

Justice Is Not Blind: The Role  
of Race in Law Enforcement Decisions and Practices

by

Katherine M. Knight

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Doctoral Committee:

Professor Phoebe C. Ellsworth, Chair  
Professor Richard D. Gonzalez  
Professor Samuel R. Gross  
Professor James S. Jackson

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## Dedication

To my Grandma Knight for giving me a love of learning.  
To my Grandma Longenecker for showing me how to speak my mind.  
To my Grandpa Knight for teaching me about courage.  
And to my Grandpa Longenecker for demonstrating unending love, support, and grace.

Thank you also to my parents and sister for supporting me through the tears and trials, the ups and downs, and giving me light when all I could see was the darkness.

And to Ben—my hero, the rock upon which I lean, and the love of my life. You have held me up when all I wanted was to fall and made me smile every day I've known you. Thank you for making me laugh, challenging me to grow, and helping me see the world in a new way. Without you, my life would be less.

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## Chapter 1

### Introduction

High profile cases from around the country highlight how issues of race have moved to the forefront of the American field of law. Charges of racism, brutality, and bias can frequently be found in newspaper op eds, splashed on magazine covers, and reported on the nightly national news. The American system of law and order is supposed to be color-blind; however, more and more research indicates that it may be far from that ideal.

The front lines of the field of law are the members of law enforcement. Law enforcement officials make decisions that have far-reaching consequences -- their decisions can end a life, harm a reputation, or make an individual feel marginalized. However, law enforcement officials are also charged with the responsibility of protecting their community, and this responsibility must be weighed against all other decisions they make.

Because of their unique position, and the power of their decisions, a great deal of research in a variety of fields has focused on law enforcement. The practices, attitudes, and trends of police have been studied by researchers in fields like psychology, criminal justice, and sociology. However, there is a great deal of research that still needs to be

completed, particularly research that synthesizes research from across several of these fields.

The goal of this dissertation is to examine several ways that racial bias may affect the decisions that police make and to develop a measure to examine another area (police interrogations) where racial bias may affect the actions of police. It must be noted that the goal of this research is not to paint police as racists or law enforcement as a field that operates on stereotypes. Rather, the goal of this dissertation is to use a variety of methods to examine how police decisions may be affected by the race of individuals with the hope that the findings can be used by those in the law enforcement field to better their practices. Another goal is to develop a methodology for the study of police interrogations that may be used by other researchers to examine how factors like racial differences may affect police interrogation practices.

### *Study 1*

The most important decision a police official can make is if he should open fire. The majority of police shootings appear justified; however, in rare cases, individuals who are not armed and not threatening are accidentally shot by police who believe they are dangerous. Cases like that of Amadou Diallo, a case in which an innocent, unarmed black man was shot to death by NYC police and a case that will be discussed in detail as part of Chapter 2, highlight the potentially tragic consequences of law enforcement decisions.

In the days following the Diallo shooting, and other similar high-profile police shootings of black males, public outcry focused on the race of both the officer(s) and the victim. The primary question was if such a shooting would have occurred if Diallo had



been white instead of black. Because of the tragic consequences of mistaken shootings, researchers focused on determining if there was in fact a racial bias in how police perceived black suspects and if racial bias affects their shooting decisions. The first study of this dissertation contributes to that research by examining police shooting decisions and relating these decisions to implicit racial attitudes.

Chapter 2 focuses on how implicit racial attitudes may predict bias in police shooting decisions. The study combines two tasks that have been used repeatedly in social psychology research: the race implicit attitudes test and the shooter task. While social psychology has focused widely on how these shooting decisions are made, and the racial disparities that exist in these shooting decisions, no study to date has included both a measure of implicit racial attitudes and a shooting task in order to examine the relationship between the two. Implicit attitudes have the potential to influence shooting decisions because they tend to be related to more automatic responses (like the decision to shoot) compared to responses that offer the opportunity for deliberation. They also do not require the assumption that the person actually endorses the negative stereotype – cultural awareness of the negative stereotypes about Blacks in American culture may be enough to produce a bias on the implicit attitudes task.

The study is also unique because it contains a sample of both police cadets and college students. No study to date has examined the implicit racial attitudes of police officials and this study will be able to determine what these attitudes may look like at the beginning of a police career. This design also allows for a comparison between law enforcement and civilian samples. Findings confirming a relationship between the

implicit attitudes measure and a racial bias in shooting decisions would help to identify and area on which future police training may be able to focus.

### *Study 2*

The issue of racial profiling on highways has been significant for several decades. Racial profiling refers to the singling out of an individual (e.g., for a search) because that person's race matches a general "profile" of a group that supposedly disproportionately engages in a particular criminal behavior. For example, on American highways that have policies of drug interdiction, minority motorists may be more likely to be searched by police when they are stopped because the profile of a drug trafficker includes minority races.

Since concerns about racial profiling have begun to rise in recent years, particularly because of its unconstitutional nature, researchers and government officials have worked to examine if it is indeed a strategy employed by police. In one such attempt to study if racial profiling was occurring, the Bureau of Justice Statistics added a supplement to three years of its National Crime Victimization Survey that asked questions about traffic stops.

The second study of this dissertation uses data from those three years to see if there is a consistent pattern of biased action against minority motorists. The study is unique in that it uses both annual and concatenated data to examine if there are racial differences in police action, including ticketing, searching, and handcuffing. The data from the study are also nationally representative, which is an important addition to the literature because much of the research focused on racial profiling has concentrated in areas where drug interdiction policies are in place. This longitudinal data offers the

chance to see if racial profiling is occurring at a national level and how it may have changed from 1999 to 2005. While this study is restricted to self-report data, it builds on the first study because it may identify other actions that could be studied in relation to implicit attitudes.

### *Study 3*

High profile cases involving false confessions like the New York Jogger case, which will be discussed in Chapter 4, prompted researchers to examine the interrogation practices of police in greater detail. These cases also have resulted in cities and states across the country adopting policies that require law enforcement officials to record interrogations for some types of crimes in an attempt to protect suspects from illegal manipulation and officers from charges of coercion or abuse.

The goal of the third study is, first and foremost, to examine if legal outcomes are affected when a police department adopts a policy of mandated recording of custodial interrogations. While these policies are becoming more widespread in the United States, no study to date has systematically examined if such policies affect the legal outcomes (e.g., guilty pleas, confessions) in the cases where recording occurs. Determining if these outcomes change is important because law enforcement resistance to such policies are largely based on the assumption that they will hinder their ability to effectively question suspects and gain valuable evidence for cases (including confessions). The data for this study were collected from a volunteer pilot site and in cooperation with the State Bar of Michigan.

However, another important contribution of this study is that it involves the creation of an instrument to code police files for information that may help predict how

suspects are treated during an interrogation. The coding scheme developed for this study allows a case file to be coded for variables that may related to both legal outcomes and how an interrogation is conducted.

Real life interrogations have not been widely studied, largely because researchers are not granted access to materials. However, if these studies become more common it will be important to examine what factors, including race, may influence how a suspect is treated during an interrogation. Gaining a deeper understanding how real life interrogations look also provides the opportunity to identify other actions that may expose racially biased treatment.

These three studies attempt to identify, through different methods, how police actions may be influenced by race. It is the hope of the researcher that these findings may stimulate new research in this growing field and may also prove useful to law enforcement as an insight to areas where they can focus additional training.

