems in criminology throughout the twentieth century (Donnermeyer, 2012).

Although the literature on crime in rural areas is scarce in comparison to urban areas, there have been a few attempts to examine reporting crime to the police and its relationship to geographic region. For example, Ruback and Menard (2001) examined rural and urban differences in victim reporting of sexual victimization to the police. Their findings illustrated that while rates of sexual victimization were higher in rural counties, those victims residing in urban counties were more likely to report victimization to the police. Others have similarly found that rape victimizations are less likely to be reported to the police in rural areas compared to urban areas (Weisheit et al., 2006). To help understand why, Logan et al., (2005) conducted focus groups with rape survivors living in urban and rural counties and found that barriers to support services for rape victims varied across the two contexts with rural areas generally having fewer services for victims. The lack of these services may be one reason the victims residing in rural areas often turn to informal social controls that

influence reporting behavior and available services (Carrington, 2007; Hogg & Carrington, 2006; Weisheit, Wells, & Falcone, 1995).

Salient to the current research, the relationship between the victim and offender is an important component when examining the effect of geography. Ruback and Menard's (2001) findings illustrated that rates of sexual victimization were higher in rural counties, and that urban counties had higher rates of stranger assault. This was consistent with the findings of Logan et al., (2005) that rural women were more likely to talk about perpetrators as intimate partners while urban women spoke more frequently about rape perpetrators as strangers or acquaintances. Possible reasons for this relies on the ideas of there being denser social networks of acquaintances in rural areas than in urban areas; thus, more people know one another in rural areas than in urban areas and may be less likely to report the assault to the police when they know their offender. Additionally, rural areas have been characterized by the social norm of being areas that keep private matters private (Weisheit et al., 1995), thus reducing the likelihood of reporting to the police when the assault occurs between individuals who know one another.

Research has shown that the likelihood of other violent crimes, such as physical assault, being reported to the police is lower in rural areas than urban areas. One possible explanation for this finding is that rural areas have a higher density of acquaintance networks. Consequently, rural violence typically occurs between individuals who know one another. This acquaintance relationship between people in rural areas may decrease the overall probability of reporting victimizations to police (Weisheit et al., 2006). This may occur because the victim is fearful of reprisal, the offender may be connected in the small town and hold political or economic capital, or

perhaps the victim is fearful of salacious or image damning rumors that may occur, as some victims will have their names made public through printing in the local newspaper (Payne, Berg, & Sun, 2005).

While rural criminology research has uncovered geographic-specific findings, the NCVS has been underutilized in past research within this field to understand rural victims' experiences. However, many scholars encourage the use of the NCVS to investigate the relationship between certain victim behaviors and geography (Bosick et al., 2012; Rennison et al., 2013; DeKeseredy & Rennison, 2013). Recently, Xie (2012) utilized 25 years of NCVS data (1979-2004) to examine geographic differences and temporal trends in victimization reporting. However, her analysis only examined metropolitan areas, thus excluding rural areas, which is often typical of this research (Lauritsen & Schaum, 2005).

Guided by two main research questions, Xie (2012) examined (a) increases in the likelihood of reporting crime to the police in New York in comparison to 40 other metropolitan areas, and (b) influences on a victim's perception of police helpfulness. Findings indicated that for both violent and property crime, police notification increased across the metropolitan areas from 1979-2004. Xie's findings mirrored those of Baumer and Lauritsen (2010) who also observed an increase of reporting over time. In an effort to answer the second research question surrounding the victim's perception of police helpfulness, Xie analyzed individuals who did not report victimization. The most important reason these individuals did not report was a belief that "police wouldn't help."

The findings of Xie (2012) and Baumer and Lauritsen (2010) have added to recent literature about the differences in reporting trends over time and in examining

rates of police notification within specific geographical locations. Some scholars examined reporting behaviors strictly of victims of violent crimes. For example, Logan and colleagues (2005) found common barriers to reporting instances of rape to the police across rural and urban women. Rural women were more concerned about issues of backlash within their communities and families; therefore, these women were less likely to report the crime. Instrumental barriers to reporting victimization to the police focused on structural obstacles. As illustrated in the aforementioned study, Logan and colleagues (2005) also cited that when rape victims were economically dependent on the offender, they were less likely to report to the police. Thus, the victim's economic dependence acted as a barrier to reporting. In studies outside of intimate partner violence, very little is known about whether the factors that affect police reporting of physical assaults are similar or different in rural and urban locations.

The current study also focuses on police response behaviors and geographic location of physical assault victimizations. Past research on rural policing has examined the activities and experiences of rural police (Baird-Olson, 2000; Bass, 1995; Decker, 1979; Weisheit et al., 1996), both in the United States (e.g., Barrett, Haberfield, & Walker, 2009; Lambert et al., 2007; Marenin & Copus, 1991; Nicholas, 2007; Websdale, 1995; Weisheit et al., 1994), and internationally (e.g., Smith, 2010; Sun, Wu, & Hu, 2013; Yarwood, 2010). Specific research has examined topics such as the function of rural community-oriented policing (Cordner & Scarborough, 1997; Crank & Giacomazzi, 2007; O'Shea, 1999; Pelfrey, 2007; Sozer & Merlo, 2012; Thurman & McGarrell, 1997; Weisheit et al., 1996; Weisheit et al., 1994; Yarwood, 2010), and rural officers' responses to specific types of offenses (Ball, 2001; Van

Hightower, Gorton, & DeMoss, 2000; Schafer & Giblin, 2010; Websdale, 1995; Websdale & Johnson, 1998).

The types of offenses that were commonly examined in rural settings included traffic violations, family violence, and drug offenses. Payne, Berg, and Sun (2005) examined policing in rural areas, but instead of the officers serving as their unit of analysis, they examined the actions of rural residents to determine if behaviors of rural residents necessitated contact with the police. The examination of 925 crime reports published in the local newspaper illuminated the kinds of activities in rural communities that citizens felt required a police response. Overwhelmingly, findings indicated that the infractions reported were social disorder problems, including requesting assistance with animals, intoxication, interpersonal disputes, and disturbing the peace. Thus, rural police officers were expected to be agents not only of law enforcement and social control, but simultaneously act as agents of social assistance to personal and low threat incidents.

Policing literature has conducted analyses of police behaviors in urban domains, but a significant number of police departments are situated in rural areas (Baker, Wolfer, & Zerra, 2002). Research has recognized that rural and urban areas have varying social processes, so policing research should be conducted in both rural and urban areas and, when conducted in urban areas, findings should not be generalized to rural areas. As noted above, compared to policing in urban areas, policing in rural areas has received much less attention in criminological literature (Donnermeyer, 2012). Despite this, inquiries into police behavior in rural areas are growing, but it still remains much smaller in comparison to the literature of urban studies on policing.

One of the most comprehensive analyses of rural policing and rural crime to date was conducted by Weisheit and colleagues (Falcone et al., 2002; Weisheit et al., 1994, 1995, 1996). Major findings from their works include (1) rural police departments focus on crime prevention and community services, (2) rural police officers often were agents of a variety of social services, not just law enforcement, and (3) the policing style in rural areas reflected elements of community policing because the relationship between the police and community tended to be informal and socially close. Inquiries into rural policing have been established as a valid and growing area of interest in criminological research and rural policing has been shown to have similarities and differences from urban policing practices. If rural policing behavior is qualitatively different from urban policing behavior, it is logical to then delve into whether urban police response behaviors vary from rural police response behaviors.

Similar to other areas in policing behaviors, research on police response time and likelihood of arrest by geographical context has not been fully developed within the literature. Some scholars examined neighborhood context and police responses (Cihan et al., 2012; Pare, Felson, & Quimet, 2007; Mledanka & Hill, 1978; Warner, 1997), while others include urban/rural variables as controls (Bachman, 1996). In 2006, Howerton posited that "...police response time will also vary depending on the location of the incident; rural areas will perhaps have a longer response time than urban areas" (p. 63), but did not test this hypothesis. The current research seeks to fill the gaps in the extant literature surrounding rural criminology and police response behaviors. This will be achieved by focusing on the urban and rural relationship and the arrival at the scene after notification, time to arrival on the scene, and behavior of police through arrests made for physical assault.

## **Summary**

First, chapter three reviewed the extant literature surrounding notification and police response behaviors. Second, the literature of rural criminology and Black's theoretical framework was introduced as it relates to this project. Examining Black's domain of social control as a stratifying variable for analysis and looking at the literature characterizing rural criminology and rural policing as qualitatively different from hegemonic criminology and policing. Chapter four will present the quantitative methodology employed for the current project. Data from the 1992-2012 NCVS concatenated incident file is analyzed and case inclusion is limited to the following incidents: simple assault without a weapon and without injury, simple assault with injury, attempted aggravated assault with a weapon, or aggravated assault with injury.

## **Chapter 4**

### **METHODOLOGY**

This dissertation is grounded in Black's (1973, 1976) theory of the mobilization and behavior of law and is driven by the two prongs of research surrounding physical assault victims' notification of the police and police response behavior to these notifications. Specifically, the following analysis will seek to uncover whether (1) geography has an effect on the mobilization of law through police notification of victims of assault, and whether (2) geography has an effect on the mobilization of law through police response behaviors in the form of arrival on scene, time to arrive on scene, and decision to arrest.

According to Black (1973, 1976), the availability of the law is not concerned with the amount of access that the criminal justice system has to each case, but instead focuses on the amount of access that individuals have to the law. In theory, all individuals can mobilize the law; however, the availability to mobilize the law is limited by stratification, morphology, culture, and social control. As there have been no studies to date that have focused exclusively on applying Black's theory to explain geographic variations in police notification and police response behavior to physical assaults, the current research is exploratory in nature.

#### **Data and Sample**

Established in 1973, under the name the National Crime Survey (NCS), the NCVS is an annual survey conducted by the Bureau of Justice Statistics (BJS). The

NCVS is a major source on personal and household victimization within the United States. According to the BJS, the NCVS “was designed with four primary objectives: (a) to develop detailed information about the victims and consequences of crime, (b) to estimate the number and types of crimes not reported to the police, (c) to provide uniform measures of selected types of crimes, and (d) to permit comparisons over time and types of areas.” The NCVS was conducted from a nationally representative sample of approximately 76,000 households, which encompassed almost 134,000 individuals. Those included in the survey were household individuals aged 12 and over who offer consent to involvement. Consenting participants were then interviewed either in person, over the telephone, or with the use of a computer-assisted personal interview (CAPI). Using a six-month reference period, the NCVS gathered information surrounding nonfatal victimization (e.g., rape, sexual assault, robbery, assault, theft, burglary, motor vehicle theft). The NCVS was a self-report survey that asked individuals to volunteer information on their engagement, observation, and/or experience with victimization.

There were four types of records or data collected and released to the public for analysis. These record-types had varying units of analysis. These units of analysis included: address, household, person, and incident record files. Address and household record-type files presented data about the household and surrounding physical and economic environment as calculated by the Bureau of the Census. Person record-type files included data collected about each household member. Finally, the incident-record type files produced data collected by a crime incident report, which was filled out for each victimization incident mentioned by the respondent. For the current project, secondary analyses were performed on the

incident-level extract file for 1992-2012. This file was chosen for analysis because it included incident, household, and person (both victim and offender) characteristics.

The NCVS relies on respondents to self-report victimization experiences. While helpful in capturing victim experiences and police reporting behavior, this method of self-reporting and this study were not without limits. One limitation of utilizing the NCVS was the inherent risk of the respondents providing incorrect responses. Incorrect responses can be a result of the respondents offering false reports of experiences, experiencing memory failure, or telescoping (i.e. placing victimizations within the reference period when they did not occur during that time). The respondent may not be truthful (i.e., under or over reporting) for a number of reasons including embellishment, embarrassment, denial of the experience, and/or not identifying as a victim. Additionally, respondents may fall suspect to what is commonly referred to as social desirability bias. Social desirability bias refers to the phenomena that individuals will answer questions in a way which they deem acceptable by society, the researcher, or the survey administrator. The information provided on self-report studies was at the discretion of the individual respondent.

Limitations to the NCVS were also identifiable outside of the respondent. Although the NCVS is a nationally selected random sample, it may have systemic biases as it can only include individuals who fit the sample criteria. The target population for inclusion in the NCVS was individuals who are at least 12 years old and living in selected households within the United States. The NCVS excluded individuals who are employed or deployed at sea, residing in institutions (e.g., prisons, nursing homes), members of the armed forces living in military barracks, and those who reported not having time, or refused to be involved in the survey. Secondly, the

data may be incorrect as a result of the influence of the interviewer, data coding errors, or data processing errors (e.g., human error).

Finally, when using the NCVS to explore police response behavior, it is important to note that these behaviors were based on victim's perceptions. That is, the operationalization of the variables capturing police response time was based solely on victim perceptions of police behavior, not actual police reported data. Despite this criticism, previous studies that have used the NCVS as a vehicle for capturing police behavior (Avakame et al., 1999; Bachman, 1996; Howerton, 2006), have successfully illustrated that while using a victim's memory and perception may have limitations, similar to any memory recall dataset, the NCVS is still a valid dataset to explore police response behavior to person crimes, such as assault. In 2002, Lynch highlighted several potential benefits of using the NCVS to yield information on police behaviors. For example, because the NCVS is a nationally representative survey with high annual response rates and is collected over several data points, it can provide estimates of rare phenomena that smaller and/or commercial surveys cannot. Additionally, some of the information that we need to know about the police can only be told by citizens, and citizen perception of the police can be very helpful to improve policing (Lynch, 2002).

As aforementioned, the dataset for this analysis was the incident-level extract file of the NCVS for 1992-2012. Because the focus of this study was surrounding the impact of geographic context on assault victim reporting and police responses, only assault victimizations were included in the data. Using the type of crime variable available in the dataset, case inclusion was limited to those incidents coded as simple assault without a weapon and without injury, simple assault with injury, attempted

aggravated assault with a weapon, or aggravated assault with injury. The total sample size for the analyses presented here, which contained only physical assault victimizations, was 23,729. The most common category of physical assault in this dataset was a physical assault without a weapon and not resulting in an injury (n=11,246). Multiple offender assaults were excluded from analysis. Table 4.1 presents a breakdown for each type of assault.

Table 4.1: Distribution of NCVS Physical Assault Variables

<b>Question</b>	<b>NCVS Variable</b>	<b>Variable Name</b>	<b>Response Options</b>	<b>Full Sample (n=23729)</b>
Type of Crime	V4529	Assault	1= Assault without weapon without injury	47.4% (11246)
			2= Simple assault completed with injury	28.2% (6684)
			3= Attempted aggravated assault with weapon	12.1% (2866)
			4= Completed aggravated assault with injury	12.4% (2933)

To investigate the research questions concerning victim reporting and police response behavior, this analysis employed six dependent variables, five independent variable categories, and control measures. The five independent variable categories were reflective of the five domains of social life as presented by Black (1976). The domains of stratification, morphology, culture, and social control were measured through at least one question from the NCVS. Below are individual presentations of how the original measures were captured in the incident-level extract file for 1992-2012, any manipulations applied to the measures through recoding, how the measure

appeared in the final analysis of the assault only dataset (n=23,729), and the univariate distributions of the dependent, independent, and control variables.

First, all measures in the analyses were recoded to account for residue responses and out of universe responses. Residue responses were coded in the NCVS as those responses that were a result of a keying error upon data input. Out of universe responses were those responses that were outside of the range of possible responses. Both residue and out of universe responses for all measures were coded as missing responses and were not included in analyses, including any questions for which the respondent did not know the answer, the answer was unclear to the data collector, or instances when the respondent refused to answer the question.

### **Dependent Variables**

There were six nominal level dependent variables included in the analyses to capture whether or not the law was mobilized. There were two dependent variables that focused on victim reporting of assault to police and four dependent variables that focused on the police response behaviors after being notified about the assault. The NCVS considered the term 'police' to include individuals in all regular police and sheriff's departments at or below the federal level of government. Also included were specialized police forces authorized to make arrests (e.g., campus police, park police, transit police, harbor police, and airport police). The term did not include security guards, fish and game wardens, and other officers that did not have the authority to make police arrests.

The first dependent variable captured whether police were notified about the assault. Specifically, respondents were asked the question, "Were the police informed or did they find out about this incident in any way?" Responses were originally coded

as 1=yes, 2=no, and 3=don't know. Those who responded 'don't know' (n=350) were coded into missing responses since they did not answer the question in an affirmative way. The new variable was named *ReportedToPolice* and was coded as 0=no and 1=yes. The second dependent variable about notifying the police of an assault was a follow up to the *ReportedToPolice* question and asked "How did the police find out about it?" The original response options included the respondent reported him/herself along with a list of six other ways that the police could have been notified. The variable was renamed *VictimReported* with the response options 0=some other way and 1=respondent.

The third and fourth dependent variables examined police response behavior. The first asked the respondent, "Did the police come when they found out about the incident?" The possible response options were yes, no, don't know, and respondent went to the police. The cases that had responses of 'don't know' or 'respondent went to the police' were coded as missing (n=740). The final variable was named *PoliceCame* and is coded as 0=no and 1=yes. The second police response variable measured how quickly the police arrived at the crime scene after being notified of the assault. For those victims who said police came to the scene after they were called, the NCVS asked respondents, "How soon after the police found out did they respond? Was it within 5 minutes, within 10 minutes, an hour, a day or longer?" Those respondents who did not know how long it took the police to come (n=417) were coded as missing and the remaining responses were coded as 0=longer than ten minutes and 1=less than ten minutes in a new variable named *ArrivedWithin10Minutes*. This recode decision is based on previous research (Bachman, 1996), the time lapse between the categories of "within 10 minutes" and

"within an hour" and the skewed univariate distribution of the original ordinal variable.

The final two dependent variables captured information about police response behavior after they were notified about the incident; particularly, if and when an offender was arrested. The first question asked respondents about police behavior at the scene of the assault, "What did they do while they were (there/here)?" This research was focused on if an arrest was made. Thus, responses coded as 1=yes, were if an arrest was made when the police arrived at the scene. This variable was named *ArrestAtScene*. The second measure that surrounded police response behavior was the question, "What did the police do in following up this incident?" If an arrest was made as a follow up measure to the physical victimization, these responses were coded as 1=yes. This variable was named, *FollowUpArrest*. Thus, both *ArrestAtScene* and *FollowUpArrest* were coded as 0=no and 1=yes.

Almost half of the sample (mean=0.48) reported that the police were notified about the assault, and 24% (n=5,668) of victims themselves were the ones who notified the police. Once the police were notified about the assault, nearly 90% (n=8,106) of respondents (mean=0.89) reported that the police came to the scene, and almost two-thirds of police (mean=0.62) were there within ten minutes. About one in four assaults resulted in an arrest at the scene (mean=0.23) and a little over one fifth of the time an arrest was made as a follow up procedure to the incident (mean=0.22). A complete presentation of the dependent variables can be viewed in table 4.2.

Table 4.2: Distributions of Dependent Variables

<b>Question</b>	<b>NCVS Variable</b>	<b>Variable Name</b>	<b>Response Options</b>	<b>Full Sample (n=23729)</b>
Were the police informed or did they find out about this incident in any way?	V4399	ReportedToPolice	0= No	51.7% (12059)
			1= Yes	48.3% (11287)
How did the police find out about the incident?	V4400	VictimReported	0= Some other way	76.1% (18061)
			1= Respondent	23.9% (5668)
Did the police come when they found out about it?	V4438	PoliceCame	0= No	11.4% (1043)
			1= Yes	88.6% (8106)
How soon after the police found out did they respond? Was it within 5 minutes, within 10 minutes, an hour, a day, or longer?	V4439	ArrivedWithin10Minutes	0= Longer than 10 minutes	38.3% (2943)
			1= Within 10 minutes	61.7% (4734)
What did they do while they were (there/here)?	V4447	ArrestAtScene	0= No	76.0% (7215)
			1= Yes	24.0% (2281)
What did the police do in following up this incident?	V4459	FollowUpArrest	0= No	77.7% (3064)
			1= Yes	22.3% (881)

## **Independent Variables**

The covariates included in all regression models were informed by recent literature that explored victim reporting practices, police response, using the NCVS (see Bosick et al., 2012; DeKeseredy & Rennison, 2013; Felson et al., 1999; Kang & Lynch, 2010; Rennison et al., 2013; and Xie et al., 2006), and by the theory of law and the mobilization of law centered on the five social aspects of law (Black, 1976). To empirically test Black's theory, the independent variables for analysis were divided into the following categories: stratification, morphology, culture, and social control. These social conditions, outlined below, were measured through quantifiable variables from the NCVS to model their influence on police notification and police response variables.

The first of the categories included in the analysis was the stratification category. As explained above, stratification is a social construct and limits the availability of the law to individuals in varying groups (Black 1973, 1976). Stratification was measured through individual characteristics of both the victim and the offender. The individual characteristics of the victim included the victim's sex, age, race and ethnicity, and were commonly recurring demographic variables in prior literature that used the NCVS to uncover reporting behaviors of victims (Kang & Lynch, 2010; Bosick et al., 2012; Xie et al., 2006). The offender's sex and race, as reported by the victim, were also included in the stratification category along with the victim's household income.

The variables capturing the victim's sex and age were kept in their original format and renamed Female and Age, respectively. Female, a nominal level variable, was coded as 0=male and 1=female while age, an interval/ratio level variable was kept as a discreet number ranging from 12-90. The variables that captured the race and

ethnicity of the respondent were originally two different variables, one capturing race and one capturing whether or not the respondent was of Hispanic origin. For analysis, these variables were combined into one variable named RaceAndEthnicity and coded as 1=White NonHispanic, 2=Black NonHispanic, 3=Other NonHispanic, and 4=Hispanic of any race. These variables were recoded into dichotomies and the variable that captured White NonHispanic respondents was used as the comparison category in the multivariate analysis. The variable that ascertained the household income of the victim's household was kept in the original presentation. Once the residue and out of universe responses were coded as missing data, this yielded fourteen response options that ranged from less than \$5000 annual income to over \$75,000 annual income. The variable was named Income.

The variables that captured the demographic information of the offender included the victim's reports of the offender's sex, race, and age. For these variables, the out of universe and residue responses were first coded as missing. Additionally, for those responses when the respondent answered 'don't know' about the demographics of the offender, these were also coded as missing responses. For the variable capturing the offender's sex, the remaining responses were kept in the original format and coded as 0=male and 1=female. Respondents were asked "Was the offender male or female?" This nominal level variable was named OffFemale.

For the variable capturing the offender's race there were multiple variables utilized. From 1992-2011, respondents were asked "Was the offender White, Black, or some other race?" with only three valid response options, white, black, and other. Beginning in 2012, respondents were asked, "What race or races was the offender? You may select more than one. Was the offender white, Black or African American,

American Indian or Alaska Native, Asian, or Hawaiian or other Pacific Islander?”

These responses were collapsed into the same three categories as had been asked from 1992-2011, black, white, and other. Thus, both race measures were then combined to yield one composite measure of offender race from 1992-2012. The responses on the combined offender race variable were measured as three nominal categories: 1=white, 2=black, and 3=other.

The final offender characteristic variable captured the offender’s age, as reported by the victim. The original variable was an ordinal level variable which had six response categories derived from answers to the question, “How old would you say the offender was?” These categories were dichotomized into 0=17 years of age and younger, and 1=18 years of age and older in the variable named OffAge18Older.

The variables included in measuring the domain of stratification were the variables that capture the demographic characteristics of both the victim and the offender. Examination of these demographic characteristics is presented in table 4.3. This tables illustrates that assault victimizations were about equally likely to be against males and females (mean=0.45), with the most common victim being white non-Hispanic (mode=1.00), with an average age of 29 (mean=28.93), and an annual household income of \$20,000-\$29,999 (mean=8.87). Examination of the offenders indicated that 80% of the offenders were male (mean=0.20). The most commonly reported race of the offender was white (mode= 1.00); most offenders were reported as being 18 years or older, with only 25% of the offenders in the sample reported as under the age of 18 (mean=0.75).

Table 4.3: Distributions for the Domain of Stratification

Question	Variable	Variable Name	Response Options	Full Sample (n=23729)
Respondent's Gender	V3018	Female	0=Male	54.5% (12938)
			1=Female	45.5% (10719)
Respondent's Race and Ethnicity	V3022+V3023A+V3024+V3024A	RaceAndEthnicity	1= White NonHispanic	74.5% (12222)
			2= Black NonHispanic	11.9% (1946)
			3= Other NonHispanic.	2.9% (483)
			4= Hispanic of Any Race	10.8% (1765)
Respondent's Age	V3014	Age	12-90	Mean = 28.93
Respondent's Household Income	V2026	Income	1= < 5,000	7% (1438)
			2= 5,000-7,499	5% (1038)
			3= 7,500-9,999	4.3% (893)
			4= 10,000-12,499	4.8% (991)
			5= 12,500-14,999	4.4% (897)
			6= 15,000-17,499	4.1% (852)
			7= 17,500-19,999	4.2% (856)
			8= 20,000-24,999	7.6% (1564)
			9= 25,000-29,999	7.5% (1539)
			10= 30,000-34,999	7.3% (1506)
			11= 35,000-39,999	6.3% (1301)
			12= 40,000-49,999	9.7% (2004)
			13= 50,000-74,999	14.4% (2996)
			14= 75,000 >	13.4% (2765)
Offender's Gender	V4236	OffFemale	0= Male	79.6% (14750)
			1= Female	20.4% (3770)
Offender's Race	V4246+V4246A-V4246H	OffRace	1= White	68.5% (12311)
			2= Black	21.8% (3924)
			3= Other	9.7% (1742)
Offender's Age	V4237	OffAge18Older	0=17 years of Age or Younger	26.3% (4708)
			1=18 years of Age or Older	73.7% (13207)

The second domain of inquiry that was captured through several independent variables was the domain of morphology. Morphology refers to the relational distance between individuals and is measured through social distance and integration (Black, 1976). This domain was comprised of the variables that capture the social relationship between the victim and offender, the marital status of the victim, and the employment status of the victim.

Prior research has illuminated the importance of taking into account the social relationship between the victim and the offender, and has characterized this relationship in a variety of ways. In an effort to untangle the social relationship between the victim and offender, this study was influenced by several of these approaches and sought to capture the social relationship between the victim and offender through the combination of two questions in the NCVS. The first asked the respondents, “Was the offender someone you knew or a stranger you had never seen before?” Respondents answered this question in three ways: they had known or had seen the offender before, the offender was a stranger, or they didn’t know. Those respondents that answered ‘don’t know’ were coded as missing, and the remaining respondents were coded as 0=the offender was a stranger and 1=the offender was someone they knew or had seen before.

The second question that captured the social relationship between the victim and the offender came from the original measure that asked, “How well did you know the offender? For example, was the offender a friend, cousin, etc?” The original variable included eighteen possible social relationships. These relationships were collapsed into three mutually exclusive categories. The new variable was named Relationship and was coded as 1= Stranger, 2= Intimate (Spouse, Ex-Spouse,

Boy/Girlfriend, ex-Boy/Girlfriend), 3= OtherFamily (Parent, Step Parent, Brother, Sister, Child, Step Child, Other Relative), 4= Friend/Acquaintance (Friend, Ex-Friend, Roommate, School Mate, Neighbor, Customer/Client, Patient, Supervisor, Employee, Coworker, Other non-relative). These two variables that captured the social relationship between the victim and the offender were collapsed into one measure, called Relationship, which was coded as 1=Stranger, 2=Intimate, 3=OtherFamily, and 4= Friend/Acquaintance. The most common relationship between the victim and the offender (40.7%) was an offender who was a friend/acquaintance of the victim (mode=4.00).

As proposed by Black (1976), morphology is also measured through the level of an individual's social integration into the community. Thus, social integration was captured in the analysis through two measures, current marital status and recent employment. The first, marital status, is a dichotomous measure that captured the marital status of the respondent at the time of the survey. The original variable included five outcomes: married, widowed, divorced, separated, and never married. The variable was collapsed into those individuals who were currently married at the time of the survey and those individuals that reported a status other than married. After these manipulations, the final variable was named Married and had two possible outcomes, 0=a status other than married and 1=married.

The second measure of social integration and the final morphology covariate was the employment status of the respondent. The original measure asked the respondent, "Did you have a job or work last week?" Once the residue and out of universe responses were excluded, the original response options were coded as 0=no and 1=yes under the nominal variable named Employed.

Table 4.4 yields the distributions and descriptive statistics of the domain of morphology. While the most common relationship between the victim and the offender was a friend/acquaintance relationship, 40.7%, a little over one-fifth of the sample reported the offender as being an intimate partner and almost one-fifth of the sample reported being married at the time of the survey. Finally, over two-thirds of the victims reported having employment within the past week, 65.4%.

Table 4.4: Distributions of the Domain of Morphology

Question	Variable	Variable Name	Response Options	Full Sample (n=23729)
Did you know the offender? How well did you know the offender? For example, was the offender a friend, cousin, etc?	V4245 & V4241	Relationship	1=Stranger	29.0% (4710)
			2= Intimate (Spouse, Ex-Spouse, Boy/Girlfriend, ex-Boy/Girlfriend)	21.0% (3404)
			3= OtherFamily (Parent, Step Parent, Brother, Sister, Child, Step Child, Other Relative)	9.4% (1524)
			4= Friend/Acquaintance (Friend, Ex-Friend, Roommate, School Mate, Neighbor, Customer/Client, Patient, Supervisor, Employee, CoWorker, Other nonrelative)	40.7% (6610)

Table 4.4 Continued

<b>Question</b>	<b>Variable</b>	<b>Variable Name</b>	<b>Response Options</b>	<b>Full Sample (n=23729)</b>
What is the respondent's marital status for the current survey?	V3015	Married	0= Other	81.6% (19373)
			1= Married	18.4% (4356)
Did you have a job or work last week?	V3071	Employed	0= No	34.6% (6635)
			1= Yes	65.4% (12536)

The third domain was the domain of culture and included one variable, the educational attainment of the physical assault victim. Culture provides the prescriptions for acceptable and unacceptable social behavior in society. The original educational attainment variable included a range of responses, but was highly skewed. Thus, this measure was dichotomized to an ordinal level variable named SomeCollege and coded as 0=high school diploma or less and 1=some college or more. As one can see below in table 4.5, almost two-fifths of the sample, 38.8%, reported having completed at least some college.

Table 4.5: Distributions of the Domain of Culture

<b>Question</b>	<b>Variable</b>	<b>Variable Name</b>	<b>Response Options</b>	<b>Full Sample (n=23729)</b>
Respondent's Educational Attainment	V3020	SomeCollege	0= High School Diploma or Less	61.2% (14363)
			1= Some College or More	38.8% (9116)

The final domain of social organization included in analysis was the domain of social control. Law is one form of social control and other forms include “etiquette, custom, ethics, bureaucracy, and the treatment of mental illnesses” (Black, 1976, pg. 105), including the level of social control in physical settings. This domain includes independent variables that capture the geographic location of the victim and whether the assault happened in a private location or in a public location. The inclusion of these variables have been used in prior analyses applying Black’s theory to police reporting (Avakame et al., 1999; Kuo et al., 2012) and police response behaviors (Avakame et al., 1999).

The first measure of social control was a variable that captured the geographic area in which the victim resided. The variable which captured the Metropolitan Statistical Area (MSA) was selected. The original variable had three possible geographic placements: a central city of an MSA, in an MSA but not a central city, and not MSA. These categories are commonly referred to as urban, suburban, and rural, respectively. The original tri-options were collapsed into urban/suburban and rural. The variable that will serve as a control in the full model and as the dividing variable in the subsequent ‘urban’ and ‘rural’ models was named RuralMSA and coded as 0=urban/suburban (referred to from here as just urban) and 1=rural.

The second variable used to measure the domain of social control examined the physical location of the assault. The respondents were asked the question, “Where did this incident happen?” The available options were dichotomized to reflect those options that were a 0=private location and those options which illustrated a public location=1. The final variable was named Public. Table 4.6 presents the distributions of both the location variables, RuralMSA and Public. The average respondent in this

dataset lived in an urban setting (mean=0.85). With respect to where the assault occurred, the sample was almost split evenly between public and private locations (mean=0.56).

Table 4.6: Distributions of the Domain of Social Control

Question	Variable	Variable Name	Response Options	Full Sample (n=23729)
MSA Status of Resident's Location	V2129	RuralMSA	0= Urban	85.0% (20177)
			1= Rural	15.0% (3552)
Where did this incident happen?	V4024	Public	0= Private Location (In respondent's home or lodging, Near own home, At, in or near a friend's/relative's/neighbor's home)	43.9% (9393)
			1= Public Location (Commercial places, Parking lots/garages, School, Open areas, on street or public transportation)	56.1% (12019)

Finally, control measures were also included which aim to capture the seriousness of the offense. Each of the control measures were presented individually and appear in table 4.7. The presence of a weapon was often dichotomously presented as present or not in NCVS analyses that examined reporting behavior (Rennison et al., 2013; Xie et al., 2006), and this same split was used in the current analysis. The original NCVS variable asked, "Did the offender have a weapon such as a gun or

knife, or something to use as a weapon, such as a bottle or wrench?” Possible responses to this question were yes, no, and don’t know. Those who answered ‘don’t know’ were coded as missing and the remaining responses were formed into a nominal variable named WeaponPresence with the response options 0=no and 1=yes. Almost 1 in 4 (mean=0.23) respondents reported a weapon being present at the time of the assault.

The second variable that was used to capture the seriousness of the incident, and used as a control measure, was the variable that asked the respondents whether they reported any injuries as a result of the assault. Scholars have been successful in analyses with yes/no responses to victim injuries (Rennison et al., 2013; Xie et al., 2006) and this analysis follows this dichotomous split. The variable used was an aggregate of twelve individual questions from the NCVS. Each of these questions asked, “What were the injuries you suffered, if any? Anything else?” In order to capture only those injuries sustained as a result of a physical assault, those individuals that either reported injuries from rape, attempted rape, or sexual assault were categorized as sustaining no injuries. Those that reported sustaining at least one injury from the possible options of stab wounds, bullet wounds, broken bones or teeth knocked out, internal injuries, knocked unconscious, bruises, black eye, cuts, scratches, swelling, or chipped teeth were categorized as yes. Thus, the final variable, titled Injury, included the variable labels 0= no injuries sustained and 1= at least one injury sustained.