## Chapter 2

### Implicit Racial Attitudes and Law Enforcement Shooting Decisions

Amadou Diallo had the misfortune of reminding some New York City police officers of a rape suspect they were looking for. As he returned from a late night meal, he was approached by four plainclothes officers who ordered him to stop and raise his hands. Instead, the 23 year old moved to enter his building and reached into his pocket. One officer yelled, “Gun!” and all the officers opened fire. After firing a total of 41 rounds, 19 of which struck Diallo, the Ghanaian immigrant lay dying with the wallet he had pulled from his pocket (McFadden & Roane, 1996).

The Diallo tragedy led to a public accusation that the police response to Diallo’s movement was unjustified and a result of racial profiling and prejudice. Many claimed that the shooting would not have occurred had he been white. But was the Diallo case, and other similar cases of wrongful death, truly the result of overt racist beliefs and systematic racial profiling, or of an unfortunate intersection of racial stereotypes and the automatic nature of split-second decision making? Social science research suggests that the split-second decisions police officers are required to make in dangerous situations may not be the result of conscious deliberation; rather, their behavioral response may be driven by an automatic impulse under little, if any, cognitive control (Fritsch, 2000; Payne, 2001, 2005). The officers in the Diallo case claimed that they truly believed their

lives were in danger and that he was reaching for a gun (Fritsch, 2000). However, research suggests that their interpretation of the situation may have been different had Diallo been white.

To examine this possibility it is necessary to consider several areas of research. First, there is research on the cultural stereotype of Blacks as violent and criminal. Second, I review the role of these stereotypes in determining implicit attitudes about race, and the effects of these attitudes on behaviors. Finally, the possible mechanisms through which stereotypes, implicit cognition, and limited cognitive resources combine to create potential problems in law enforcement are discussed.

### *Stereotype of Black Criminality*

As early as 1947 the stereotype of Blacks as violent and criminal was documented in psychological research. In a series of classic studies on rumor, Allport and Postman (Allport & Postman, 1947) would show a large group an image of two men, one white and one black, having a confrontation in a subway car. In the picture, the white man was holding a straight razor. A volunteer who never saw the picture was invited into the room and one of the audience members described the picture to him in as much detail as possible. Volunteers who had never seen the picture then entered the room one by one and had the picture described to them by the previous volunteer. In over half of the cases, at some point during the rumor chain the black man was mistakenly identified as the one who held the straight razor. Despite the civil rights movement and subsequent improvement of conditions for Blacks in American society, the stereotype of Blacks as violent remains prevalent. A survey of white college students measuring knowledge of

cultural stereotypes found that “criminal” was one of the ten attributes most often identified as part of the “Black stereotype” (Devine & Elliot, 1995).

Studies find that this stereotype affects not only memory; but also the direct perception of behavior. White college students are more likely to classify an ambiguous shove as “violent” when done by a Black (to either a white or black target) than when a White does the shoving (Duncan, 1976). Similarly, both black and white 6<sup>th</sup> grade students rate ambiguously aggressive acts as more mean and threatening when they are performed by a Black than by a White (Sagar & Schofield, 1980). Thus, the same action is judged by observers to be more violent when performed by a Black. In the Diallo case, these findings suggest that the same action (i.e., reaching into a coat pocket) by a White would have been perceived as less threatening to the officers and would not have elicited the same response.

Findings from priming research support the continued existence of the “Blacks as criminals” stereotype. Payne (Payne, 2001) presented non-Black participants with a reaction time task designed to determine whether people would be quicker to recognize weapons when the black race was primed. Participants saw a series of pictures on a computer screen and were instructed to ignore the first picture which acted as the racial prime—either a white or black face-- and to respond to the second picture by classifying the object as either a gun or a handtool. Participants were quicker to classify guns when the object was preceded by a black face than when a white face preceded it. In a subsequent study where participants had to respond in less than 500 milliseconds, significantly more tools were falsely identified as guns when the object was preceded by the black prime (Payne, 2001).

The same pattern of results occurs when the racial primes are delivered subliminally. When white male participants were asked to identify pixilated images gradually coming into focus that either were or were not associated with crime, they were able to identify crime items significantly sooner when they had been subliminally primed with black faces than with white faces in a previous task (Eberhardt, Goff, Purdie, & Davies, 2004). In another study white male participants showed an attentional bias toward black faces after being subliminally primed with crime-related objects (Eberhardt et al., 2004). These studies demonstrate that people are quicker to associate crime related items with Blacks than with Whites. In the Diallo case, this tendency may have caused police to “see” a weapon where none existed.

Research demonstrates that a behavioral bias consistent with racial stereotypes exists. But how conscious is this bias? It is important to distinguish whether the actions of police in the Diallo case, and similar cases, are the result of a conscious endorsement of stereotypes, the result of an unconscious impulse, or a product of both. Many researchers believe that overt racist bias is less prevalent than before, but that racial prejudice continues to be pervasive at an unconscious level. The study of unconscious bias has become a focus of research in social psychology through the study of implicit attitudes. The implicit attitudes literature provides one route to examine how racial biases, existing at an unconscious level, can affect behavior.

### *Stereotypes and Implicit Attitudes*

In the past, psychology relied heavily on self-report measures to assess racial prejudice and stereotypes, but nowadays self-report measures of racial prejudice suffer from an important limitation: social desirability. People who endorse racial stereotypes



in modern America are labeled “ignorant” at best and “bigoted” at worst. Therefore, the desire to appear unprejudiced will prevent some people from admitting prejudiced racial beliefs, thus limiting the conclusions that can be drawn from explicit measures (Greenwald & Banaji, 1995; Greenwald, McGhee, & Schwartz, 1998).

The study of implicit attitudes aims to avoid self-presentation biases by measuring stereotypes at the unconscious level. The implicit attitudes literature argues that certain associations between groups and traits (e.g., Blacks and criminal) exist outside of conscious control and affect the reactions of people toward these groups (Greenwald & Banaji, 1995; Karpinski & Hilton, 2001). The implicit association test (IAT) is a measure of the strength of association a person has between a particular group (e.g., Blacks or Whites) and a positive or negative concept (e.g., pleasant or unpleasant). Measuring these implicit associations allows the detection of racial stereotyping even in those who do not wish to express these attitudes, and even in those who do not consciously hold these beliefs, suggesting that this measure may be invaluable for studying stereotypes (Greenwald et al., 1998).

Despite sometimes being construed as a measure of prejudice, the IAT does not predict scores on measures of explicit racial attitudes (Greenwald et al., 1998; Karpinski & Hilton, 2001). Researchers explain this non-relationship as “expected,” claiming that since implicit and explicit measures tap into different sources of knowledge it is not just predictable, but vital, that the two measures have only a weak relationship (Greenwald & Banaji, 1995; Greenwald et al., 1998).

However, some researchers (Devine, 1989; Ehrlich, 1973; Karpinski & Hilton, 2001) suggest a different interpretation. They claim that it may be the *awareness* of the

stereotypes that exist in a culture that produces these seemingly racist associations; that is, a person may be committed to racial equality but still, unconsciously, act in a discriminatory manner due to general knowledge about pervasive racial stereotypes. This theory helps to explain why an IAT racial bias (i.e., White-good; Black-bad) exists even among Black participants (Nosek, Banaji, & Greenwald, 2002). Therefore, consistent with the environment association model of the IAT proposed by Karpinski and Hilton (2001) in this paper the IAT is considered a measure of racial associations that may result from a variety of sources in the environment. It is not considered a measurement of the *endorsement* of those associations.