Table 4.7: Distributions of the Control Variables

Question	Variable	Variable Name	Response Options	Full Sample (n=23729)
Did the offender have a weapon such as a gun or knife, or something to use as a weapon, such as a bottle or wrench?	V4049	WeaponPresence	0= No	76.6% (17090)
			1= Yes	23.4% (5211)
What were the injuries you suffered, if any?	V4111-V4122	Injury	0= No Injuries	43.8% (7443)
			1= At Least One Injury (stab wounds, bullet wounds, broken bones or teeth knocked out, internal injuries, knocked unconscious, bruises, black eye, cuts, scratches, swelling, or chipped teeth)	56.2% (9566)

### Analytic Strategy

The analysis that follows was comprised of univariate, bivariate, and multivariate results presented across two chapters. Step one involved the univariate and bivariate distributions of all police reporting and police response variables by geographical location through a Chi-Square analysis. A Chi-Square test is a statistical test that illustrates the goodness of fit between the actual observed values in the data and those values that are theoretically expected. Although these bivariate analyses did

not control for all other variables, they more vividly illuminated the help-seeking behavior of assault victims across the key independent variable categories in this research.

Following this analysis, the remaining steps employed multivariate analyses of weighted data produced using the unique statistical package, STATA/SE version 11.2. The NCVS data collection was a stratified, multi-stage cluster design. This design produced data that must be weighted prior to the multivariate analysis. Weighted data computes representative population estimates and minimizes the sampling bias introduced because of the multi-stage sampling strategy used by the NCVS. The appropriate weight for this dataset was a probability weight. Probability weights are sampling weights that shape the data to mirror the population in a way that does not carry the bias from sampling techniques. As mentioned previously, the dataset for this analysis was an incident-level extract file that was chosen because it included incident, household, and person variables. Additionally, users of this data file were instructed that due to the nature of the file, the relevant weights were the incident weight and the adjusted victimization weight for the NCVS year. In this analysis, the incident weight provided in this dataset was used to weight the data.

Chapters five and six present all dependent variables predicting police notification and police response behaviors, respectively. Due to the nature of all the dependent variables, coded dichotomously and at the nominal level, binary logistic regression is the most appropriate modeling tool for estimation. For the dependent variables predicting police notification practices, `ReportedToPolice` and `VictimReported`, estimates were presented for the full physical assault sample. Next, the sample was split into an urban only sample and a rural only sample to determine

whether geographical location of residence significantly affected the relationships between the independent and dependent variables. Location-specific logistic regressions were then examined for the variables ReportedToPolice and VictimReported. One limitation of using a binary dependent variable surfaces when comparing outcome numbers across logistic models. To more easily understand the effects of the key independent variables on help seeking behavior of victims while controlling for the other independent variable, predicted probabilities of several dependent variables were calculated using the estimated logistic regression equations for the full sample. Chapter Six reports the results of the models estimating the police response behaviors PoliceCame, ArrivedWithin10Minutes, ArrestAtScene, and FollowUpArrest.

### **Summary**

Chapter four presented the methodological approach that was utilized to answer the research questions set forth in this study. This chapter included the research questions, hypotheses, variable manipulations, and plans for analysis. The incident level concatenated file from 2002-2012 will be used to assess the quantitative measures of four domains of social organization: stratification, morphology, culture, and social control. This chapter highlighted the operationalization of the six dependent variables and the multiple independent variables. This operationalization included any manipulations performed to the measures and their support for inclusion from the existing literature. The following chapters, chapter five and chapter six, present the quantitative univariate, bivariate, and multivariate analyses and the subsequent findings. Specifically, chapter five opens with the full sample univariate and bivariate findings. Chapter five then examines the multivariate findings for the

two police notification dependent variables, ReportedToPolice and VictimReported.

Chapter six presents the analyses and multivariate findings for the four police response dependent variables, PoliceCame, ArrivedWithin10Minutes, ArrestAtScene, and FollowUpArrest.

## Chapter 5

### FINDINGS FOR FULL SAMPLE AND POLICE NOTIFICATION DEPENDENT VARIABLES

#### Univariate and Bivariate Findings for Full Sample

In order to examine how well the distribution of the data for the dependent variables fit within the urban and rural groupings, Chi-Square analyses were performed and the results of the analyses are reported below in table 5.1. It is important to note that the sample sizes for each variable were calculated based on the marginal frequencies of the variable RuralMSA. For example, the sample size for the ReportedToPolice row, 1751, was reflective of how many residents in a rural area responded yes to the ReportedToPolice variable. The total N at the end of the ReportedToPolice row, 23346, indicates the entire population of respondents for the variable ReportedToPolice, those that answered yes or no.

Results indicated that urban and rural residents were statistically different regarding police notification of assaults, whether victims were the ones to notify the police, and whether the police arrived at the scene once notified. As illustrated in table 5.1, when compared to their urban counterparts, rural residents were marginally more likely to report physical assaults to the police (50% to 48%) and were more likely to report it themselves (25% to 23%). Additionally, residents of rural areas were more likely to report that the police came once notified about the physical assault (86% compared to 89%). It is important to note, however, that while these differences were statistically significant, the actual percentage differentials were not that large.

Moreover, these were bivariate results and do not control for other things important in police reporting and police responses. Interestingly, there were no significant differences by location for the other dependent variables. That is, police were just as likely to arrive within 10 minutes (60% compared to 62%) in rural versus urban locations, and arrests were just as likely to be made when the police first arrived at the scene (24% to 24%), or as a follow-up measure (24% to 22%). Admittedly, these percentage differences across location were not very large, and likely achieved statistical significance because of the extremely large sample size. It will be important to examine whether the location of the respondent retains its significance in multivariate models later in the analysis.

Table 5.1: Chi-Square Bivariate Statistics for all Dependent Variables<sup>a</sup>

	<b>Rural</b>		<b>Urban</b>		$\chi^2$	<b>N</b>
	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>		
ReportedToPolice	1751	50.1	9536	48.0	4.821*	23346
VictimReported	890	25.1	4778	23.7	3.145 <sup>+</sup>	23729
PoliceCame	1189	86.2	6917	89.0	9.582**	9149
ArrivedWithin10Minutes	681	60.4	4053	61.9	0.934	7677
ArrestAtScene	339	23.7	1942	24.1	0.101	9496
FollowUpArrest	162	23.9	719	22.0	1.151	3945

## **Multivariate Findings for Police Notification Dependent Variables**

### **Predicting Police Notification – ReportedToPolice**

Prior to the multivariate statistical analysis, any issues of multicollinearity were checked and determined not to be an issue within any of the models as the tolerance statistics were not less than 0.10 and the VIF statistics were not above 4.00 for any model. The first multivariate logistic regression model predicted whether police were made aware of the assault, ReportedToPolice, using all independent variables. Secondly, multivariate models were produced based on the urban only and rural only samples. Prior to interpretation of the individual covariates, it was noted that each of the three models were statistically significant at  $\alpha \leq .001$ . Results of the regressions for all three models are presented in Table 5.2 and discussed below.

Across the three models, several independent variables had an impact on police reporting behavior of physical assault victims. Within the full model, at least one independent measure from each of the domains of social life (Black, 1976) was statistically significant. Variables in the domain of stratification illustrated that victimizations against females, nonHispanic blacks, Hispanics of any race, and older rather than younger people were more likely to be reported. Additionally, when the offender was identified as black or an adult, the likelihood of reporting the assault to the police also increased.

With respect to the domain of the morphology, being assaulted by any known offender decreased the likelihood that the assault would be reported when compared to assaults where the offender was a stranger. Also, when victims were married the odds of reporting the assault increased by 30%. The domain of culture, measured through one variable, SomeCollege, was statistically significant, as was one variable in the

domain of social control, Public. The likelihood of reporting assault to the police decreased by almost one-fifth when the victim had at least some college education; and decreased by two-fifths when the assault occurred in a public place compared to in private. Finally, the odds of reporting to the police increased by 17% when a weapon was reported present at the assault and by 83% when the victim sustained at least one injury as a result of the assault. Importantly, residential location was no longer significant when predicting police reporting once the other independent variables were controlled.

Remembering that one aim of this research was to examine the role of geography in victim reporting behavior, this multivariate analysis also utilized location-specific logistic regression models predicting these same dependent variables, to examine whether the factors that both increased or decreased the likelihood of police notification, were the same or different in rural versus urban locations. Since the majority of incidents occurred in urban areas, it is not surprising that the urban model showed the same significant predictors as the full model in the domains of morphology, culture, and social control. Thus, the statistically significant predictors included in the domain of stratification that increased the likelihood that the police would be notified of the assault, included if the urban victim was female, black non-Hispanic, Hispanic of any race, or an older compared to younger victim. Additionally, the odds that the police were notified increased by 21% when the offender was a female ( $\text{Exp}(B)=1.21$ ). Compared to when the offender was white, the odds of reporting to the police increased by almost 40% when the offender was black ( $\text{Exp}(B)=1.38$ ), and decreased by one-fourth when the offender was of some other race compared to offenders perceived to be white ( $\text{Exp}(B)=0.76$ ).

The odds of the assault being reported to the police increased by 29% when the victim was married compared to other marital statuses. When assaults were perpetrated by strangers, the odds of the police being notified were higher compared to every other relationship type. That is, the likelihood of police being notified in urban areas decreased by about half when the offender was intimately known to the victim, when the offender was a friend or acquaintance of the victim, and when the offender was a family member of the victim.

With respect to the domains of culture and social control, the odds of reporting an assault to the police decreased by nearly one-fourth when the victim had some college education and by almost two-fifths when the assault occurred in a public setting. Like the findings from the total model, assaults perpetrated in public were less likely to be reported to the police than those committed in a private location. However, unlike the total model, injury did not have a relationship in reporting behavior of urban assaults.

The reporting behavior of victims of assault living in rural areas was first examined with the variable *ReportedToPolice* and the domains of stratification, morphology, and social control yielded statistically significant variables. Additionally, almost all of the statistically significant predictors in the rural only sample were also found to be statistically significant of the assault being reported to the police in both the full sample and the urban only sample.

The domain of stratification indicated that the police were more likely to be notified of the assault when the victim was female or older, rather than younger. Also, the likelihood of the police being notified increased when the offender was a female, or when the offender was an adult compared to a juvenile. Third, those with higher

incomes were less likely to have their assaults come to the attention of the police in the total and urban models. With respect to the domain of morphology, when compared to assaults where the offender was a stranger to a victim, the odds that the police were notified decreased by 58% when the offender was a known intimate or a friend or acquaintance. Interestingly, although assaults perpetrated by other family members were also less likely to be reported compared to stranger-perpetrated assaults, this coefficient was not significant.

Finally, examination of the domain of social control illustrated that the odds of the police being notified of a physical assault when the victim was a rural resident, decreased by one-third when the assault occurred in a public setting compared to private locations. Both measures of offense seriousness also remained statistically significant. Similar to the full and urban only sample findings, the odds of the police being notified of an assault in the rural sample increased nearly 100% when the victim sustained at least one injury. Finally, the odds of the police being notified of the assault increased by 84% when the victim reported that a weapon was present during the assault.

Table 5.2: Logistic Regression Results<sup>a</sup> DV: ReportedToPolice

<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
Female	1.23**	1.18*	1.50*
RaceandEthnicity (Contrast=White NonHispanic)	---	---	---
Black NonHispanic	1.40*	1.36*	1.71
Other NonHispanic	0.89	0.70	2.28
Hispanic of Any Race	1.51***	1.58***	0.97

Table 5.2 Continued

<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
Age	1.02***	1.02***	1.02**
Income	0.98**	0.98*	0.97
OffFemal	1.25**	1.21*	1.62*
OffRace (Contrast=White)	---	---	---
Black	1.33**	1.38**	1.04
Other	0.82 <sup>+</sup>	0.76*	1.20
OffAge18Older	1.55***	1.43***	2.20**
Relationship (Contrast=Stranger)	---	---	---
Intimate	0.50***	0.51***	0.42**
OtherFamily	0.48***	0.46***	0.56
Friend/Acquaintance	0.49***	0.50***	0.42**
Married	1.30**	1.29**	1.36
Employed	1.06	1.02	1.31
SomeCollege	0.78***	0.76***	0.92
RuralMSA	1.11	---	---
Public	0.60***	0.59***	0.67**
WeaponPresence	1.17 <sup>+</sup>	1.05	1.84***
Injury	1.83***	1.81***	2.02*
Constant	---	---	---
<i>Model Diagnostics</i>			
Wald Chi-Square	357.14***	283.61***	98.10***
Log PseudoLikelihood	-9092376.70	-7507955	-1535296.40
Pseudo R-Squared	0.0668	0.0626	0.1144

## Predicting Police Notification – VictimReported

The second dependent variable of interest in this analysis also examined whether victims themselves reported the assault to police (VictimReported). Table 5.3 notes the results of three logistic regressions that examined the dependent variable VictimReported, to determine the statistically significant predictors of the victims themselves notifying the police in the full model, urban-only model, and rural-only model. The model diagnostics and regression statistics illustrated good model fit for all three models  $\alpha \leq .001$ .

Results for the full model show that female victims were 73% more likely than male victims to report the assault to the police themselves. Older victims were also more likely than younger victims to report themselves, and the odds of the victim being the one to notify the police increased by 31% when the victim was Hispanic compared to a white non-Hispanic victim. Additionally, the likelihood of the victim being the individual to notify the police increased when the offender was identified as female, over the age of eighteen, or black compared to white.

With respect to the morphology, the two measures of social integration, marital status and employment, were both statistically significant. The assault victim was more likely to be the one who notified the police when married, or if the respondent had been employed in the past two weeks; both similarly increased then, the odds of victims reporting themselves by about 20%. Interestingly, the relationship between the victim and offender did not significantly affect whether victims themselves reported their own victimizations to police.

The measures of social control illustrated that when the assault occurred in a public place, the victim was less likely to be the one who reported the assault to the

police. However, when victims sustained at least one injury, the odds that they notified the police themselves, increased by 25%.

In comparison to the predictors in the full model, the urban only model had ten out of eleven similar predictors. The domain of stratification illustrated that the odds of female victims reporting the assault to the police were 62% higher than male victims, and the odds of the victim being the one to notify the police increased by 41% when the victim was a Hispanic compared to a white non-Hispanic victim. Additionally, the likelihood of the victim being the individual to notify the police increased when the offender was identified as black compared to white, or over the age of 18 compared to an offender perceived as younger.

With respect to the morphology, both measures of social integration were statistically significant. If the respondent was employed, the odds of the victims being the one to report to the police increased 16%. Additionally, if the urban victim was married, the odds of being the one who reported the assault increased by over 25%.

Similar to the full model, the indicator used for social control, assaults that occurred in a public location were also less likely to be reported in urban locations, compared to assaults that occurred in private.

Findings from the rural only analysis yielded that three of the domains had statistically significant measures: the domains of stratification, morphology, and social control. In comparison to when the victim was a male, female victims were 140% more likely to be the ones who reported their physical assault victimization to the police. Additionally, in the domain of stratification, and similar to both the full model and the urban model, the age of the victim and the age of the offender were statistically significant. Older victims were more likely than younger victims to

report, and when the offender was an adult, the rural victim was much more likely to be the one to report the assault ( $\text{Exp}(B)=2.25$ ).

There was one measure of morphology that was statistically significant. This was a measure of social integration of the victim into their rural community. If the victim was employed, the odds that s/he would be the one to report their victimization to the police increased by 42%. Finally, similar to the other models, rural residents were less likely to report their victimization to the police when the assault occurred in a public setting.

Table 5.3: Logistic Regression Results<sup>a</sup> DV: VictimReported

<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
Female	1.73***	1.62***	2.40***
RaceandEthnicity (Contrast=White NonHispanic)	---	---	---
Black NonHispanic	1.08	1.09	1.04
Other NonHispanic	0.92	0.85	1.29
Hispanic of Any Race	1.31*	1.41**	0.64
Age	1.02***	1.02***	1.01 <sup>+</sup>
Income	0.98**	0.97**	0.98
OffFemale	1.15	1.14	1.17
OffRace (Contrast=White)	---	---	---
Black	1.24 <sup>+</sup>	1.26 <sup>+</sup>	1.12
Other	0.87	0.86	0.86
OffAge18Older	1.47**	1.37*	2.25*
Relationship (Contrast=Stranger)	---	---	---
Intimate	1.16	1.16	1.28
OtherFamily	1.02	1.02	1.22
Friend/Acquaintance	0.96	0.89	1.50
Married	1.22*	1.27*	0.98

Table 5.3 Continued

<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
Employed	1.19*	1.16 <sup>+</sup>	1.42 <sup>+</sup>
SomeCollege	0.90	0.91	0.84
RuralMSA	1.02	---	---
Public	0.63***	0.63***	0.61*
WeaponPresence	0.89	0.91	0.83
Injury	1.25**	1.27**	1.20
Constant	---	---	---
<i>Model diagnostics</i>			
Wald Chi-Square	296.01***	253.24***	58.57***
Log PseudoLikelihood	-8161757.1	-7507955	-1426950.9
Pseudo R-Squared	0.0592	0.0578	0.0818

#### Predicting Probabilities of Police Notification

So, what was the true effect of living in a rural versus an urban area, on police reporting behavior? Overall, there were four variables that served as significant predictors in victim reporting. Three of these variables were consistently positive: the sex of the victim, age of the victim, and the age of the offender. The place that the assault occurred, public or private, was negatively correlated across all models. Whether or not at least one injury was sustained by the victim was positively correlated to the dependent variable in each model, except for the victim reporting the assault him/herself.

The coefficients in logistic regression models cannot be understood as probabilities, which is why the findings are discussed in terms of odds. To determine

the effects of geographical context on reporting behavior after controlling for all the independent variables, we can use the full sample models to predict the probability that each dependent variable will occur; that is, come to the attention of police generally or the victims themselves reporting to police specifically. This analysis will follow Bachman and Paternoster (2016), to determine the estimated probability ( $\hat{p}$ ) of reporting an assault to the police for a significant independent variable, resident location, using the following formula:

$$\hat{p} = \frac{e^{(b_0 + b_1 x_1)}}{1 + e^{(b_0 + b_1 x_1)}}$$

This formula uses a particular value of the independent variable (x), multiplies it by the logistic regression coefficient (b), adds the value of the constant, and then exponentiates the sum. The result is the numerator of the estimated probability, and the denominator is 1 plus the numerator. Thus, the formula allows predicted probabilities to be calculated for the following questions: (1) holding all other values constant, what was the probability that a physical assault of a resident of a rural area will be reported to the police? and (2) holding all other values constant, what was the probability that of a resident of a rural area who is the victim of a physical assault will be the one to report the assault to the police?

Let us look to the first question posed about the police notification dependent variable, *ReportedToPolice*. Using the logistic regression results obtained in the full sample and presented in table 5.2, these numbers can be used to calculate the predicted probabilities of a variety of instances. From the total model, our equation would look like this:

$$\hat{p} = \frac{e^{(-0.49+0.11x_1+0.21x_2+0.34x_3+0.02x_4-0.02x_5+0.23x_6+0.29x_7+0.44x_8-0.69x_9+0.26x_{10}+0.06x_{11}-0.25x_{12}-0.51x_{13}+0.16x_{14}+0.61x_{15})}}{1+e^{(-0.49+0.11x_1+0.21x_2+0.34x_3+0.02x_4-0.02x_5+0.23x_6+0.29x_7+0.44x_8-0.69x_9+0.26x_{10}+0.06x_{11}-0.25x_{12}-0.51x_{13}+0.16x_{14}+0.61x_{15})}}$$

However, this full equation can be manipulated to predict the outcome, based on the modal categories of the statistically significant variables from the logistic regression. For example, the predicted probability that a White/NonHispanic ( $X_3$ ), not married ( $X_{10}$ ), 29 year old ( $X_4$ ) male ( $X_2$ ), who earned a high school diploma or less ( $X_{12}$ ), lived in an urban area ( $X_1$ ), and earned \$50,000-\$74,999 annually ( $X_5$ ), suffered injuries ( $X_{15}$ ) from a physical assault with no weapon ( $X_{14}$ ), that occurred in a public setting ( $X_{13}$ ), by a white ( $X_7$ ), adult ( $X_8$ ) male ( $X_6$ ) whom the victim reported was a stranger ( $X_9$ ) can be calculated using the following equation:

$$\begin{aligned} \hat{p} &= \frac{e^{(-0.49+0.11(0)+0.21(0)+0.34(0)+0.02(29)-0.02(13)+0.23(0)+0.29(0)+0.44(1)-0.69(0)+0.26(0)-0.25(0)-0.51(1)+0.16(0)+0.61(1))}}{1+e^{(-0.49+0.11(0)+0.21(0)+0.34(0)+0.02(29)-0.02(13)+0.23(0)+0.29(0)+0.44(1)-0.69(0)+0.26(0)-0.25(0)-0.51(1)+0.16(0)+0.61(1))}} = \\ &= \frac{e^{(-0.49+0.58-0.26+0.44-0.51+0.61)}}{1+e^{(-0.49+0.58-0.26+0.44-0.51+0.61)}} = \frac{e^{(0.37)}}{1+e^{(0.37)}} = \frac{1.45}{2.45} = .59 \end{aligned}$$

The predicted probability of a physical assault being reported to the police when the assault occurred in an urban area was 0.59 or 59%. The predicted probability of this same physical assault being reported to the police when the respondent resided in a rural location can be demonstrated through the following equation:

$$\begin{aligned} \hat{p} &= \frac{e^{(-0.49+0.11(1)+0.21(0)+0.34(0)+0.02(29)-0.02(13)+0.23(0)+0.29(0)+0.44(1)-0.69(0)+0.26(0)-0.25(0)-0.51(1)+0.16(0)+0.61(1))}}{1+e^{(-0.49+0.11(1)+0.21(0)+0.34(0)+0.02(29)-0.02(13)+0.23(0)+0.29(0)+0.44(1)-0.69(0)+0.26(0)-0.25(0)-0.51(1)+0.16(0)+0.61(1))}} = \\ &= \frac{e^{(-0.49+0.11+0.58-0.26+0.44-0.51+0.61)}}{1+e^{(-0.49+0.11+0.58-0.26+0.44-0.51+0.61)}} = \frac{e^{(0.48)}}{1+e^{(0.48)}} = \frac{1.62}{2.62} = .62 \end{aligned}$$

The predicted probability of a physical assault being reported to the police when the assault occurred in a rural area was 0.62 or 62%. After controlling for all the important independent variables, the probability of police notification of a physical assault was virtually identical – 59% to 62% - whether the respondent resided in an urban or rural location.

Similarly, the probability that a physical assault victim in a rural area with the same demographic and incident characteristics reported his assault to the police himself can also be calculated. Using the logistic regression results from Table 5.3 predicting *VictimReported*, the equation would look like this:

$$\hat{p} = \frac{e^{(-1.97+0.02x_1+0.55x_2+0.08x_3+0.02x_4-0.02x_5+0.14x_6+0.21x_7+0.38x_8+0.15x_9+0.20x_{10}+0.18x_{11}-0.11x_{12}-0.47x_{13}-0.12x_{14}+0.22x_{15})}}{1+e^{(-1.97+0.02x_1+0.55x_2+0.08x_3+0.02x_4-0.02x_5+0.14x_6+0.21x_7+0.38x_8+0.15x_9+0.20x_{10}+0.18x_{11}-0.11x_{12}-0.47x_{13}-0.12x_{14}+0.22x_{15})}}$$

Using the modal categories of the variables from this equation, one can predict that the probability of a White/NonHispanic (X<sub>3</sub>), not married (X<sub>10</sub>), 29 year old (X<sub>4</sub>) male (X<sub>2</sub>), who earned a high school diploma or less (X<sub>12</sub>), lived in an urban area (X<sub>1</sub>), and earned \$50,000-\$74,999 annually (X<sub>5</sub>), suffered injuries (X<sub>15</sub>) from a physical assault with no weapon (X<sub>14</sub>), that occurred in a public setting (X<sub>13</sub>), by a white (X<sub>7</sub>), adult (X<sub>8</sub>) male (X<sub>6</sub>) whom the victim reported was a stranger (X<sub>9</sub>) reported the assault himself to be:

$$\hat{p} = \frac{e^{(-1.97+0.02(0)+0.55(0)+0.08(0)+0.02(29)-0.02(13)+0.14(0)+0.21(0)+0.38(1)+0.15(0)+0.20(0)+0.18(1)-0.11(0)-0.47(1)-0.12(0)+0.22(1))}}{1+e^{(-1.97+0.02(0)+0.55(0)+0.08(0)+0.02(29)-0.02(13)+0.14(0)+0.21(0)+0.38(1)+0.15(0)+0.20(0)+0.18(1)-0.11(0)-0.47(1)-0.12(0)+0.22(1))}} = \frac{e^{(-1.97+0.58-0.26+0.38+0.18+0.22)}}{1+e^{(-1.97+0.58-0.26+0.38+0.18+0.22)}} = \frac{e^{(-0.87)}}{1+e^{(-0.87)}} = \frac{0.42}{1.42} = .30$$

The predicted probability of the victim of a physical assault being the one that reported to the police, when it occurred in an urban area, was 0.30 or 30%. The predicted probability of this same physical assault being reported to the police when the respondent resided in a rural location was demonstrated through the following equation:

$$\hat{p} = \frac{e^{(-1.97+0.02(1)+0.55(0)+0.08(0)+0.02(29)-0.02(13)+0.14(0)+0.21(0)+0.38(1)+0.15(0)+0.20(0)+0.18(1)-0.11(0)-0.47(1)-0.12(0)+0.22(1))}}{1+e^{(-1.97+0.02(1)+0.55(0)+0.08(0)+0.02(29)-0.02(13)+0.14(0)+0.21(0)+0.38(1)+0.15(0)+0.20(0)+0.18(1)-0.11(0)-0.47(1)-0.12(0)+0.22(1))}} = \frac{e^{(-1.97+0.02+0.58-0.26+0.38+0.18+0.22)}}{1+e^{(-1.97+0.02+0.58-0.26+0.38+0.18+0.22)}} = \frac{e^{(-0.85)}}{1+e^{(-0.85)}} = \frac{0.43}{1.43} = .30$$

The predicted probability of a physical assault being reported to the police by the victim of the assault, when the assault occurred in a rural area, was 0.30 or 30%. After controlling for all the important independent variables, the probability of the physical assault victim to be the one to notify the police was identical – 30% – whether the respondent resided in an urban or rural location.

### Summary

Using the incident level concatenated file NCVS from 2002-2012, chapter five presented the full sample univariate findings. Additionally, this chapter presented the quantitative findings of the dependent variables that captured police notification behaviors. These variables were the ones named ReportedToPolice and VictimReported. Findings were presented for the overall sample, the urban only sample, and from the rural only sample. Table 5.4 summarizes the significant coefficients that predicted police notification behavior across the rural and urban models for both of the outcome measures. Overall, there were four variables that

served as significant predictors in victim reporting in each model: three positively correlated, the sex of the victim, age of the victim, and the age of the offender; and one negatively correlated, whether the victim resided in an urban or rural location.

Table 5.4: Comparison of Significant Coefficients Predicting Police Reporting Behavior across Urban and Rural Locations: DVs ReportedToPolice and VictimReported

	Rural Location		Urban Location	
	Reported To Police	Victim Reported	Reported To Police	Victim Reported
Female	+	+	+	+
RaceandEthnicity (Contrast=White NonHispanic)				
Black NonHispanic			+	
Other NonHispanic				
Hispanic of Any Race			+	+
Age	+	+	+	+
Income			-	-
OffFemale	+		+	
OffRace (Contrast=White)				
Black			+	+
Other			-	
OffAge18Older	+	+	+	+
Relationship (Contrast=Stranger)				
Intimate	-		-	
OtherFamily			-	
Friend/Acquaintance	-		-	
Married			+	+
Employed		+		+
SomeCollege			-	
Public	-	-	-	-
WeaponPresence	+			
Injury	+		+	+

Following this multivariate analysis, predicted probabilities were conducted on the full sample for both dependent variables to determine the effects of geographical context on reporting behavior, after controlling for all the independent variables. Results indicated that there was minimal difference between the predicted probabilities of both dependent variables when the geography of where the victim resided was changed from urban to rural. Specifically, there was only a 3% increase in the probability of police being notified of the assault when the respondent lived in a rural setting, and the probability of the victim being the one to notify police did not shift across geographic models. A summary figure of these predicted probability findings is provided in figure 1 below.

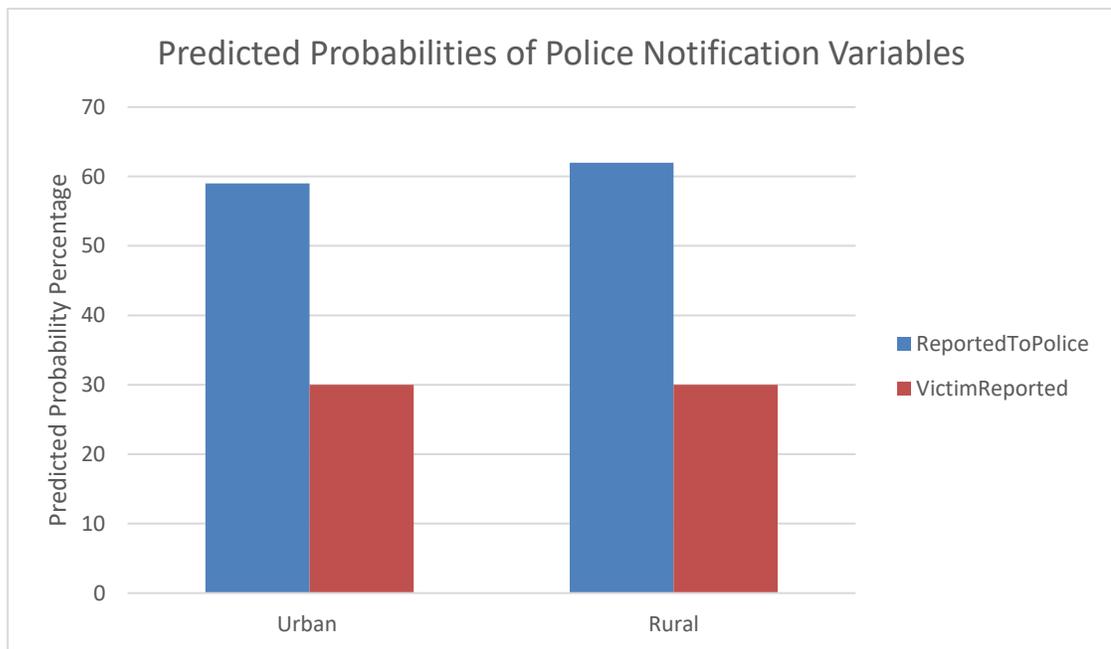


Figure 1 Predicted Probabilities of Police Notification Variables

The next chapter, chapter six, presents the multivariate and predicted probability findings, using the same analysis plan as this chapter, for the four police response dependent variables, PoliceCame, ArrivedWithin10Minutes, ArrestAtScene, and FollowUpArrest.

## **Chapter 6**

### **FINDINGS FOR POLICE RESPONSE BEHAVIOR DEPENDENT VARIABLES**

#### **Multivariate Findings for Police Response Behavior Variables**

##### **Predicting Police Response Behavior – PoliceCame**

Chapter six presents the quantitative findings of the multivariate analyses surrounding the predictors of police response behavior. Specifically, this chapter will examine the predictive strength of the four organizing domains of social life on four dependent variables. The four domains of social life were the domains of stratification, morphology, culture, and social control. The four dependent variables were the variables of police response behavior: PoliceCame, ArrivedWithin10Minutes, ArrestAtScene, and FollowUpArrest. Analyses and findings were presented from logistic regressions performed on the incident-level NCVS file from 1992-2012. The full sample was analyzed first and presented with the subsamples of urban residents and rural residents. All the variables of police response behavior were the perceptions of police behavior as reported by the NCVS respondent.

The first logistic regression model predicted whether the police came to the assault when notified, PoliceCame, using all independent variables. Secondly, multivariate models were produced based on the urban only sample and rural only sample. Prior to interpretation of the individual covariates, it was noted that each of

the three models were statistically significant. Results of the regressions for all three models are presented in Table 6.1 and discussed below.

In the domain of stratification, the full model produced three statistically significant predictors that the police came to the scene of the assault once notified. Some of these were also statistically significant in the subsamples. The likelihood of the police coming to the scene decreased 5% as the victim's household income increased in the full model and 8% in the urban only model. The variables of the race of the victim and the age of the offender were statistically significant in the full model. Compared to white victims, the police were more likely to come to the scene once notified when the victim identified as a non-Hispanic of any race other than black. Additionally, the police were more likely to arrive at the scene when the offender was an adult, compared to when the offender was under the age of eighteen.

The statistically significant variables in the domains of stratification and morphology were unique to the rural sample. Compared to when the offenders were white, the police were 81% less likely to arrive at the scene when the offender was a race other than Black. The morphology, or social distance, between the victim and offender also had a negative impact on the dependent variable. Compared to when the offender was a stranger, the police were 70% less likely to come to the scene of the assault when the offender was a friend or acquaintance of the victim.

Both variables in the domain of social control were statistically significant in the full model. Consistent with the bivariate findings, residents of rural and urban locations were statistically different from one another. If the victim resided in a rural area, the odds of the police coming to the scene decreased by 49% compared to their urban counterparts. Also in the domain of social control, the likelihood of the police

coming to the scene once they had been notified decreased by almost one-third when the assault occurred in a public location in both the full model and the urban only model, and by 65% when the assault occurred in a public location in the rural sample.