Even if the IAT is not considered a direct measure of prejudice, it does predict biased behavior. Richeson and Shelton (Richeson & Shelton, 2005) found that positivity and prejudice ratings by Black, naïve coders predicted the IAT scores of White participants engaged in an interracial dyad. The scoring by White, naïve coders observing the dyad did not predict IAT scores. IAT scores also predicted less positive interactions with a Black experimenter compared to a White experimenter, as assessed by both trained judges and the experimenters' own judgment of the interaction (McConnell & Leibold, 2001). Microlevel behaviors in social interactions are also predicted by IAT scores. Participants who showed less bias on the IAT spoke more (with few hesitations and mistakes), made more extemporaneous social comments, and smiled more with a White experimenter than with a Black experimenter (McConnell & Leibold, 2001).

Many of the studies examining behaviors predicted by IAT scores aim to identify behaviors that may affect employment and hiring (Ziegert & Hanges, 2005). Police work is another domain involving frequent interaction between White officer and minority

civilians, so that unconscious racism may play a significant role, and perhaps lead to tragedies like the Diallo case. Police are in a rare position of power; they have even the right to take a life in some circumstances. Because of the seriousness of the outcomes of police decisions, understanding how implicit attitudes affect these decisions, particularly shooting decisions, has become a focus of research (Correll, Park, Judd, & Wittenbrink, 2002; Correll et al., 2007; Correll, Urland, & Ito, 2006; Payne, 2001, 2005; Peruche & Plant, 2006; Plant & Peruche, 2005; Plant, Peruche, & Butz, 2005) .

### *Police Shooting Decisions*

As discussed earlier, the stereotype of Blacks as criminal facilitates the identification of weapons (vs. hand tools) following a subliminal Black prime (Payne, 2001). While theoretically valuable, this and similar research does not closely match the experience of law enforcement officers. Other lines of research have attempted to more closely replicate the experience of officers by developing simulations to examine the effect of race on shooting decisions.

Correll and colleagues (2002) developed a video game simulation in which either a white or black male (the “target”) appeared in one of several poses against one of several backgrounds. The target was holding either a gun or a benign object (e.g., soda can, wallet). College student participants were significantly faster at deciding to “shoot” an armed target if the target was black than if he was white. They were also significantly faster to “not shoot” an unarmed target if he was white. This bias was found among both black and white participants in a community sample (Correll et al., 2002). A more complicated method developed by Greenwald and colleagues (Greenwald, Oakes, & Hoffman, 2003) used a “desktop virtual-reality weapons task” and found a similar pattern

of results. College participants had more difficulty distinguishing dangerous and benign objects when the objects were held by Blacks. Participants were also faster to give a “shoot” response when a weapon was held by a Black compared to a White. These studies relied on college and community samples; it is important to examine how findings may differ in police populations.

A follow-up study using the original video game task found that police officers made accurate decisions more quickly and were less trigger happy than a community sample. Despite this increased accuracy, the officers still showed a racial bias in that they were quicker to make stereotype-consistent (i.e., armed Black targets and unarmed White targets) than stereotype inconsistent (i.e., armed White targets and unarmed Black targets) decisions (Correll et al., 2007). Plant and Peruche (2005) found that police officers were more likely to mistakenly shoot unarmed Blacks than Whites on a similar shooting task. However, this bias was eliminated on later trials of the task as officers adjusted their detection criteria for Black targets to more closely match their detection criteria for White targets.

On this task, police officers who had more negative explicit attitudes about Black suspect criminality and more negative explicit attitudes about Blacks generally showed a stronger racial bias on the shooting task. Conversely, police officers reporting more positive contacts with Blacks outside of work were more likely than others to eliminate the racial bias after repeated exposure to the task, suggesting that attitudes are an important predictor of both behavior and the ability to change behavior (Peruche & Plant, 2006).

While these studies suggest that racial attitudes may play an important role in shooting decisions, no study to date has used a measure of implicit racial attitudes as a predictor of behavior. Measures of explicit racial attitudes have been used (Correll et al., 2007; Peruche & Plant, 2006), but because of the split-second nature of shooting decisions it is more reasonable to believe an unconscious process would be a better predictor of behavior. Stereotype research suggests that when the ability to consciously monitor behavior is inhibited (e.g., primes are subconsciously presented) people with both high and low levels of prejudice responded with stereotype-consistent explanations of ambiguous behaviors, supporting the theory that even low-prejudice individuals need the opportunity and time to inhibit stereotypical beliefs. This lack of cognitive control suggests that in shooting situations, police officers may not have the time necessary to inhibit biased responses.

Payne (2001; 2005) has suggested a dual-process model to explain weapon bias. First, stereotypic links must exist (i.e., Blacks and criminality). These links are often imbued with not just associations, but also with emotions. These associations and their accompanying emotions then act as an *automatic impulse* that directs behavior. There also exists an *intentional response*, which is the response that people have when they have full cognitive control. In a high cognitive control situation (i.e., a lot of time to make a conscious decision) the intentional response will direct the behavioral response. However, in a low cognitive control condition (i.e., limited time, lack of conscious decision) the automatic impulse directs the behavioral response, resulting in the weapons effect (Payne 2001; 2005).

Synthesizing the literatures of implicit attitudes and weapons bias makes theoretical sense because of the nature of shooting decisions. The lack of time and warning in these situations produces a climate ripe for behavior to be directed by unconscious associations and their accompanying automatic impulses. Combining these measures allows us to examine if the officers in the Diallo case shot because of a prejudiced view of Blacks as criminal or if their actions were the result of situational factors limiting conscious control and an awareness of negative racial associations.

### Study Goals

This study examined the link between measures of implicit racial attitudes (Greenwald et al., 1998) and explicit racial attitudes and a task designed to detect racial bias in shooting decisions (Correll et al., 2002; Correll et al., 2007; Correll et al., 2006). While both of these tasks have been used widely used in research, they have not been used together.

The study also extended the generality of previous research findings by studying participants from law enforcement. While some recent studies (Correll et al., 2007; Eberhardt et al., 2004; Plant & Peruche, 2005) have included participants from law enforcement in at least some part of their research, most of the research demonstrating a racial bias in shooting decisions (Correll et al., 2002; Correll et al., 2006; Greenwald, Oakes et al., 2003), the stereotype of Blacks as criminal (Duncan, 1976; Payne, 2001, 2005; Payne, Lambert, & Jacoby, 2002; Sagar & Schofield, 1980), and negative implicit attitudes about Blacks (Greenwald et al., 1998; Wittenbrink, Judd, & Park, 1997, 2001) has used civilians, and primarily college students, as participants. Because law enforcement officers actually *make* shooting decisions, and undergo rigorous training on

how to handle dangerous situations, it is vital to study this population to draw conclusions about variables influencing shooting decisions (Correll et al., 2007; Plant & Peruche, 2005).