Finally, one of the control variables that captured the seriousness of the offense increased the likelihood that police would come to the scene. When a weapon was reported as being present during the assault, the police were more than two-thirds as likely to come to the scene.

Table 6.1: Logistic Regression Results<sup>a</sup> DV: PoliceCame

<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
Female	1.13	1.23	1.10
RaceandEthnicity (Contrast=White NonHispanic)	---	---	---
Black NonHispanic	1.32	1.31	1.46
Other NonHispanic	2.87 <sup>+</sup>	1.34	---
Hispanic of Any Race	1.46	1.34	1.84
Age	0.99	0.99	1.00
Income	0.95**	0.92**	1.02
OffFemale	1.04	1.31	0.59
OffRace (Contrast=White)	---	---	---
Black	0.94	0.90	0.86
Other	0.84	1.29	0.19*
OffAge18Older	1.14	1.49	0.54
Relationship (Contrast=Stranger)	---	---	---
Intimate	0.69	0.68	0.53
OtherFamily	0.84	0.85	0.43
Friend/Acquaintance	0.75	0.96	0.30 <sup>+</sup>

Table 6.1 Continued

<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
Married	1.13	1.22	0.79
Employed	1.12	1.05	1.28
SomeCollege	0.96	0.99	0.78
RuralMSA	0.51***	---	---
Public	0.59**	0.68 <sup>+</sup>	0.35*
WeaponPresence	1.68*	1.53	2.12
Injury	1.24	1.21	1.39
Constant	---	---	---
<i>Model diagnostics</i>			
Wald Chi-Square	44.40***	33.10*	27.64 <sup>+</sup>
Log PseudoLikelihood	-1949948.4	-1494414.5	-412203.31
Pseudo R-Squared	0.0403	0.0365	0.0985

Predicting Police Response Behavior – PoliceArrivedWithin10Minutes

The second regression model examined the predictors of police response time, specifically the predictors of police responding within ten minutes of being notified. The results, presented in table 6.2, illustrated that there was a good model fit across two of the three logistic regressions, the full sample and the urban only model. The rural only model was not statistically significant.

In the full sample and the urban only regression models, there were three statistically significant variables; two in the domain of stratification and one in the domain of morphology. Specifically, compared to when the victim was a white non-Hispanic, police were less likely to arrive at the scene within 10 minutes of being

notified when the victim was a non-Hispanic of a race other than black or white. The social relationship between the victim and the offender, under the morphology domain, was significant in both the full model and the urban model. The odds of the police arriving at the scene within ten minutes of being notified decreased by 29% in the full model, and by 27% in the urban model when the offender was a friend or acquaintance of the victim, compared to when the victim and the offender were strangers.

Finally, the urban model had a statistically significant variable in the domain of social control. In this model, the odds of police arriving within ten minutes increased 37% when the physical assault occurred in a public location.

Table 6.2: Logistic Regression Results<sup>a</sup> DV: ArrivedWithin10Minutes

<b>Table 6.2: Logistic Regression Results<sup>a</sup> DV: ArrivedWithin10Minutes</b>			
<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
Female	1.01	1.02	1.13
RaceandEthnicity (Contrast=White NonHispanic)	---	---	---
Black NonHispanic	0.64*	0.69	0.36
Other NonHispanic	0.59 <sup>+</sup>	0.50 <sup>+</sup>	1.10
Hispanic of Any Race	1.09	1.10	0.93
Age	1.00	1.00	1.00
Income	1.01	1.01	1.01
OffFemale	0.90	0.90	0.92
OffRace (Contrast=White)	---	---	---
Black	1.13	1.04	2.00
Other	1.34	1.38	0.79
OffAge18Older	1.35 <sup>+</sup>	1.40 <sup>+</sup>	1.37
Relationship (Contrast=Stranger)	---	---	---
Intimate	0.74	0.83	0.42
OtherFamily	0.93	0.87	1.51
Friend/Acquaintance	0.71*	0.73 <sup>+</sup>	0.65
Married	0.92	1.00	0.59
Employed	1.18	1.15	1.31
SomeCollege	0.99	1.04	0.69
RuralMSA	0.97	---	---
Public	1.20	1.37*	0.63
WeaponPresence	1.12	1.13	1.19
Injury	0.89	0.83	1.05
Constant	---	---	---
<i>Model diagnostics</i>			
Wald Chi-Square	32.50*	34.54***	15.15
Log PseudoLikelihood	-3523658.4	-2916919.5	-575503.59
Pseudo R-Squared	0.0172	0.0212	0.0484

### Predicting Police Response Behavior – ArrestAtScene

The final two dependent variables examined the respondent's report of whether an arrest was made resulting from the assault. Table 6.3 examined the predictors of the police making an arrest when they were called to the scene initially and table 6.4 detailed the variables that predicted if the police made an arrest as the result of follow-up measures. The model diagnostics in both tables illustrated that all models were statistically significant except for the rural only sample for the dependent variable, ArrestAtScene.

The domain of stratification produced similar results in the full model and the urban model. For every year older that the victim was, the odds of the police making an arrest when they were first on the scene increased 2% in the full model, and 3% in the urban model. Additionally, compared to offenders perceived to be white, offenders who were perceived to be in the 'other' category were 54% more likely to be arrested in the full model and 48% more likely to be arrested in the urban model. Unique to the urban only model, compared to when the offender was a youth, the odds of the police making an arrest increased by 45% when the offender was an adult.

Finally, the domain of morphology was also statistically significant in both models as was one control variable. In both the full and urban models, compared to physical assaults perpetrated by strangers, the odds of the police making an arrest the first time they were at the scene decreased by 45% when the offender was a friend. Additionally, the odds of the police making an arrest increased by 27% in the full model and 39% in the urban model when a weapon was present during the assault.

Table 6.3: Logistic Regression Results<sup>a</sup> DV: ArrestAtScene

<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
Female	0.89	0.82	1.61
RaceandEthnicity (Contrast=White NonHispanic)	---	---	---
Black NonHispanic	0.88	0.83	2.56
Other NonHispanic	0.90	0.80	1.07
Hispanic of Any Race	0.99	0.99	1.30
Age	1.02***	1.03***	0.98
Income	1.02	1.01	1.06
OffFemale	1.01	0.79	0.94
OffRace (Contrast=White)	0.82	---	---
Black	---	1.12	0.37
Other	1.54*	1.48 <sup>+</sup>	1.84
OffAge18Older	1.35	1.45 <sup>+</sup>	1.12
Relationship (Contrast=Stranger)	---	---	---
Intimate	1.03	1.14	0.50
OtherFamily	0.97	1.09	0.38
Friend/Acquaintance	0.55***	0.55***	0.38*
Married	0.94	0.89	1.07
Employed	1.20	1.22	1.12
SomeCollege	1.05	1.05	0.77
RuralMSA	0.94	---	---
Public	1.07	1.19	0.57
WeaponPresence	1.27	1.39*	1.00
Injury	1.05	1.02	1.21
Constant	---	---	---
<i>Model diagnostics</i>			
Wald Chi-Square	60.84***	79.97***	13.32
Log PseudoLikelihood	-3527531.9	-2902463.3	-585297.43
Pseudo R-Squared	0.0304	0.0413	0.0410

### Predicting Police Response Behavior – FollowUpArrest

The final dependent variable in this analysis was the variable that captured whether an arrest was made as a follow up measure to the physical assault. Table 6.4 presents the findings across all three models, the full, urban, and rural. The similar predictors in the full and the urban model in the domain of stratification were the variables of Female and OffFemale. In both models, police were less likely to make an arrest as a follow up measure when the victim was a female or when the offender was a female. The race of the victim was statistically significant in the urban and rural models. Specific to the urban only model, police were also less likely to make an arrest when the victim was a non-Hispanic of a race other than white or black, compared to their white counterparts. In the rural model, in comparison to victims who were white non-Hispanic, police were more likely to make an arrest as a follow up measure when the victim identified as a non-Hispanic of a race that was not white or black, or when the victim identified as a Hispanic of any race.

The domain of morphology yielded statistically significant predictors in the full and urban models. Compared to those assaults that were between the victim and a stranger to the victim, police were less likely to make an arrest as a follow up to the investigation when the offender was a family member of the victim. In the urban model, police were 40% less likely to make an arrest as a follow up measure when the offender was a friend or acquaintance, compared to those assaults that were between the victim and a stranger to the victim. In the domain of morphology, the analysis yielded a finding that was unique to the rural only sample. Police were 143% more likely to make an arrest as a follow up measure when the victim was married, compared to when the victim was not married.

Finally, across all three models, the odds of making a follow up arrest decreased when the assault occurred in public, compared to an assault that occurred in private locations.

Table 6.4: Logistic Regression Results<sup>a</sup> DV: FollowUpArrest

<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
Female	0.70*	0.65*	0.65
RaceandEthnicity (Contrast=White NonHispanic)	---	---	---
Black NonHispanic	1.53	1.63	1.28
Other NonHispanic	1.19	0.16 <sup>+</sup>	9.27*
Hispanic of Any Race	1.08	0.88	3.72 <sup>+</sup>
Age	1.01	1.02*	1.00
Income	1.02	1.02	1.03
OffFemale	0.56**	0.52**	0.63
OffRace (Contrast=White)	---	---	---
Black	1.16	1.08	1.41
Other	0.86	0.99	0.36
OffAge18Older	0.89	1.02	1.11
Relationship (Contrast=Stranger)	---	---	---
Intimate	0.73	0.68	1.16
OtherFamily	0.34**	0.39*	0.27
Friend/Acquaintance	0.71	0.60*	1.40
Married	0.97	0.72	2.43*
Employed	1.12	1.17	1.09
SomeCollege	0.95	0.85	1.11

Table 6.4 Continued

<b>Independent Variable</b>	<b>Full Model Exp(B)</b>	<b>Urban Model Exp(B)</b>	<b>Rural Model Exp(B)</b>
RuralMSA	1.20	---	---
Public	0.53**	0.65 <sup>+</sup>	0.21**
WeaponPresence	1.18	1.33	0.85
Injury	1.07	0.86	1.69
Constant	---	---	---
<i>Model diagnostics</i>			
Wald Chi-Square	34.61*	34.87***	31.41***
Log PseudoLikelihood	-1463970.1	-1145145.6	-271368.84
Pseudo R-Squared	0.0344	0.0470	0.1368

#### Predicting Probabilities of Police Response Behavior

Like the findings in chapter five, the coefficients in logistic regression models cannot be understood as probabilities, which was why the aforementioned findings were discussed in terms of likelihood. To determine the effects of geographical context on police response behavior after controlling for all the independent variables, full sample models were used to predict the probability that each dependent variable will occur. The formula allows predicted probabilities to be yielded for the following questions: (1) holding all other values constant, what was the probability that the police would come to the scene of a physical assault if the victim of the assault was the resident of a rural area, and (2) holding all other values constant, what was the probability that the police would arrive at the scene of a physical assault within ten minutes of being notified of the assault of a resident of a rural area?

The first question posed about the police response behaviors uses the dependent variable, PoliceCame. Using the logistic regression results obtained in the full sample and presented in table 6.1, we plugged these numbers into the predicted probability formula and calculated probabilities of a variety of instances for a total model equation seen here:

$$\hat{p} = \frac{e^{(2.79-0.68x_1+0.12x_2+0.28x_3-0.01x_4-0.06x_5+0.04x_6-0.06x_7+0.13x_8-0.36x_9+0.13x_{10}+0.12x_{11}-0.04x_{12}-0.53x_{13}+0.52x_{14}+0.22x_{15})}}{1+e^{(2.79-0.68x_1+0.12x_2+0.28x_3-0.01x_4-0.06x_5+0.04x_6-0.06x_7+0.13x_8-0.36x_9+0.13x_{10}+0.12x_{11}-0.04x_{12}-0.53x_{13}+0.52x_{14}+0.22x_{15})}}$$

This equation yielded the predicted probability that the police would come when notified of a physical assault with no weapon ( $X_{14}$ ), that occurred in a public setting ( $X_{13}$ ), when the victim was a White/NonHispanic ( $X_3$ ), earning \$50,000-\$74,999 annually ( $X_5$ ) and living in an urban area ( $X_1$ ). The predicted probability that the police would come to the physical assault was calculated through the following equation:

$$\hat{p} = \frac{e^{(2.79-0.68(0)+0.28(0)-0.06(13)-0.53(1)+0.52(0))}}{1+e^{(2.79-0.68(0)+0.28(0)-0.06(13)-0.53(1)+0.52(0))}} = \frac{e^{(2.79-0.78-0.53)}}{1+e^{(2.79-0.78-0.53)}} = \frac{e^{(1.48)}}{1+e^{(1.48)}} = \frac{4.39}{5.39} = .81$$

The predicted probability of police coming to the scene of a physical assault that occurred in an urban area was 0.81 or 81%. The same was examined through the equation manipulated for a rural location:

$$\hat{p} = \frac{e^{(2.79-0.68(1)+0.28(0)-0.06(13)-0.53(1)+0.52(0))}}{1+e^{(2.79-0.68(1)+0.28(0)-0.06(13)-0.53(1)+0.52(0))}} = \frac{e^{(2.79-0.68-0.78-0.53)}}{1+e^{(2.79-0.68-0.78-0.53)}} = \frac{e^{(0.8)}}{1+e^{(0.8)}} = \frac{2.23}{3.23} = .69$$

The predicted probability of a physical assault being reported to the police when the assault occurred in a rural area was 0.69 or 69%. After controlling for all the important independent variables, the probability of police coming to the scene of a physical assault was more probable when the victim resided in an urban, 81%, than in a rural location, 69%.

This predicted probability analysis also sought to answer the question: holding all other values constant, what was the probability that when the police had been notified of a physical assault, they would arrive within ten minutes? Below is an analysis similar to the previous, but using the data yielded from Table 6.2 and the dependent variable ArrivedWithin10Minutes. From the total model, our equation would look like this:

$$\hat{p} = \frac{e^{(0.21-0.03x_1+0.01x_2-0.45x_3+0.00x_4+0.01x_5+0.14x_6+0.12x_7+0.30x_8-0.30x_9-0.09x_{10}+0.16x_{11}-0.01x_{12}+0.18x_{13}+0.12x_{14}-0.12x_{15})}}{1+e^{(0.21-0.03x_1+0.01x_2-0.45x_3+0.00x_4+0.01x_5+0.14x_6+0.12x_7+0.30x_8-0.30x_9-0.09x_{10}+0.16x_{11}-0.01x_{12}+0.18x_{13}+0.12x_{14}-0.12x_{15})}}$$

This full equation can be manipulated to predict the outcome based on the modal categories of the statistically significant variables from the logistic regression. Let us yield the predicted probability that the police would come to the scene within ten minutes of a physical assault of a White/NonHispanic (X<sub>3</sub>), living in an urban area (X<sub>1</sub>), physically assaulted by a white (X<sub>7</sub>) attacker whom the victim reported was a stranger (X<sub>9</sub>). The predicted probability was calculated through the following equation:

$$\hat{p} = \frac{e^{(0.21-0.03(0)-0.45(0)+0.12(0)-0.30(0))}}{1+e^{(0.21-0.03(0)-0.45(0)+0.12(0)-0.30(0))}} = \frac{e^{(0.21)}}{1+e^{(0.21)}} = \frac{1.23}{2.23} = .55$$

The predicted probability of the police arriving at the scene within ten minutes of being notified of a physical assault of a resident of an urban area is 0.55 or 55%. The predicted probability of this same physical assault being reported to the police when the respondent resided in a rural location was determined through the following equation:

$$\hat{p} = \frac{e^{(0.21-0.03(1)-0.45(0)+0.12(0)-0.30(0))}}{1+e^{(0.21-0.03(1)-0.45(0)+0.12(0)-0.30(0))}} = \frac{e^{(0.21-0.03)}}{1+e^{(0.21-0.03)}} = \frac{e^{(0.18)}}{1+e^{(0.18)}} = \frac{1.20}{2.20} = .55$$

The predicted probability of the police arriving at the scene within ten minutes of being notified of a physical assault of a resident of a rural area was 0.55 or 55%. After controlling for all the important independent variables, the probability of the police arriving within ten minutes of being notified of the assault is identical –55% – whether the respondent resided in an urban or rural location.

The final analyses in this research was the predicted probabilities performed on the final two dependent variables that capture police response behaviors. These variables were ArrestAtScene and FollowUpArrest, was an arrest made the first time the police were on the scene, and was an arrest made as a follow up to the physical assault. From the total model, our equation for ArrestAtScene would look like this:

$$\hat{p} = \frac{e^{(-1.93-0.07x_1-0.11x_2-0.12x_3+0.02x_4+0.01x_5-0.19x_6+0.05x_7+0.30x_8+0.02x_9-0.06x_{10}+0.18x_{11}+0.05x_{12}+0.07x_{13}+0.24x_{14}+0.05x_{15})}}{1+e^{(-1.93-0.07x_1-0.11x_2-0.12x_3+0.02x_4+0.01x_5-0.19x_6+0.05x_7+0.30x_8+0.02x_9-0.06x_{10}+0.18x_{11}+0.05x_{12}+0.07x_{13}+0.24x_{14}+0.05x_{15})}}$$

The equation below illustrated the predicted probability of the statistically significant variables that an arrest was made at the scene of a physical assault with no weapon( $X_{14}$ ), of a 29 year old ( $X_4$ ) victim living in an urban area ( $X_1$ ), who identified

their attacker as white (X<sub>7</sub>) and someone whom the victim reported was a stranger (X<sub>9</sub>).

$$\hat{p} = \frac{e^{(-1.93+0.07(0)+0.02(0)+0.05(0)+0.02(0)+0.24(0))}}{1+e^{(-1.93+0.07(0)+0.02(0)+0.05(0)+0.02(0)+0.24(0))}} = \frac{e^{(-1.93)}}{1+e^{(-1.93)}} = \frac{6.89}{7.89} = .87$$

The predicted probability of an arrest being made as a result of the police arriving at the scene of a physical assault when the assault victim resided in an urban area is 0.87 or 87%. The predicted probability of this same physical assault being reported to the police when the respondent resided in a rural location was demonstrated through the following equation:

$$\hat{p} = \frac{e^{(-1.93+0.07(1)+0.02(0)+0.05(0)+0.02(0)+0.24(0))}}{1+e^{(-1.93+0.07(1)+0.02(0)+0.05(0)+0.02(0)+0.24(0))}} = \frac{e^{(-1.93+0.07)}}{1+e^{(-1.93+0.07)}} = \frac{e^{(-1.86)}}{1+e^{(-1.86)}} = \frac{0.16}{1.16} = .14$$

The predicted probability of the police making an arrest while they were still at the scene, when the assault victim resided in a rural area, was 0.14 or 14%. After controlling for all the important independent variables, the probability of the police making an arrest while they were still at the scene of the physical assault was very different, 87%, when the respondent resided in an urban location and 14% when the respondent resided in a rural location.

The final dependent variable that was analyzed for the predicted probabilities was the variable FollowUpArrest. That is, what was the probability that the police would make an arrest as a follow up measure to the physical assault of a resident of a rural area. Using the data presented in Table 6.4 the total model, our equation would look like this:

$$\hat{p} = \frac{e^{(-1.12+0.19x_1-0.39x_2+0.42x_3+0.01x_4+0.02x_5-0.58x_6+0.15x_7-0.11x_8-0.31x_9-0.03x_{10}+0.11x_{11}-0.05x_{12}-0.64x_{13}+0.16x_{14}+0.07x_{15})}}{1+e^{(-1.12+0.19x_1-0.39x_2+0.42x_3+0.01x_4+0.02x_5-0.58x_6+0.15x_7-0.11x_8-0.31x_9-0.03x_{10}+0.11x_{11}-0.05x_{12}-0.64x_{13}+0.16x_{14}+0.07x_{15})}}$$

The equation below illustrated the predicted probability that an arrest was made as a follow up measure when a male ( $X_2$ ), living in an urban area ( $X_1$ ), suffered a physical assault that occurred in a public setting ( $X_{13}$ ), by a male ( $X_6$ ) offender whom the victim reported was a stranger ( $X_9$ ).

$$\hat{p} = \frac{e^{(-1.12+0.19(0)-0.39(0)-0.58(0)-0.31(0)-0.64(1))}}{1+e^{(-1.12+0.19(0)-0.39(0)-0.58(0)-0.31(0)-0.64(1))}} = \frac{e^{(-1.12-0.64)}}{1+e^{(-1.12-0.64)}} = \frac{e^{(-1.76)}}{1+e^{(-1.76)}} = \frac{0.17}{1.17} = .15$$

The predicted probability of an arrest being made as a follow up measure when the victim resided in an urban area was 0.15 or 15%. The following equation is the predicted probability of this same physical assault having an arrest occur as the result of a follow up measure when the respondent resided in a rural location:

$$\hat{p} = \frac{e^{(-1.12+0.19(1)-0.39(0)-0.58(0)-0.31(0)-0.64(1))}}{1+e^{(-1.12+0.19(1)-0.39(0)-0.58(0)-0.31(0)-0.64(1))}} = \frac{e^{(-1.12+0.19-0.64)}}{1+e^{(-1.12+0.19-0.64)}} = \frac{e^{(-1.57)}}{1+e^{(-1.57)}} = \frac{0.21}{1.21} = .17$$

The predicted probability of an arrest being made as a follow up measure when the victim resided in a rural area was 0.17 or 17%. After controlling for all the important independent variables, the probability of an arrest being made as a follow up measure to a physical assault was virtually identical – 15 % to 17% – whether the respondent resided in an urban or rural location.

## **Summary**

Using the incident level concatenated file NCVS from 2002-2012, chapter six presented the quantitative findings of the dependent variables that captured police response behaviors – PoliceCame, ArrivedWithin10Minutes, ArrestAtScene, and FollowUpArrest. Findings were presented for the overall sample, the urban only sample, and the rural only sample.

Table 6.5: Comparison of Significant Coefficients Predicting Police Response Behavior across Urban and Rural Locations: DVs PoliceCame and ArrivedWithin10Minutes

	Rural Location		Urban Location	
	Police Came	Arrived Within 10 Minutes	Police Came	Arrived Within 10 Minutes
Female				
RaceandEthnicity (Contrast=White NonHispanic)				
Black NonHispanic				
Other NonHispanic				-
Hispanic of Any Race				
Age				
Income			-	
OffFemale				
OffRace (Contrast=White)				
Black				
Other	-			
OffAge18Older				+
Relationship (Contrast=Stranger)				
Intimate				
OtherFamily				
Friend/Acquaintance	-			
Married				
Employed				
SomeCollege				
Public	-		-	+
WeaponPresence				
Injury				

Table 6.6: Comparison of Significant Coefficients Predicting Police Response Behavior across Urban and Rural Locations: DVs ArrestAtScene and FollowUpArrest

	Rural Location		Urban Location	
	Arrest At Scene	Follow Up Arrest	Arrest At Scene	Follow Up Arrest
Female				-
RaceandEthnicity (Contrast=White NonHispanic)				
Black NonHispanic				
Other NonHispanic		+		-
Hispanic of Any Race		+		
Age			+	+
Income				
OffFemale				-
OffRace (Contrast=White)				
Black				
Other			+	-
OffAge18Older			+	
Relationship (Contrast=Stranger)				
Intimate				
OtherFamily				-
Friend/Acquaintance			-	-
Married		+		
Employed				
SomeCollege				
Public		-		-
WeaponPresence			+	
Injury				

Table 6.5 and 6.6 summarized the significant coefficients that predicted police response behavior across the rural and urban models for the outcome

measures. Specifically, Table 6.5 examined the dependent variables capturing PoliceCame and ArrivedWithin10Minutes, while Table 6.6 included the dependent variables of ArrestAtScene and FollowUpArrest.

Overall, these tables illustrated that the models were not strong predictors of police response behavior across urban and rural samples. The analysis of the indicators for the variable of ArrivedWithin10Minutes and ArrestFirst in the rural samples were not statistically significant. The most frequent predictor in the other models was whether the physical assault occurred in a public or private setting.

Following this multivariate analysis, predicted probabilities were calculated for the full sample for all police response behavior dependent variables to determine the effects of geographic context after controlling for all the independent variables. Results indicated that there was minimal difference between the predicted probabilities of two of the four dependent variables, ArrivedWithin10Minutes and FollowUpArrest, when the geography of where the victim resided was changed from urban to rural. The probability of police coming to the scene of a physical assault, PoliceCame, was more probable when the victim resided in an urban, 81%, than in a rural location, 69%. The largest difference was yielded examining the predicted probability of the police making an arrest while they were still at the scene of the assault, ArrestAtScene. The predicted probability was 87% when the respondent resided in an urban location and 14% when the respondent resided in a rural location. Summary results are presented below in Figure 2.

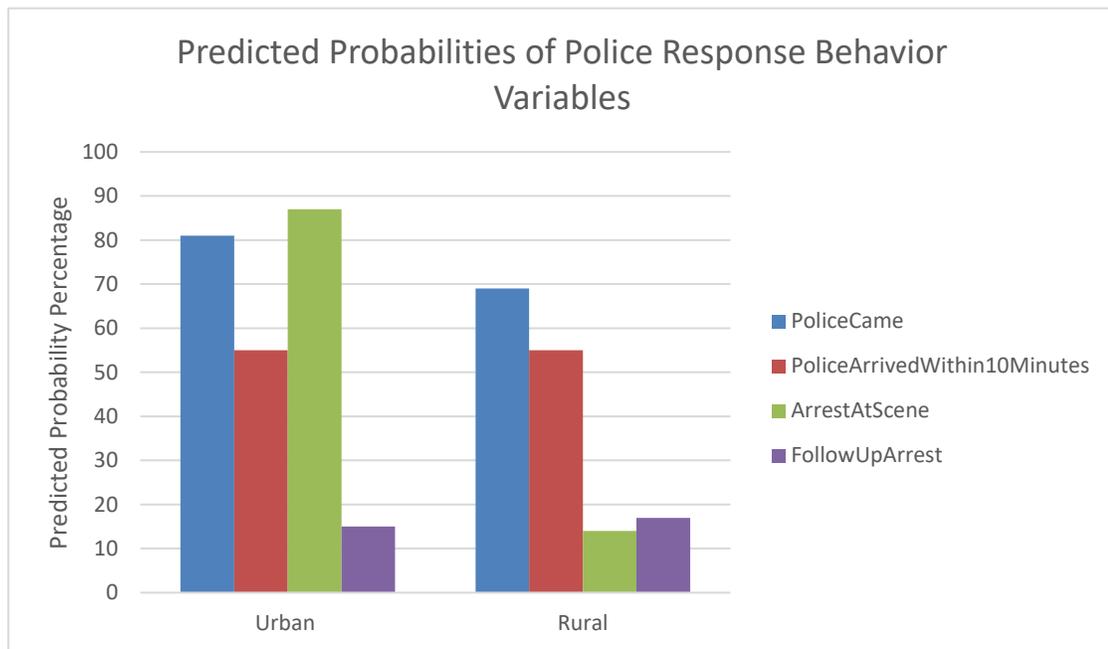


Figure 2 Predicted Probabilities of Police Response Behavior Variables

The next chapter, chapter seven, discusses all findings from this research. The multivariate and predicted probability findings of the police notification variables, ReportedToPolice and VictimReported, and the four police response dependent variables, PoliceCame, ArrivedWithin10Minutes, ArrestAtScene, and FollowUpArrest. The findings were situated within the larger theoretical frame of Black's (1976) theory of the mobilization of law.

## **Chapter 7**

### **DISCUSSION AND CONCLUSIONS**

National level data has indicated that while crime victims do report crime to the police, the number of crime victimizations reported has been less than half (Baumer & Lauritsen, 2010). Guided by Black's theory of the mobilization of the law (Black 1973, 1976), this dissertation was an exploratory study to examine whether geographical location affected police reporting behavior of physical assaults and police response behavior. To understand the effect of geographical location on police reporting and police response behavior, this research examined two main dependent variables, police notification of physical assault and police response behaviors to physical assault. This research had two research directions: (1) Does geography have an effect on the likelihood that assault victimizations will come to the attention of the police and that victims, themselves, will notify the police? (2) Does geography have an effect on police response behaviors in the form of time to arrive on the scene and decision to arrest?

As mentioned, this focus on geography was the crux. Scholarship on rural criminology has been gaining ground, but rural crime in general has ranked among the least studied problems in criminology throughout the twentieth century (Donnermeyer, 2012). A common image of rural life is that it is a safe and relatively uneventful lived experience (Mingay, 1989; Wells & Falcone, 2008). Overall, this 'safe from crime' image was consistent with national statistics. For example, NCVS data found that personal and violent criminal victimizations in rural areas occurred at half the rates

reported in central cities and about three-quarters the suburban rates of violence (Catalano 2006; Catalano, 2004; Duhart 2000; Rennison 2001). Using the NCVS, this research contributed to this scholarship by exploring the behavior of notifying the police of a physical assault and of police response behavior once they had been notified of the physical assault.

This connection between rural criminology and physical assault notification and police behavior was not the only aim. The findings also contributed to the larger body of theory that has been used to understand both citizens and law enforcement officials behavior. This project utilized Black's (1973, 1976) theory of the mobilization of law as a framework for understanding notification and police response behavior. Black's mobilization of the law can be applied when victims proactively mobilize the law and call the police to notify them of an assault (Copes et al., 2001; Kuo et al., 2012), and reactively when the police mobilize the law and arrest an offender (Avakame et al., 1999). Black (1973) discussed four aspects of law that influenced the mobilization of law: legal intelligence, the availability of law, the organization of discretion, and legal change and the domains of social life that guide mobilization: social stratification, morphology, culture, and social control.

This dissertation explored whether geography had an effect on the mobilization of law through police notification of victims of assault, and whether geography had an effect on the mobilization of law through police response behaviors in the form of arrival on scene, time to arrive on scene, and decision to arrest. According to Black (1973, 1976), the mobilization of law can be understood through legal intelligence, the availability of the law, and legal change as a result of mobilization. The mobilization of the law, not concerned with the amount of access that the criminal justice system

had to each case, *legal intelligence*; focused instead on the amount of access that individuals had to the law, *availability of the law*. In theory, all individuals, both victims and police, can mobilize the law; however, the availability to mobilize the law has been limited by the domains of stratification, morphology, culture, and social control.

### **Discussion of Police Notification Dependent Variables**

We will first examine the findings of the dependent variables that captured police notification, *ReportedToPolice* and *VictimReported*. Remember that the mobilization of law is the process by which the criminal justice system obtains civil and criminal cases. This research focused on police notification as one way that the law can proactively be mobilized by citizens after a physical assault has occurred.

This research focused on four social dimensions of Black's (1973, 1976) theory: stratification, morphology, culture, and social control. Social stratification can be understood as the process by which groups or individuals in a society are arranged in a hierarchy based on their differential access to the social and economic resources (Andersen, 2009). Thus, there were limits to the availability of the law to individuals and these limits often centered on variables of social stratification such as gender, race, age, and income level.

In both the rural and urban samples, the odds of a physical assault being reported to the police increased by similar percentages when the victim was a female or when the victim was aged 18 or older. These findings fit with previous research that have found that crimes committed against women (Bachman, 1998; Pino & Meier, 1999; Ruback et al., 1999) and older victims (Baumer, 2002; Brennan, 2011; Chen & Ullman, 2010; Felson et al., 2002; Watkins, 2005) were more likely to be

reported to the police. In both the urban and rural settings the likelihood of reporting the assault to the police also increased when the offender was female, or when the offender was aged 18 or older. These findings also fit with previous applications of Black's theory of the victim being the one to report the victimization when the offender was a female (Kuo et al., 2012), or older in age (Copes et al., 2001). These same variables, female victim, female offender, victim over the age of 18, and offender over the age of 18, were also found to increase the likelihood that victims, themselves, would be the ones to mobilize the law and inform the police of the physical assault.

The income of the victim, another stratification measure, played a role in the urban sample only; as the victim's income level increased, the likelihood that the assault would be reported to the police decreased, and that the victim would be the one to report the assault.

Black claimed that those individuals who held a higher social ranking (i.e., higher income, males) would be more likely than individuals from a lower social ranking to mobilize the law because they would have greater availability to the law. The findings regarding gender and income do not support this theoretical hypothesis. Black articulated his theory in the early 1970s. During this time, violence that occurred in the home, including intimate partner assaults, was more often treated as a private matter, not as a crime in need of criminal justice remedy. During that time, physical assaults against women, particularly those that were perpetrated by intimate or other known offenders, were rarely reported to the police. The cultural context of law enforcement today is dramatically different. After activism by victim's rights groups and feminist scholars, violence between known and/or intimate partners is now

clearly considered a crime that falls under the purview of criminal justice, similar to assaults between strangers. Moreover, Black's contention that those from higher social classes would be more likely to mobilize law may not apply to the crime of physical assaults, particularly when the vast majority of assaults occur between known and/or intimate partners. Perhaps assault victims with more financial resources have other options available to remedy their situation, including private counseling and/or divorce while those with few financial resources are more dependent on the police for protection. Regardless of the mechanism, it is clear that Black's theory regarding stratification is in need of revision, at least regarding physical assault in America today.

The domain of morphology refers to the social relationship between individuals. This relationship may be captured by relational distance, social integration, or participation in social life. This dissertation used three variables to measure morphology: the relationship between the victim and offender, the marital status of the victim, and the employment status of the victim. When examining the relationship between the victim and offender, the mobilization of law followed the theoretically expected pattern (Black, 1976). Specifically, assaults that occurred between known offenders including intimate partners, other family members, and other friends/acquaintances, were less likely to be reported compared to strangers. While the percentage differentials of police reporting across victim/offender relationship categories were not that great, this indicates that despite the increased societal awareness that assaults are assaults regardless of the victim and offender relationship, victimizations against strangers are still more likely to be reported to police. , Marital status and employment were used as proxies for social integration

and participation in social life. Black noted that individuals who were more socially integrated were more likely to mobilize the law and have their offenders arrested.