The current study also takes advantage of the unique opportunity to study police cadets and asks a variety of questions relating specifically to law-oriented beliefs. For example, cadets were asked about their beliefs about false acquittals versus false convictions, the frequency of false confessions, and how they would approach certain interrogations. These measures were included as potential predictors of bias in both the IAT and the Shooter Task, but also as a way to identify future fruitful areas of study with police populations.

## Method

### *Participants*

*Police officers.* Seventy-two police cadets (95.8% male) were recruited from a law enforcement academy in the Midwest for participation. All police participants were recruited from a Basic Law Enforcement class and volunteered to participate after class hours during one of several experimental sessions. Participants ranged in age from 22 to 41 years,  $M = 27.39$  years,  $SD = 4.76$ .<sup>1</sup> While all of the cadets were relatively new to their positions, their level of training varied on based on what their individual departments offered. All hired police officers are required to enroll and complete the Basic Training course at the Academy within 12 months of being hired or they will lose their arrest privileges. Therefore, all of the cadets had been hired for less than a year.

*College students.* Eighty-four college students (53.6% male) were recruited through the University of Michigan Introductory Psychology Subject Pool and received

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<sup>1</sup> The racial make-up of this sample was lost due to a computer error.

course credit for participation. Participants ranged in age from 18 to 22 years,  $M = 18.95$  years,  $SD = .89$ .<sup>2</sup>

### *Materials*

When participants arrived they were given an informed consent sheet describing the research as a study about the attitudes of police and college students. After giving informed consent, participants proceeded at their own pace through a sequence of tasks on individual computers. All questionnaires, with the exception of the Acquittal Conviction Questionnaire, were administered using Inquisit™ software (Millisecond Software, LLC) on computers running Windows operating systems. The Acquittal-Conviction Questionnaire was given in hard copy and was completed after a prompt from the computer.

*Demographics.* The demographic questionnaire asked basic questions about the participants' sex, religious involvement, political affiliation, highest education level, and the type of location (rural, suburban, urban) where the cadet was raised and employed. Participants were then told that they would be completing the first reaction time task and presented with directions for the race IAT.

*Implicit racial attitudes (Race IAT).* The race IAT (Greenwald et al., 1998; Karpinski & Hilton, 2001) was chosen to be the first task completed after the demographics questionnaire in order to prevent carryover effects of any of the other measures involving the concepts of "race" or "criminality" from affecting the IAT results.

The IAT requires participants to respond to both stereotype consistent and stereotype inconsistent blocks. In stereotype consistent blocks, stereotypically white

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<sup>2</sup> The racial make-up of this sample was lost due to a computer error.



names shared a key with pleasant words, while stereotypically black names and unpleasant words shared a response key. In stereotype inconsistent blocks, stereotypically white names shared a key with unpleasant words while stereotypically black names shared a key with pleasant words. Because of the stereotype of Blacks as “bad” and Whites as “good,” participants should be able to more quickly respond to stimuli in the stereotype consistent blocks than in the inconsistent blocks. The greater the difference score between these pairing blocks (with quicker speeds on stereotype consistent blocks) is, the stronger a person’s associations are consistent with the racial stereotypes.

After practice blocks, participants completed both stereotype consistent and stereotype inconsistent blocks. Each of these pairing blocks had 40 trials with an additional practice block in between to remove order effects.

Names were pilot tested to select the most stereotypically “Black” (Ebony, Aaliyah, Shanice, Precious, Jazmin, and Tiara) and “White” (Amy, Emily, Hannah, Molly, Claire, and Allison) names from a list of the 20 most popular names for each of the races (Levitt & Dubner, 2005). Only female names were used because there was significantly less agreement about the racial stereotypicality of male names. The pleasant (rainbow, gift, joy, warmth, laughter, and health) and unpleasant (disaster, poison, vomit, failure, agony, and evil) words were drawn from a list of stimuli available through Dr. Anthony Greenwald’s website on the IAT.

*Implicit gender attitudes (Gender IAT).* The gender IAT was used as a filler task between the race IAT and the shoot-no shoot task to try to prevent the priming of race by the race IAT from affecting the results of the shooting task. The gender IAT followed the

same 7-block design as the race IAT task; however, the gender IAT focused on the stereotype of women being connected to the home and men to career. The target words were either female (Julia, Michelle, Anna, Rebecca, and Emily) or male (Ben, John, Daniel, Paul, and Jeffrey) names. The attribute words were either associated with the home (home, parents, children, family, wedding, and relatives) or careers (management, professional, corporation, salary, and business).

In stereotype consistent blocks, female names shared a response key with words associated with the home while male names shared a key with career-oriented words. The opposite combinations were used in the stereotype inconsistent block.

*Shoot-no shoot task.* The shoot-no-shoot task was developed by Correll and his colleagues (2002) to study the effect of ethnicity on shooting decisions. In a version of this simulation I developed using Inquisit software (Millisecond, L.L.C.) participants view a series of images showing a person in one of several settings (e.g., train station, park). The person is either white or black, and holds an object that is either harmless (e.g., cell phone, aluminum can, wallet) or dangerous (e.g., revolver or pistol). The “targets” appear in a variety of poses and appear on the screen one at a time. Participants are instructed to press one key if the target is armed (shoot decision) and to press another key if the target is unarmed (no-shoot decision). The participant is told whether the decision was right or wrong, and the next picture does not appear until the participant makes the correct decision. Participants are instructed to complete the task as quickly and accurately as possible. The task includes two practice blocks and two test blocks, each with 30 trials. To control for handedness, one practice and one test block have the “shoot” key on the left side while the remaining blocks have it on the right side.

*Acquittal-conviction questionnaire.* After completing the shoot-no shoot task, participants were instructed to complete the paper acquittal-conviction questionnaire. This questionnaire is adapted from previous research (Alattar, 2007) about which outcome -- false conviction or false acquittal -- people consider worse. This measure was included to identify if police and students differ on their beliefs about which outcome is worse as all past research has used college populations. Understanding how these populations may differ in these beliefs would be important to know for future research with police, especially research that concerns interrogations as these beliefs may influence how an officer would approach that interaction.

Participants read two short paragraphs describing crimes. In the first, a man is on trial for rape, in the second, for auto theft. For both cases participants are asked to choose which outcome -- false conviction or false acquittal -- would be worse. They then indicate on a 1 (only slightly more serious) to 9 (incomparably more serious) scale how *much* more serious the incorrect decision they chose was compared to the other.

As part of this questionnaire, participants also read 7 statements on about incorrect convictions (e.g., “Incorrect convictions are far worse because convicting people of crimes they didn’t commit is immoral.”) or incorrect acquittals (e.g., “Incorrect acquittals are far worse because crime is terrible these days, and we must do everything we can in order to curb it.”). Participants rated each statement on a 1 (strongly disagree) to 7 (strongly agree) scale.

*Interrogation questionnaire.* Law enforcement participants completed an additional paper questionnaire designed to assess whether certain suspect characteristics affect interrogation strategy. This questionnaire was included as a pilot to examine how

these responses might lead to further research—particularly research that compare novice to experienced police officers. It also provides more qualitative data about how race may affect interrogation strategy.