The marital status of the victim was found to have a positive correlation with mobilizing the law in the urban setting, thus supporting Black's original theory. Specifically, when the victim was married, there was an almost 30% chance that the law would be mobilized and that the victim would be the one who mobilized the law. When the victim reported having current employment within the last week, the likelihood that the victim would be the one who proactively mobilized the law was increased by over 40% in the rural setting, and over 15% in the urban setting. These findings supported previous research (Baumer, 2002; Gottfredson & Hindelang, 1979) and Black's original theory that the more a victim was integrated into society, the more likely that the law would be mobilized.

The third aspect of social life in Black's (1973, 1976) theory of the mobilization of law was culture, measured in this research and past research through the physical assault victim's level of education (Avakame et al., 1999; Copes et al., 2001; Kuo et al., 2012). Black theorized that higher levels of culture would yield citizens who were more likely to proactively mobilize the law. The research found evidence of this in the urban sample only, but not in the direction that was postulated by Black. Instead, the likelihood of a citizen's mobilization of the law and notification to the police of the assault decreased by almost one-fifth when the victim had at least some college education in comparison to victims with a high school diploma or less. While these findings were counter to what one expected to find following Black's theory, these findings may find support with Baumer's (2002) NCVS study, which

found that victims with a higher level of education were less likely to report a simple assault, while educational levels had no effect on reporting an aggravated assault.

The final domain of social life that was included in this research was the domain of social control. This was measured through the rural and urban split and through the location of the physical assault, public or private. The importance of this domain was that it consistently reduced the odds of police notification in both the urban and the rural samples. When the physical assault happened in a public place, the likelihood that the police would be notified decreased by 23% and 41% in the rural and urban areas respectively. Similarly, the victim was almost two-fifths less likely to mobilize the law in both urban and rural settings. Overall, when the assault occurred in a public place, the police were less likely to be notified, and the victim was less likely to be the one who notified the police of an assault. Perplexing about these findings was that they were counter to Black's theory and to what was expected from his hypothesis regarding morphology. Again, because Black's theory was articulated during a time when police treated crimes that occurred between intimate partners as 'personal' matters rather than 'criminal incidents' his premise regarding social control, at least with regard to where a victimization occurred, may now be antiquated.

### **Discussion of Police Response Behavior Dependent Variables**

In addition to examining the factors that affected how the law was mobilized proactively by physical assault victims and/or bystanders, this research examined how the law was mobilized by criminal justice agents. This was measured using four dependent variables that captured whether the police came when they found out about the assault, whether they came within ten minutes, whether they made an arrest on the scene, and whether they made an arrest as a follow up measure to the assault. Similar

to above, these outcome measures will be understood through the framework of Black's (1973, 1976) mobilization of law, the process by which the criminal justice system obtains civil and criminal cases, and four of the domains of social life.

Examination of the domain of stratification for the police response variables uncovered several connections, but not all were in the expected direction. First, the mobilization of the law, as measured by police coming to the scene when notified, was influenced by the race of the offender and the income of the victim. Police were 81% less likely to show up at the scene of the physical assault in rural areas when the offender was a race other than black or white. Additionally, in the urban setting, the likelihood that the police came to the scene, declined with the victim's income. This is inconsistent with what Black's theory predicted. Police in the urban setting were also 50% less likely to arrive at the scene within ten minutes when the victim's race was classified as non-Hispanic black compared to non-Hispanic white victims, and 40% more likely when the victim was over the age of eighteen. These findings are in line with Black's theory of the mobilization of the law, in that when individuals with a higher ranking social status (i.e., race, ethnicity, income) mobilized the law, they were more likely to experience a positive outcome such as the police coming to the scene of the crime or arriving within ten minutes.

When looking at whether an arrest was made at the scene and as a follow up measure, measures of stratification were also important indicators. In the rural sample, an arrest was much more likely to be made as a follow up measure when the victim was Hispanic or a race other than black or white. All other significant indicators of the mobilization of the law through an arrest were seen in the urban sample only. Police were more likely to make an arrest at the scene when the offender

was above the age of eighteen, or when the offender was a race other than black or white; the likelihood of an arrest at the scene or as a follow up also increased as the victim's age increased. The likelihood that an arrest would be made as a follow up measure decreased when the victim was male, when the victim was non-Hispanic and not black or white, or when the offender was female. Similar to the findings in the domain of stratification for the variable capturing if police came to the scene and how quickly, these findings of policing mobilizing the law to make an arrest were somewhat consistent with Black's theory. When individuals with a higher ranking social status (i.e., race, ethnicity, income) mobilized the law, they were more likely to experience a positive outcome, such as the police arriving to the scene or the police making an arrest.

The second domain of social life explored the police response variables that captured morphology. In the rural sample, police were 70% more likely to come to the scene of the physical assault when the offender was a friend/acquaintance of the victim rather than a stranger. This finding is counter to what was expected through Black's theory. It was hypothesized that police would be less likely to mobilize the law when the social distance between victim and offender was close. The findings of social distance between the victim and offender were in line with theory and past research (Felson & Ackerman, 2001) in the urban sample. Police were less likely to make an arrest at the scene or as a follow up measure when the offender was a friend or acquaintance of the victim, and two-thirds less likely to arrest as a follow up measure when the offender was a family member compared to strangers. However, there was no significant difference in the probability of arrest for assaults between intimates or strangers.

Marital status in the rural sample also played a role as a predictor of the likelihood that an arrest would be made as a follow up measure. Victims who were married were 143% more likely to have the law mobilized and the police make an arrest as a follow up measure. This fits in with Black's theory of the mobilization of law because individuals who were more socially integrated, at least as measured by marital status, were more likely to have the law mobilized by criminal justice agents in the form of arresting offenders.

Finally, the domain of social control was also important to the variables that captured police response behavior. First, data showed that police were less likely to come to the scene in both urban and rural settings (65% and 32%, respectively) if the physical assault was in a public location. However, in the urban setting only, when the law was mobilized and the police were notified of the assault, they were over one-third more likely to arrive in ten minutes at the scene of a public location than a private location. The probability of police making an arrest in both rural and urban locations was also affected by the incident location. In both the urban and rural areas, the police were less likely to make an arrest as a follow up when assaults occurred in a public location compared to assaults that occurred in private. Police were over three-quarters less likely in rural areas and over one-third less likely in urban areas to make a follow up arrest. These findings, similar to those found in the police notification outcome measures, did not support Black's theory and previous research, however, and again only add to the inconsistency found in the literature regarding arrest and incident location. According to Black, the law was less likely to be mobilized through arrests made, as social control increased. Public settings have higher levels of formal social control and would therefore be expected to have a higher likelihood of the

mobilization of law (e.g. arrest). The findings of this research were consistent with Avakame and colleagues (1999), who found that victimizations occurring in urban areas were more likely to be reported to the police but less likely to result in an arrest.

### **Discussion of Dependent Variables Based on Geography**

While these findings have both supported and challenged Black's theory of the law, the main focus of this dissertation was on the context of geography: was there a quantitative difference between notification behavior and police response behavior across rural and urban settings? Findings indicated that for most of the dependent variables, there were not large differences in either the mobilization of the law by victims and/or bystanders or other citizens, nor in the mobilization of the law by criminal justice actors across geographic contexts. For the two outcome measures of notification, ReportedToPolice and VictimReported, the actual percentage differences were minimal. The probability of police notification of a physical assault was virtually identical – 59% to 62% - for respondents who resided in an urban or rural location respectively, and were identical, 30% in both settings for the physical assault victim to be the one to notify the police. Therefore, it can be concluded that assault victimizations in rural areas were no more likely to come to the attention of police than victimizations in urban areas, once other factors like victim/offender relationship and injuries were controlled.

Examination of the variables that captured police behavior yielded similar findings for two of the four dependent measures. The probability of the police arriving within ten minutes of being notified of the assault was identical –55% – whether the respondent resided in an urban or rural location, and this percentage was also nearly identical for the probability of an arrest being made as a follow up measure

– 15 % to 17% in an urban or rural location. Therefore, it can be concluded that police were no more likely to arrive within ten minutes of notification of assault victimizations in rural areas, than victimizations in urban areas, once other factors like victim/offender relationship and injuries were controlled. Additionally, police were no more likely to make an arrest in an urban than a rural area.

The remaining two police response behavior variables, PoliceCame and ArrestAtScene, produced different percentages based on geographic context. The probability of police coming to the scene of a physical assault was more probable when the victim resided in an urban, 81% than in a rural location, 69%, meaning that when notified, the probability the police showed up at the scene was 12% higher in urban areas. Additionally, the probability of the police making an arrest while still at the scene of the physical assault was 87% when the respondent resided in an urban location and only 14% when the respondent resided in a rural location. This is the greatest difference found between geographical contexts. It indicates that police in rural areas are significantly less likely to mobilize the law in the form of an arrest at the scene compared to their urban counterparts.

According to Black, as social control increases, so should the likelihood of the mobilization of law. For example, the more often informal social control was used in an effort to decrease crime, the less often the law will be mobilized as a form of formal social control. Findings of prior research indicate that informal social control mechanisms are used more often than formal social control in rural areas (Carrington, 2007; Carrington and Hogg, 2006; Rennison et al., 2013). This notion of informal social control being more utilized in rural areas could explain this research's findings

that police more often came to the scene of an urban physical assault and more often made an arrest in the urban setting.

### **Limitations and Avenues for Future Research**

As with all research, there were limitations to this research. First, there was the limitation of using the NCVS as a dataset. The NCVS relies on respondents to self-report victimization experiences and to recall the characteristics of the offender as well as the police responses should the assault be reported to the police. Clearly, recall is not always reliable for many reasons, and as a result, the NCVS data may not be a valid measure of the outcome variables measured for this research. Respondents may have provided incorrect responses due to social desirability bias or because faulty recall for some other reason.

Second, although the NCVS was a nationally selected random sample, it may have systemic biases in only being able to include individuals who fit the sample criteria. The sampling frame of the NCVS includes all those individuals 12 years of age or older who live in non-institutional residences. It therefore excludes many individuals including those who reside institutions such as nursing homes or prisons, individuals who are employed or deployed at sea, members of the armed forces living in military barracks, those living in homeless shelters or whom are homeless, and those who reported not having time or refused to be involved in the survey.

A third limitation is related to how one of the main outcome variables, police response behavior, was operationalized. As noted above, the NCVS relies on victims' perceptions to measure the actions taken by police, both at the scene and as follow-up measures. Despite this criticism, previous studies have successfully used and

defended the NCVS as an appropriate vehicle for capturing police behavior (Avakame et al., 1999; Bachman, 1996; Howerton, 2006).

These limitations do not detract from the finding that while there were many similarities found between the mobilization of law in rural and urban locations, there were also important differences. It is hoped that this research will serve as a catalyst for other research investigating the differences that may exist across geographical locations, especially as our nation becomes more divided into urban and rural contexts. There is much work left to be done in the area of rural criminology, applications of Black's (1973, 1976) theory of the mobilization of law, victim behavior of notifying police of physical assaults, and police response behavior once notified of a physical assault.

One important area of inquiry necessary is the inclusion of qualitative data to examine the perceptions of both citizens and law enforcement personnel. Triangulation of both qualitative and quantitative methodological approaches to understand help seeking reporting behavior and police response will strengthen and bolster results as each approach will inform the other. Prior police research has gathered information through the use of field observations by "accompanying police officers on their daily shifts in their neighborhoods and observing and recording their actions and comments" (Miller, 1999, 232). This methodology would provide important insights into the actual day-to-day reality of what it means to be a law enforcement official in rural areas. Field observations made by researchers during these ride-a-longs will help to illuminate police response behavior in rural areas.

Further research should also examine the bystanders and/or other citizens who report violent victimizations of others. Are there different mechanisms at work in

rural versus urban locations that compel others to intervene in physical assaults?

These data are available in the NCVS and would be an appropriate next step in the analyses. For example, when victims themselves do not report to police, they are asked who reported the incident to police. Although these response options are rather limited, more detailed analyses of this variable could illuminate the parties who mobilized the law in public versus private settings, and whether these actors were the same or different in rural versus urban locations.

Third, it may also be illuminating to disaggregate the various populations within rural communities. For example, how might these findings shift or be affected if victimizations that occurred in Native American rural communities were examined? This line of research would fall into suggestions made by others noting that although rural areas consistently have lower risks of criminal victimization than other areas of the U.S, Native Americans have the highest victimization rates of all racial/ethnic groups in the U.S. and most often live in rural areas (Wells & Falcone, 2008).

Finally, the NCVS is a widely-used dataset and research findings more frequently uncover more questions than answers. For example, are the findings of this dissertation generalizable to other types of violent crime such as rape, sexual assaults, and robberies? Does the mobilization of law vary across urban and rural contexts for cases of property crime such as burglary or motor vehicle theft? Each of these questions could be investigated using the NCVS.

## REFERENCES

- Akers, C., & Kaukinen, C. (2009). The police reporting behavior of intimate partner violence victims. *Journal of Family Violence, 24*, 159-171.
- Anderson, S. (1999). Crime and social change in Scotland. In G. Dingwall and S. Moody. (Eds.). *Crime and Conflict in the Countryside*. Cardiff: University of Wales Press.
- Apel, R., Dugan, L., & Powers, R. (2013). Gender and injury risk in incidents of assaultive violence. *Justice Quarterly, 30*(4), 561-593.
- Avakame, E. F., Fyfe, J. J., & McCoy, C. (1999). "Did you call the police? What did they do?" An empirical assessment of black's theory of mobilization of law. *Justice Quarterly, 16*(4), 765-792.
- Bachman, R. (1993). Predicting the reporting of rape victimizations: Have rape reforms made a difference? *Criminal Justice and Behavior, 20*, 254–270.
- Bachman, R. (1996). Victim's perceptions of initial police responses to robbery and aggravated assault: Does race matter? *Journal of Quantitative Criminology, 12*, 363-390.
- Bachman, R. (1998). The factors related to rape reporting behavior and arrest: New evidence from the National Crime Victimization Survey. *Criminal Justice and Behavior, 25*, 8–29.
- Bachman, R., & Paternoster, R. (2016). *Statistics for criminology and criminal justice*. Los Angeles: Sage Publications.
- Bachman, R., Saltzman, L. E., Thompson, M. P., & Carmody, D. C. (2002). Disentangling the effects of self-protective behaviors on the risk of injury in assaults against women. *Journal of Quantitative Criminology, 18*, 135-157.
- Baird-Olson, K. (2000). *Doing what we have always done: A case study of rural policing*. Washington, DC: U.S. Department of Justice.

- Baker, T., Wolfer, L., & Zezza, R. (2002). Rural and suburban police leadership. *The FBI Law Enforcement Bulletin*, 70, 1–5.
- Ball, C. (2001). Rural perceptions of crime. *Journal of Contemporary Criminal Justice*, 17, 37–48.
- Barrett, K. J., Haberfield, M., & Walker, M. C. (2009). A comparative study of the attitudes of urban, suburban, and rural police officers in New Jersey regarding the use of force. *Crime, Law, and Social Change*, 52, 159-179.
- Bass, J. (1995). Rural policing: Patterns and problems of micro departments. *Justice Professional*, 9, 59–74.
- Baumer, E. P. (2002). Neighborhood disadvantage and police notification by victims of violence. *Criminology*, 40, 579–616.
- Baumer, E. P., Felson, R. B., & Messner, S. F. (2003). Changes in police notification for rape, 1973-2000. *Criminology*, 41, 841-872.
- Baumer, E. P., & Lauritsen, J. L. (2010). Reporting crime to the police, 1973-2005: A multivariate analysis of long-term trends in the National Crime Survey (NCS) and National Crime Victimization Survey (NCVS). *Criminology*, 48, 131-186.
- Black, D.J. (1973). The mobilization of law. *Journal of Legal Studies*, 2, 125–149.
- Black, D.J. (1976). *The Behavior of Law*, New York: Academic Press.
- Blake, L., & Coupe, R. T. (2001). The impact of single and two officer patrols on catching burglars in the act. *British Journal of Criminology*, 41, 381-396.
- Block, R. (1974). Why notify the police: The victim's decision to notify the police of an assault. *Criminology*, 11, 555–569.
- Bosick, S. J., Rennison, C. M., Gover, A. R., & Dodge, M. (2012). Reporting violence to the police: Predictors through the life course. *Journal of Criminal Justice*, 40, 441-451.
- Braithwaite, J., & Biles, D. (1980). Empirical verification and Black's 'The Behavior of Law'. *American Sociological Review*, 45(2), 334–338.
- Brandl, S. G., & Horvath, F. (1991). Crime-victim evaluation of police investigative performance. *Journal of Criminal Justice*, 19, 109-121.