Participants randomly received one of two questionnaires, each of which contained two scenarios. The first scenario involved a suspect being interrogated because he matched the description of either a black (version 1) or white (version 2) suspect in the rape of a white victim. The second scenario was the interrogation of a suspect in an ATM robbery case where the victim was a black male and the perpetrator was a white male (version 1) or a white male with a mental handicap (version 2). For both scenarios participants were asked to describe their questioning strategy and to indicate how likely it was that the suspect would confess on a scale from 1 (not at all likely) to 7 (extremely likely).

*False confession questionnaire.* After completing the paper version of the acquittal-conviction questionnaire, participants continued to complete questionnaires on the computer. The false confession questionnaire was designed to examine participants' beliefs about the likelihood of a false confession and the possible reasons a person might falsely confess to a crime. This questionnaire was included to identify differences between the populations for future research on interrogation.

Participants responded on a 1 (not at all likely) to 5 (very likely) scale to two questions: 1) "How likely is it that a person would confess to a crime he or she didn't commit?" and 2) "How likely is it that a person who didn't commit a crime would be convicted of a crime?" Two open-ended questions were also included: 1) "For what

reasons might a person who didn't commit a crime confess to a crime?" and 2) "For what reasons might a person who didn't commit a crime be convicted of a crime?"

*Criminal justice attitudes.* The criminal justice attitudes questionnaire (Fitzgerald & Ellsworth, 1984) included 10 items intended to measure attitudes about several legal topics to see if law enforcement cadets were more oriented toward crime control than toward due process compared to college students. Participants responded on a 1 (agree strongly) to 5 (disagree strongly) scale to items such as, "A person on trial who doesn't take the witness stand and deny the crime is probably guilty," "If the police obtain evidence illegally it should not be permitted in court, even if it would help convict a guilty person," and "Even the worst criminal should be considered for mercy."

*Modern racism scale.* The Modern Racism Scale (McConahay, 1986) was designed to capture more subtle forms of racism as it became less socially acceptable to express overt racist beliefs. This measure was included as a predictor of performance on the Shooter Task and to examine its relationship with the IAT. The inclusion of the MRS also allows a comparison of the ability of implicit and explicit measures of racial bias to predict Shooter Task performance.

The scale consists of 7 items and has a 5 point response scale anchored at 1 ("strongly disagree") to 5 ("strongly agree"). Scale items include: 1) "It is easy to understand the anger of black people in America," 2) "I am against racial preferences in hiring and education," 3) "Blacks are getting too demanding in their push for equal rights," 4) "Over the past few years Blacks have gotten more economically than they deserve," 5) "Over the past few years the government and news media have shown more respect to Blacks than they deserve," 6) "Blacks should not push themselves where

they're not wanted,” and 7) “Discrimination against Blacks is no longer a problem in the United States.” The “racial preferences in hiring and education” item replaced an original item concerning attitudes toward bussing policies. This change was intended to modernize the questionnaire. The scale was reliable,  $\alpha = .82$ .

After completing this questionnaire, participants were debriefed and given a written debriefing form explaining the study. They were also thanked for their participation.

## Results

### *IAT Findings*

Results from the Race IAT were calculated using the improved scoring algorithm outlined by Greenwald and colleagues (Greenwald, Nosek, & Banaji, 2003). For the scoring, all trials that exceeded 10,000 ms (10 seconds) were excluded from analysis. The new algorithm also suggests removing respondents for whom more than 10% of trials have latencies of less than 300 ms because such short response times indicate the participant is not attending to the task. Data from these participants were excluded from all IAT analyses presented in this section and elsewhere. It is important to note that the 9 subjects excluded based on this criterion were all police cadets.

*General findings.* The average latency for trials where stereotypically black names were paired with pleasant words was higher ( $M = 1134$  ms,  $SD = 328$ ) than for trials where stereotypically white names were paired with pleasant words,  $M = 784$  ms,  $SD = 200$ ;  $t(146) = 16.92$ ,  $p < .001$ . The mean percentage of trials with errors when pairing black names with pleasant words ( $M = 8.61$  ms,  $SD = .66$ ) was also higher than

trials pairing white names and pleasant words,  $M = 5.58$  ms,  $SD = .51$ ;  $t(146) = 5.17$ ,  $p < .001$ .

The improved algorithm (Greenwald, et al., 2003) calculates a measure,  $D$ , that represents implicit White preference (i.e., representing greater ease in trials where stereotypically white names are paired with pleasant words). In the current sample the average White preference was evident ( $M = .58$ ,  $SD = .31$ ) and consistent with other IAT  $D$  mean effects for Black-White attitude collected through internet studies with thousands of subjects (see Nosek, Greenwald, & Banaji, 2005 for race IAT  $D$  mean effects ranging from .47-.54).

*Group difference findings.* The unique quality of the current study was to compare IAT results between a law enforcement and non-law enforcement population (Table 2.1). The average latencies of police cadets were significantly slower ( $M = 1279$  ms,  $SD = 44$ ) than those of college students ( $M = 1025$  ms,  $SD = 270$ ) when stereotypically black names were paired with pleasant words,  $t(145) = 5.01$ ,  $p < .001$ . The same pattern held for the pairing of white names with pleasant words: cadets ( $M = 842$  ms,  $SD = 27$ ) were significantly slower than college students,  $M = 741$  ms,  $SD = 176$ ;  $t(145) = 3.12$ ,  $p = .002$ . These findings are interesting because cadets consistently had slower reaction times than college students. This difference may be the result of the cadets having less familiarity with these kinds of tasks (i.e., introductory psychology students regularly participate in research studies involving computer tasks) or that cadets were trying to be more careful with how they answered. However, the difference in latencies is larger for the pairing of black names with pleasant words than vice versa.

Police cadets had a significantly higher implicit White preference ( $M = .65$ ,  $SD = .31$ ) than college students,  $M = .52$ ,  $SD = .30$ ;  $t(145) = 2.59$ ,  $p = .01$ . The implicit preference of police cadets is unusually high compared to the scores collected in internet studies with large numbers of participants (e.g., Nosek, et al., 2005). The error percentage observed for Black-pleasant pairing trials was significantly larger for cadets ( $M = 10.81\%$ ,  $SD = 9.73$ ) than college students,  $M = 6.96\%$ ,  $SD = 6.06$ ;  $t(145) = 2.94$ ,  $p = .004$ . There was no significant difference in error percentages for White-pleasant pairings between cadets ( $M = 5.16\%$ ,  $SD = 6.32$ ) and college students,  $M = 5.89$ ,  $SD = 6.07$ ;  $t(145) = .71$ ,  $p = .48$ .

Past research has found that prior experience with the IAT task (which would be more likely among college student participants) can reduce the IAT effect (e.g., Greenwald & Nosek, 2001; Greenwald, et al., 2003). Larger IAT effects are also observed among older participants (Greenwald & Nosek, 2001; Hummert, Garstka, O'Brien, Greenwald, & Mellott, 2002). These findings would suggest that the significant differences between the groups may be explained by these factors; however, the new scoring algorithm reduces these effects and the IAT effect observed among the cadets is larger than effects reported in other studies, including ones with very large samples (Greenwald, et al., 2003). Age was only marginally related to the IAT effect in the current study,  $r = .142$ ,  $p = .09$ . The IAT task for this study was also presented before any other reaction time task so it is unlikely that any practice effects had a significant impact on observed effects. It is reasonable to assume that the difference observed between the groups is real and not an artifact of age difference or IAT exposure.



*Relationship with explicit measure of racial attitudes.* In addition to implicit racial association findings, the Modern Racism Scale (MRS) also revealed significant differences between college students and police cadets. Police cadets scored significantly higher ( $M = 19.62, SD = 4.73$ ) than college students ( $M = 15.95, SD = 4.79$ ) on this self-report measure,  $t(145) = 4.62, p < .001$ . This relationship might be explained in part because of the significant positive relationship between age and MRS scores,  $r = .30, p < .001$ . Only one of the seven items (“I am against racial preferences in hiring and education.”) did not show a significant difference between cadets ( $M = 3.79, SD = 1.10$ ) and college students,  $M = 3.64, SD = 1.17; t(145) = .80, p = .43$ . Results for all items on the scale are summarized in Table 2.2. There was a significant positive linear relationship between the MRS score and IAT effect,  $r = .180, p = .03$ . Therefore, scores indicating higher modern racism were associated with greater bias for White-pleasant pairings.

However, the significant positive relationship was driven by the college students rather than by the cadets. There was no significant linear relationship between the implicit and explicit measures among cadets,  $r = -.05, p = .71$ . The positive linear relationship between the MRS and race IAT was significant among the college participants,  $r = .24, p < .03$ . So while cadets displayed higher MRS scores and a greater IAT preference for Whites, the relationship between these two variables resulted because they were related among college students, not among the cadets.

### *Shooter Task*

Calculations for the Shooter Task were done using guidelines from an earlier article that used the measure (Correll, et al., 2002) and to remain consistent with IAT

exclusion criteria. For all latency calculations all trials with incorrect responses were excluded. No additional participant exclusions had to be made. Latencies were log transformed for analyses (Correll, et al., 2002; Correll, et al., 2007) but means are presented in their millisecond form in text for ease of interpretation.

*General findings.* Mean latencies for all four target pairings are presented in Table 2.3. Latencies were quickest when the target was White and armed and slowest for when the target was White and unarmed. To examine reaction times, a  $2 \times 2 \times 2$  mixed model analysis of variance (ANOVA) was used. The between subjects factor was sample (cadet vs. college student) and the within subjects factors were target race (Black vs. White) and weapon presence (armed vs. unarmed).

Consistent with past research (Correll, et al., 2007), there was a main effect for gun presence ( $F(1, 142) = 196.76, p < .001$ ). Latencies for trials where targets were armed were significantly lower ( $M = 722$  ms,  $SD = 118$ ) than for trials where targets were not armed,  $M = 790$  ms,  $SD = 109$ . A main effect for race also existed where decisions for Black targets were significantly faster ( $M = 750$  ms,  $SD = 112$ ) compared to when targets were White,  $M = 762$ ,  $SD = 109$ ;  $F(1, 142) = 9.85, p = .002$ . The interaction between race and gun presence only approached significance ( $F(1, 142) = 3.42, p = .07$ ) indicating that black race coupled with a weapon produced a quicker reaction. There was also no significant main effect for group,  $F(1, 142) = .18, p = .67$ .

A measure of racial bias was calculated<sup>3</sup> but was not significantly different between cadets ( $M = -.03, SD = .14$ ) and college students,  $M = -.01, SD = .13$ ;  $t(143) =$

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<sup>3</sup>  $(\ln RT_{\text{Black-unarmed}} - \ln RT_{\text{White-unarmed}}) + (\ln RT_{\text{White-armed}} - \ln RT_{\text{Black-armed}})$   
Higher scores indicate greater racial bias (Correll, et al., 2007).

.87,  $p = .39$ . There were also no differences between the groups on the number of mistakes made or average latency across any of the four pairings (see Table 2.4).

*Shooter task and IAT findings.* The IAT effect was not correlated with the number of mistakes made in any of the four target attribute pairings (Black-Armed, Black-Unarmed, White-Armed, White-Unarmed). However, the MRS did have a positive correlation ( $r = .17, p = .04$ ) with the number of mistakes made when the target was Black and unarmed showing an association between higher modern racism and the tendency to incorrectly shoot an unarmed Black target. The racial bias measure for the shooter task was not correlated with the IAT effect ( $r = -.04, p = .65$ ) but did have a marginally significant correlation with the score on the MRS ( $r = -.16, p = .06$ ) indicating that perhaps an explicit measure of racism is a better predictor of bias in shooting decisions than an implicit measure.

A linear regression with the shooter task racial bias measure entered as a DV and age, MRS score, and IAT effect entered as IVs was not significant,  $F(3, 144) = 1.53, p = .21$ . However, the regression model with the number of mistakes made when the target was Black and unarmed entered as a DV and age, MRS score, and IAT effect entered as the IVs was significant,  $F(3, 146) = 2.94, p = .04$ . The IAT effect ( $\beta = -.17, p = .04$ ) and MRS score ( $\beta = .20, p = .02$ ) were the two significant predictors. These results indicate that while implicit racial associations were related to the number of times an unarmed Black target was incorrectly shot, the overall racial bias in the shooter task was not related to implicit biases. In other words, the measure of bias (calculated from reaction time) on the shooter task was not related to the measure of implicit racism. However, bias in the IAT task *did* predict the number of mistakes made when a target was black

and unarmed. The implicit measure did predict outcomes like that seen in publicized cases like Diallo. So while the implicit measure was not a significant predictor of time biases, it was a predictor of a particular outcome bias.

#### *Acquittals/Convictions Findings*

Additional interesting findings from the study focused on opinion differences between students and cadets regarding false convictions and acquittals. The Acquittal-Conviction Questionnaire (ACQ) required participants to choose whether a false conviction or false conviction would be worse after reading a short paragraph about a crime. When the suspect in the paragraph was arrested for a sexual assault, there was no significant difference between cadets and students on if a false acquittal or false conviction would be worse,  $\chi^2 = 2.12, p = .16$ . However, when the suspect had been arrested for a less serious crime (i.e., auto theft) significantly more students believed false conviction was worse than false acquittal, though in both samples false convictions were seen as worse,  $\chi^2 = 5.55, p = .02$ . Therefore, in serious crimes the trend was for both cadets and college students to believe that false conviction would be worse than false acquittal; however, when the crime was less serious the tendency of police to believe that false acquittals were worse appeared.

The False Confession Questionnaire found that police ( $M = 2.86, SD = 1.40$ ) and college students ( $M = 3.21, SD = 1.55$ ) did not significantly differ in their estimation of the likelihood of a person confessing to a crime he did not commit,  $t(145) = 1.44, p = .15$ . However, they did differ in beliefs about how likely it was that a person who did not commit a crime would be convicted of that crime. Police cadets believed false

convictions were less likely ( $M = 3.21$ ,  $SD = 1.45$ ) than did college students,  $M = 3.89$ ,  $SD = 1.42$ ;  $t(145) = 2.87$ ,  $p = .005$ .

The groups also differed on two items from the False Convictions-Acquittals Questionnaire. Police cadets disagreed more ( $M = 5.02$ ,  $SD = 1.41$ ) than college students ( $M = 5.55$ ,  $SD = .95$ ) with the statement, “Incorrect convictions are far worse [than incorrect acquittals] because convicting people of crimes they didn’t commit is immoral.” Conversely, police agreed more ( $M = 3.90$ ,  $SD = 1.53$ ) than college students ( $M = 2.81$ ,  $SD = 1.45$ ) with the statement, “Incorrect acquittals are far worse [than incorrect convictions] because police and prosecutors know what they are doing; they would never arrest and charge someone for no reason.” No other individual items on the scale showed significant differences (see Table 2.5).