- Brennan, I. R. (2011). In vino silentium? Individual, situational, and alcohol-related factors in reporting violence to the police. *Violence and Victims, 26*(2), 191-207.
- Carrington, K. (2007). Crime in rural and regional areas. In E. Barclay, J. F. Donnermeyer, J. Scott, & R. Hogg (Eds.), *Crime in rural Australia* (pp. 27–43). Sydney: Federation Press.
- Catalano, S. M. (2004). *Criminal Victimization, 2003*. Washington DC: Bureau of Justice Statistics.
- Catalano, S. M. (2006). *Criminal Victimization, 2005*. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Chen, Y., & Ullman, S. (2010). Women's reporting of sexual and physical assaults to police in the National Violence Against Women Survey. *Violence Against Women, 16*, 262-279.
- Cihan, A., Zhang, Y., & Hoover, L. (2012). Police response time to in-progress burglary: A multilevel analysis. *Police Quarterly, 15*(3), 308-327.
- Clawson, C., & Chang, S. K. (1977). The relationship of response delays and arrest rates. *Journal of Police Science and Administration, 5*, 53-58.
- Clinard, M. B. (1942). The process of urbanization and criminal behavior. *American Journal of Sociology, 48*, 202-13.
- Clinard, M., B. (1944). Rural criminal offenders. *American Journal of Sociology, 50*, 38-45.
- Copes, H., Kerley, K. R., Mason, K. A., & Van Wyk, J. V. (2001) Reporting behavior of fraud victims and Black's theory of law: An empirical assessment. *Justice Quarterly, 18*, 343–363.
- Cordner, G., & Scarborough, K. (1997). Operationalization community policing in rural America: Sense and nonsense. In Q. Thurman & E. McGarrell (Eds.), *Community policing in a rural setting*. Cincinnati, OH: Anderson.
- Coupe, R. T., & Blake, L. (2005). The effects of patrol workloads and response strength on arrests at burglary emergencies. *Journal of Criminal Justice, 33*, 239-255.

- Crank, J.P., & Giacomazzi, A.L. (2007). Areal policing and public perceptions in a non-urban setting: One size fits one. *Policing: An International Journal of Police Strategies and Management*, 30(1), 108–131.
- Davies, K., Block, C. R., & Campbell, J. (2007). Seeking help from the police: Battered women's decisions and experiences. *Criminal Justice Studies*, 20, 15–41.
- Decker, S. (1979). The rural county sheriff: An issue in social control. *Criminal Justice Review*, 4, 97–111.
- DeKeseredy, W. S., & Rennison, C. M. (2013). Comparing female victims of separation/divorce assault across geographic regions. *International Journal for Crime and Justice*, 2(1), 65-81.
- Donnermeyer, J. F. (2012). Rural crime and critical criminology. In W.S. DeKeseredy & M. Dragiewicz (eds.), *Routledge Handbook of Critical Criminology* (pp. 290-302). London: Routledge.
- Donnermeyer, J. F., & DeKeseredy, W. (2008). Toward a rural critical criminology. *Southern Rural Sociology*, 23(2), 4-28.
- Donnermeyer, J. F., Jobes, P., & Barclay, E. (2006). Rural crime, poverty, and community. In W.S. DeKeseredy, W. S., & B. Perry (eds.), *Advancing critical criminology: Theory and application* (pp. 199-218). Lanham, MD: Lexington Books.
- Duhart, D. T. (2000). *Urban, Suburban, and Rural Victimization, 1993-1998*. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Falcone, D., Wells, E., & Weisheit, R. (2002). The small-town police department. *Policing: An International Journal of Police Strategies and Management*, 25, 371– 384.
- Felson, R. B. (1996). Big people hit little people: Sex differences in physical power and interpersonal violence. *Criminology*, 34, 433-452.
- Felson, R. B., & Ackerman, J. (2001). Arrest for domestic and other assaults. *Criminology*, 39(3), 655-676.
- Felson, R. B., Ackerman, J. M., & Gallagher, C. (2005). *Final report: Police intervention and the repeat of domestic assault*. Washington: National Institute of Justice.

- Felson, R. B., & Messner, S. F. (1996). To kill or not to kill? Lethal outcomes in injurious attacks. *Criminology*, 34, 519-545.
- Felson, R. B., Messner, S. F., & Hoskin, A. W. (1999). The victim–offender relationship and calling the police in assaults. *Criminology*, 37, 931-947.
- Felson, R. B., Messner, S. F., Hoskin, A. W., & Deane, G. (2002). Reasons for reporting and not reporting domestic violence to the police. *Criminology*, 40, 617–647.
- Felson, R. B., & Paré, P. P. (2005). *Final report: The reporting of domestic violence and sexual assault by nonstrangers to the police*. National Institute of Justice: Washington.
- Finkelhor, D., & Ormrod, R. K. (1999). Reporting crimes against juveniles. *Juvenile Justice Bulletin—NCJ178887*, 1–7.
- Finkelhor, D., & Ormrod, R. K. (2001). Factors in the underreporting of crimes against juveniles. *Child Maltreatment*, 6, 219–229.
- Garofalo, J. (1977). *The police and public opinion: An analysis of victimization and attitude data from 13 American cities*. Washington, DC: US Department of Justice.
- Gartner, R., & Macmillan, R. (1995). The effect of victim–offender relationship on reporting crimes of violence against women. *Canadian Journal of Criminology*, 37, 393–429.
- Gibson, J., & Kim, B. (2008). The effect of reporting errors on the cross-country relationship between inequality and crime. *Journal of Development Economics*, 87, 247-254.
- Gilling, D. and Pierpoint, H. (1999). Crime prevention in rural areas. In G. Dingwall and S. Moody. (Eds.). *Crime and Conflict in the Countryside*. Cardiff: University of Wales Press.
- Gottfredson, M. R., & Hindelang, M. J. (1979). A study of the behavior of law. *American Sociological Review*, 44, 3–18.
- Greenberg, M. S., & Ruback, R. B. (1992). *After the crime: Victim decision making*. New York: Plenum Press.

- Hart, T., & Rennison, C. (2003). *Reporting crime to the police, 1992 -2000*. BJS Special Report. Washington, DC: U.S. Department of Justice.
- Hashima, P., & Finkelhor, D. (1999). Violent victimization of youth versus adults in the national crime victimization survey. *Journal of Interpersonal Violence, 14*, 799–820.
- Heimer, K. (2008). *Understanding violence against women using the NCVS: What we know and where we need to go*. Washington: Bureau of Justice Statistics.
- Hogg, R., & Carrington, K. (2006). *Policing the rural crisis*. Sydney: Federation Press.
- Howerton, A. (2006). Police response to crime. *Journal of Ethnicity in Criminal Justice, 4*(3), 51-66.
- Jasinski, J. L. (2003). Police involvement in Incidents of physical assault: Analysis of the redesigned National Crime Victimization Survey. *Journal of Family Violence, 18*(3), 143-150.
- Jones, M. E. (1939). State police in a rural area. *Rural Sociology, 4*, 179-189.
- Kang, J. H., & Lynch, J. P. (2010). Calling the police in instances of family violence: Effects of victim-offender relationship and life stages. *Crime & Delinquency, 1*-26.
- Kaukinen, C. (2002a). The help-seeking decisions of violent crime victims: An examination of the direct and conditional effects of gender and the victim-offender relationship. *Journal of Interpersonal Violence, 17*, 432–456.
- Kaukinen, C. (2002b). The help-seeking of women violent crime victims: Findings from the Canadian Violence Against Women Survey. *International Journal of Sociology and Social Policy, 22*, 5–44.
- Klein, A. R. (2009). *Practical implications of current domestic violence research: For law enforcement, prosecutors and judges*. National Institute of Justice.
- Kruttschnitt, C. (1980–1). Social status and sentences of female offenders. *Law and Society Review, 15*(2), 247–266.
- Kuo, S., Cuvelier, S. J., Sheu, C., & Chang, K., (2012). Crime reporting behavior and Black's behavior of law. *International Sociology, 27*(1), 51-71.

- Lambert, E.G., Hogan, N.L., Barton, S.M., Jiang, S., Ventura, L., & Nerbonne, T. (2007). The impact of officer and agency characteristics on the likelihood of arrest in domestic violence situations among rural law enforcement officers. *Journal of Police and Criminal Psychology, 22*(2), 91–101.
- Laub, J. H. (1997). *Patterns of criminal victimization in the United States*. In Victims of Crime, eds. Robert C. Davis, Arthur J. Lurigio, and Wesley G. Skogan. Thousand Oaks, CA: Sage.
- Lauritsen, J. L., & Heimer, K. (2008). The gender gap in violent victimization, 1973–2005. *Journal of Quantitative Criminology, 24*, 125–147.
- Lauritsen, J. L., & Schaum, R. J. (2004). The social ecology of violence against women. *Criminology, 42*, 323–357.
- Lawtey, A. Deane, M., and Chamberlain, N. (2001). *Making rural communities safer: Consultation on community safety*. London: NACRO.
- Logan, T. K., Evans, L., Stevenson, E., & Jordan, C. E. (2005). Barriers to services for rural and urban survivors of rape. *Journal of Interpersonal Violence, 20*, 591–616.
- Lynch, J. P. (2002). Using citizen surveys to produce information on the police: The present and potential uses of the National Crime Victimization Survey. *Justice Research and Policy, 4*, 61–70.
- Marenin, O., & Copus, G. (1991). Policing rural Alaska. *American Journal of Police, 10*, 1–26.
- Marshall, B., & Johnson, S. (2005). *Crime in rural areas: A review of the literature for the rural evidence research centre*. London, England: Jill Dando Institute of Crime Science, Rural Evidence Research Centre.
- Mason, K. A., & Benson, M. L. (1996). The effect of social support on fraud victims' reporting behavior: A research note. *Justice Quarterly, 13*, 511–523.
- McEwen, J. T., Connors, E. F., & Cohen, M. I. (1984). *Evaluation of the differential police response field test*. Alexandria, VA: Research Management Associates.
- Miller, S. L. (1999). *Gender and community policing*. Boston, MA: Northwestern University Press.

- Mingay, G. (Ed.) (1989). *The Rural Idyll*. London: Routledge
- Mladenka, K. R., & Hill, K. Q. (1978). The distribution of urban police services. *The Journal of Politics*, 40, 112-133.
- Mooney, L. A. (1986). The influence of rank on the imposition of sanctions. *Wisconsin Sociologist*, 23(2/3), 100–106.
- Nicholas, R. (2007). *Policing responses to substance misuse in rural and remote indigenous communities*. Hobart, Tasmania: National Drug Law Enforcement Research Fund.
- O'Shea, T. C. (1999). Community policing in small town rural America: A comparison of police officer attitudes in Chicago and Baldwin county, Alabama. *Policing and Society: An International Journal*, 9(1), 59-76.
- Orcutt, J. D., & Faison, R. (1988). Sex-role attitude change and reporting of rape victimization, 1973-1985. *The Sociological Quarterly*, 29, 589-604.
- Payne, B. K., Berg, B. L., & Sun, I. Y. (2005). Policing in small town America: Dogs, drunks, disorder, and dysfunction. *Journal of Criminal Justice*, 33(1), 31-41.
- Paré P., Felson R. B., Ouimet M. (2007). Community variation in crime clearance: A multilevel analysis with comments on assessing police performance. *Journal of Quantitative Criminology*, 23, 243-258.
- Pelfrey, W.V. (2007). Style of policing adopted by rural police and deputies: An analysis of job satisfaction and community policing. *Policing: An International Journal of Police Strategies and Management*, 30(4), 620–363.
- Percy, S. (1980). Response time and citizen evaluation of police. *Journal of Police Science and Administration*, 8, 75-86.
- Pino, N. W., & Meier, R. F. (1999). Gender differences in rape reporting. *Sex Roles: A Journal of Research*, 40, 979–990.
- Rennison, C. (2001). *Violent Victimization and Race, 1993-98*. Washington, DC: U.S. Department of Justice, Bureau of Justice Statistics.
- Rennison, C. M., Dragiewicz, M., & DeKeseredy, W. M. (2013). Context matters: Violence against women and reporting to police in rural, suburban, and urban areas. *American Journal of Criminal Justice*, 38, 141-159.

- Ruback, R. B., & Menard, K. S. (2001). Rural–urban differences in sexual victimization and reporting: Analyses using UCR and crisis center data. *Criminal Justice and Behavior*, 28, 131–155.
- Ruback, R. B., Menard, K. S., Outlaw, M. C., & Shaffer, J. N. (1999). Normative advice to campus crime victims: Effects of gender, age, and alcohol. *Violence and Victims*, 14, 381–396.
- Schafer, J. A., & Giblin, M. J. (2010). Policing intimate partner violence in rural areas and small towns: Policies, practices, and perceptions. *Women & Criminal Justice*, 20(4), 283-301.
- Schmallegger, F. J., (2014). *Criminal justice: A brief introduction*. London, England: Pearson Education Inc.
- Skogan, W. G. (1984). Reporting crimes to the police: The status of world research. *Journal of Research in Crime and Delinquency*, 21, 113–137.
- Smith, R. (2010). Policing the changing landscape of rural crime: A case study from Scotland. *International Journal of Police Science and Management*, 12(3), 373-387.
- Smith, M. (1937). Tier counties and delinquency in Kansas. *Rural Sociology*, 2, 310-322.
- Sorokin, P. I., & Zimmerman, C. C. (1929). *Principles of Rural-Urban Sociology*. New York: H. Holt.
- Sorokin, P. I., Zimmerman, C. C., & Galpin, C. J. (1931). *A Systematic Sourcebook in Rural Sociology* (2 vols). Minneapolis: University of Minnesota Press.
- Sozer, M. A., & Merlo, A. V. (2012). The impact of community policing on crime rates: does the effect of community policing differ in large and small law enforcement agencies? *Police Practice and Research: An International Journal*.
- Sun, I. Y., Yuning, W., & Hu, R. (2013). Public assessments of the police in urban and rural China. *British Journal of Criminology*, 53, 643-664.
- Thurman, Q., & McGarrell, E. (1997). *Community policing in a rural setting*. Cincinnati, OH: Anderson.

- Truman, J. L. (2011). *Criminal victimization, 2010*. Washington, DC: Bureau of Justice Statistics, U.S. Department of Justice.
- Van Dijk, J. J. M. (1982). The victim's willingness to report to the police: A function of prosecution policy? In H. J. Schneider (Ed.), *The victim in international perspective: Papers and essays given at the third International Symposium on Victimology* (pp. 327–334). New York: De Gruyter.
- Van Hightower, N., Gorton, J., & DeMoss, L. (2000). Predictive models of domestic violence and fear of intimate partners among migrant and seasonal farm worker women. *Journal of Family Violence, 15*, 137–154.
- Warner, B. D. (1997). Community characteristics and the recording of crime: Police recording of citizens' complaints of burglary and assault. *Justice Quarterly, 14*, 631-650.
- Watkins, A. M. (2005). Examining the disparity between juvenile and adult victims in notifying the police: A study of mediating variables. *Journal of Research in Crime and Delinquency, 42*(3), 333–353.
- Websdale, N. (1995). An ethnographic assessment of the policing of domestic violence in rural eastern Kentucky. *Social Justice, 22*, 102–122.
- Websdale, N., & Johnson, B. (1998). An ethnostatistical comparison of the forms and levels of woman battering in urban and rural areas of Kentucky. *Criminal Justice Review, 23*, 161–196.
- Weisheit, R. A., & Donnermeyer, J. F. (2000). Change and continuity in crime in rural America. In G. LaFree (Ed.), *The nature of crime: Continuity and change* (pp. 309-358). Washington, DC: U.S. Department of Justice, National Institute of Justice.
- Weisheit, R., A., Wells, L., & Falcone, D. N. (1994). Community policing in small town and rural America. *Crime and Delinquency, 40*, 549–567.
- Weisheit, R. A., Falcone, D. N., & Wells, L. E. (1996/2006). *Crime and policing in rural and small-town America* (3rd ed.). Prospect Heights, IL: Waveland Press.
- Weisheit, R., A., Wells, L., & Falcone, D. N. (1995). *Crime and policing in rural and small-town America: An overview of the issues* (Final summary report presented to the National Institute of Justice. NCJ 154354). Washington, DC: National Institute of Justice, U.S. Department of Justice.

- Wells, L. E., & Falcone, D. N. (2008). Rural crime and policing in American Indian communities. *Southern Rural Sociology, 23*(2), 199-225.
- Wells, L. E. & Weisheit, R. A. (2004). Patterns of rural and urban crime: A county-level comparison. *Criminal Justice Review, 29*(1), 1-22.
- Wilson, O. W. (1950). *Police administration*. New York, NY: McGraw-Hill.
- Willson, P., McFarlane, J., Lemmey, D., & Malecha, A. (2001). Referring abused women: Does police assistance decrease abuse? *Clinical Nursing Research, 10*, 69-81.
- Xie, M. (2012). Area differences and time trends in crime reporting: Comparing New York with other metropolitan areas. *Justice Quarterly*.
- Xie, M., Pogarsky, G., Lynch, J. P., & McDowall, D. (2006). Prior police contact and subsequent victim reporting: Results from the NCVS. *Justice Quarterly, 23*(4), 481-501.
- Yarwood, R. (2010) An exclusive countryside? Crime concern, social exclusion and community policing in two English villages, *Policing and Society: An International Journal of Research and Policy, 20*(1), 61-78.
- Zaykowski, H. (2013). Reporting physical assault: How experiences with violence influence adolescents' response to victimization. *Youth Violence and Juvenile Justice, 11*(1), 44-59.