The significant differences on the two items from the False Convictions-Acquittals Questionnaire indicated that there might be an underlying difference between cadets and students on attitudes toward false convictions vs. false acquittals. To examine this possibility, two subscales were created from the False Convictions-Acquittals Questionnaire by averaging the items that stated “false acquittals are far worse” together and averaging items beginning “false convictions are far worse” in a separate subscale. Cadets scored higher ( $M = 4.08$ ,  $SD = 1.14$ ) than college students ( $M = 3.78$ ,  $SD = 1.09$ ) on the “false acquittals worse” subscale, indicating that they generally viewed false acquittals as being worse than false convictions. The reverse pattern was seen on the “false convictions worse” subscale. College students ( $M = 5.06$ ,  $SD = 1.02$ ) scored higher than cadets ( $M = 4.83$ ,  $SD = 1.15$ ) indicating students generally viewed false convictions as worse. These results should be interpreted cautiously because they are not

statistically significant, they are meant to only explore trends. The “false convictions far worse” subscale did have a significant negative linear relationship with the MRS ( $r = -.20, p = .02$ ) while the “false acquittals far worse” subscale had a significant positive linear relationship with the MRS ( $r = .20, p = .01$ ) indicating that beliefs about false convictions and acquittals are related to endorsing modern racist beliefs. The positive relationship between MRS scores and the belief that false acquittals are worse suggests that people with greater modern racist beliefs may be biased toward convictions.

### *Criminal Justice Attitudes*

Cadets and college students also differed on a number of attitudes about criminal justice topics. Supporting earlier findings regarding cadets’ opinions of false acquittals, the cadet sample *disagreed* significantly more ( $M = 3.22, SD = 1.26$ ) with the statement, “It is better for society to let some guilty people go free than to risk convicting an innocent person,” compared to college students,  $M = 2.76, SD = 1.14; t(145) = 2.32, p = .02$ . Not surprisingly, cadets ( $M = 4.05, SD = 1.07$ ) were also significantly less likely to endorse showing mercy toward criminals than college students,  $M = 3.18, SD = 1.17; t(145) = 4.61, p < .001$ .

Overall, the Criminal Justice Questionnaire items showed that police cadets were more oriented toward punishment and an assumption of guilt than students. Complete results from the questionnaire can be found in Table 2.6.

## Discussion

### *IAT and Shooter Task*

The results of this study offer the first evidence that law enforcement personnel and college students differ in their implicit racial attitudes. Given the frequent charges of

biased behavior toward minorities by police officers, this research suggests that some of the behavior may be explained in part by greater implicit negative associations with Blacks. Cadets in this study were found to have an implicit bias favoring Whites that was not only larger than the bias of college student, but also significantly larger than IAT effects observed in large samples of people taking the Race IAT online (see Nosek, et al., 2005). This large bias suggests that this particular group of cadets was not just more biased than college students, but more biased than a large, representative population. To the extent that these cadets represent a “typical” American police cadet it can be inferred that law enforcement officials early in their career show a greater implicit bias for Whites and against Blacks.

Some people would argue that an implicit bias against Blacks may be natural among law enforcement officials because of the disproportionate amount of violent crimes committed by Blacks, especially in certain areas. However, these cadets were all within 12 months of being hired onto the police force; therefore, this early bias suggests more of a self-selection process than the bias being produced by anything occurring in their everyday experience. The bias showing up shortly after hire suggests that cadets are going *into* their careers already having an implicit bias, not that it is something they are picking up from on the job experiences. This large bias indicates that perhaps new cadets enter their careers very aware of the stereotype of black criminality and may rely on the resulting implicit bias to make certain decisions.

This difference in IAT scores between police cadets and college students is worthy of more study. One limitation of the current study is that it was able to assess implicit attitudes only at one particular time. In the instance of the cadets, it might be

very valuable to follow the cadets through several years of their career to see if the bias is attenuated or increased by their on the job experience. Past research with police and the shooter task (Correll, et al., 2007) found that law enforcement officials who worked in more urban, high crime areas showed a great bias in their latencies (i.e., quicker to shoot armed Black than armed White targets) in reacting to the simulated targets. While this bias was only seen in their latencies, and not in the eventual decisions they made (i.e., the number of mistakes), it is evidence that the environment in which an officer works may shape his implicit associations. Therefore, it would be expected that officers in areas where Blacks commit a large portion of the crime may show an increase in their IAT biases over time while those working in areas where Whites commit a large portion of the crime would see a decrease in their bias. Following up to see how implicit biases are shaped by department factors (e.g., diversity of officers, diversity programs and training) is another valuable future direction. Finally, examining how implicit racial attitudes may affect other decisions made by officers (e.g., vehicle stops, handcuffing) would allow us to see if these biases are in fact predicting law enforcement behavior.

While the IAT effect difference between cadets and college students is an important finding, the effect itself failed to predict reaction time performance on the shooter task as hypothesized. IAT bias was not related to differences in latencies between black and white targets. The shooter task did replicate earlier findings with the task in finding that armed trials yielded faster reaction times than unarmed trials and trials with black targets had lower latencies than those with white targets (Correll et al., 2002; Correll et al., 2007; Correll et al., 2006; Greenwald, Oakes et al., 2003). The interaction between race and weapon presences approached significance, as observed in other



research (e.g., Correll, et al., 2007); however, there was no effect of group membership meaning that differences in reaction times were not seen between the groups.

However, racial bias from latencies was not predicted by IAT scores. In fact, the explicit measure of racism (the MRS) was the measure that had a marginally significant correlation with the racial bias in shooter task latencies, suggesting that perhaps explicit measures of racism may be more related to latency findings on the task. This finding is important because implicit measures have been a new focus in research on split-second decisions; however, these findings suggest that perhaps, in terms of latencies, biases may be better predicted by more explicit measures of attitudes.

The Shooter Task does provide the opportunity to examine not just the latency scores of correct decisions, but to also analyze mistakes that are made by participants. IAT scores *did* predict the number of mistakes that were made when the target was black and unarmed. The score on the Modern Racism Scale was also a significant predictor of mistakes on these trials. Predicting these mistakes is an important quality for both these measures because it shows their ability to predict an actual *outcome* on the task rather than simply a reaction time. In a real-life situation it would be this outcome that would be examined, not necessarily the exact time it took to make it. The significance of both tasks also demonstrates convergent validity for the implicit and explicit measures.

It is important to note that the current research did not replicate the past research that compared civilians to law enforcement officials on Shooter Task performance. Correll and colleagues (Correll, et al., 2007) found significant differences between law enforcement officials and local civilians on the task. Specifically, veteran police officers were better than civilians – they made correct decisions on the task more quickly, were

better able to detect the presence of a weapon, and were less trigger-happy (particularly when the target was black and unarmed) than their civilian counterparts. But while police were better in that their final decisions were more likely to be correct (e.g., fewer mistakes) than civilians, both samples showed a clear racial bias in terms of latencies. The difference was just that members of law enforcement were more likely to make correct ultimate decisions. It is noted that this pattern reflects law enforcement training to hold fire until certain (Correll, et al., 2007).

However, the fact that the current study does not replicate earlier findings is not discouraging; rather, it provides further insight to how police abilities may change over the course of the career. Officials in the earlier study (Correll, et al., 2007) were veteran police officers whereas the officers in the current study are within the first 12 months of their careers. The current study supplies support for the notion that the better performance of officers in comparison to civilians in the Correll study is a function of expertise rather than simply self-selection. Reported in Correll et al. (2007) are preliminary results from a still unpublished study focused on 39 entering police recruits found that when the recruits entered the academy they performed just like a civilian sample on the Shooter Task. The current study replicates those preliminary results and together with the Correll et al. (2007) study they suggest that police training may help to eliminate bias in decisions, if not in decision latencies.

*False Acquittals vs. False Convictions*

The current study also provided the first evidence that police officers differ from civilians in their beliefs about which outcome is worse: a false conviction or a false acquittal. When presented with two crimes, police and civilians agreed that in the case of the more serious crime (rape) false conviction would be worse; however, when the crime was less serious false acquittal was considered worse by cadets and false conviction considered worse by students. Cadets also believed that false convictions were less likely than did college students, suggesting that cadets have greater faith in the legal system to correctly prosecute (or correctly acquit) suspects. Finally, on a scale asking why false convictions or false acquittals were worse, cadets were more likely to support the notion that the latter were worse while college students believed the former was the worse outcome.

These results are intriguing because they offer an inside glimpse of law enforcement beliefs about legal outcomes. Police generally view false acquittals as being worse than false convictions, a pattern that could be due to a number of reasons. First, police may take the view that a false acquittal is worse simply because it means a guilty person is going free and may re-offend. Second, from a practical law enforcement perspective, this outcome may mean that police or prosecutors did not do their jobs properly and therefore a guilty party goes unpunished. However, it is interesting to explore then the fact that the injustice of a false conviction is twofold: 1) an innocent person is being punished, and 2) the guilty party is free to re-offend. Therefore, it would seem that those in law enforcement should be particularly outraged by false convictions because they mean not only the incarceration of an innocent person but also that a guilty party is free.

The fact that police officers believe that false convictions are less likely than college students believe is interesting. The finding could be because police officers may have certain experience with the rarity of false convictions while college students are more aware of cases where false convictions occurred (i.e., basically a difference in the availability heuristic of the groups). It may also be that police officers believe, rightly or wrongly, that once a person is brought to trial the investigation has been thorough enough that an innocent person could not be convicted. Or, it could be a belief that a guilty person would not be brought to trial. These results deserve further examination in future studies.

### *Limitations*

There are several limitations to the current study. First, while police cadets and college students are roughly equivalent groups in some ways (e.g., both “students”) they are significantly different in other ways. The police cadets had a significantly higher age than the college students and were also more racially homogenous. Given that the study focused on racial attitudes, both of these factors could be significant confounds. The groups also differ in that the police sample is more “self-selected” than the college students. The cadets have chosen the career of law enforcement and are likely more similar in many ways (e.g., background, beliefs) than the college students who represent a wide variety of majors.

Second, results indicate that the tasks of the study were taken more seriously by the college students than by the police cadets, several of whom were excluded based on their low latencies for the IAT. Because this task was a reaction time task, not attending fully to the task or failing to take the task seriously may have affected results.

Finally, the external validity of the shooter task is not particularly high. While the task has been used widely in research, it does not closely represent the reality of a shooting situation. The poses of the subjects, the necessity of making the “correct” decision before moving on, and the sequential nature of the task are not true-to-life and therefore might be unable to adequately capture any relationship between implicit racial associations and shooting decisions. A true shooting decision also does not require an action to “not shoot,” it only requires the *inhibition* of an action. The current task requires that an action is performed in both the shoot and no shoot conditions – a significant difference from a true shooting situation. This lack of external validity could have disproportionately affected the cadet sample as they may have been exposed to other virtual shooting tasks.

#### *Future Studies*

The first goal of future studies should be to more thoroughly examine relationships between various predictors (i.e., implicit bias, explicit bias, area where employed) and performance on the Shooter Task. Because of the life and death ramifications of shooting decisions, research should focus on identifying factors that may influence these decisions. Based on the current work it appears that not only implicit, but also explicit, measures of bias should be considered as potentially important predictors.

Future studies would also benefit from a longitudinal design that would allow for a tracking of implicit associations during an officer’s career to examine how these associations may change over time and how changes may be connected to specific trainings or area policed. A Shooter Task that more accurately approximated the true

experience of making a shooting decision would also help to better predict actual police behavior.

Finally, future studies of implicit attitudes and police behaviors should expand their focus beyond shooting decisions. Police go through a great deal of training on shooting decisions; therefore, their responses to these kinds of decisions may be very automatic and controlled compared to other behaviors. Examining behaviors that are less “trained” or that involve greater subjectivity may yield stronger associations between implicit biases and behavior. For example, the decisions made during a traffic stop (e.g., giving a ticket vs. warning, deciding to search a vehicle) may be more subjective than shooting decisions and thus more likely to be correlated with implicit biases.

Further examination on police attitudes concerning the criminal justice system, specifically those regarded false acquittals vs. false convictions would provide valuable insight into how police view the system in which they work. Qualitative research focusing on police perceptions of the criminal justice system, and how these perceptions evolve, would allow for a more thorough study of the lens through which police act. Studies that examine these beliefs should also examine how the beliefs are related to how police view and interpret evidence, testify in court, and perceive jury verdicts to get a more complete picture of how these beliefs may impact criminal justice outcomes. In addition, it would be worthy to study these attitudes over time to see if they change during the course of a law enforcement career.

The study of implicit attitudes and their influence on police decision making is a growing field with the potential to offer results with significant potential to be applied to better train law enforcement officials and understand their decisions. But while implicit

attitudes offer an exciting avenue to study behavior, the current research also suggests that explicit attitudes should also be closely examined as they too still predict decision-making.

Table 2.1

*IAT Latencies Between Groups*

	Time (ms)	<i>t</i>	<i>Df</i>	<i>p</i>
Stereotype Inconsistent				
Cadets	1279	5.01	145	<.001
College Students	1025			
Stereotype Consistent				
Cadets	842	3.12	145	.002
College Students	741			



Table 2.2

*Modern Racism Scale Item Comparisons Between Groups*

		<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
It is easy to understand the anger of black people in America.	Cadets	3.48	1.05	3.66	<.001
	College Students	2.77	1.23		
I am against racial preferences in hiring and education	Cadets	3.79	1.10	0.80	.43
	College Students	3.64	1.17		
Blacks are getting too demanding in their push for equal rights.	Cadets	2.83	1.20	2.41	.02
	College Students	2.37	1.08		
Over the past few years Blacks have gotten more economically than they deserve.	Cadets	2.46	1.00	2.84	.005
	College Students	2.00	0.96		
Over the past few years the government and news media have shown more respect to Blacks than the deserve.	Cadets	2.38	0.97	3.70	<.001
	College Students	1.82	0.85		
Blacks should not push themselves where they are not wanted.	Cadets	2.27	0.99	3.27	.001
	College Students	1.76	0.89		
Discrimination against Blacks is no longer a problem in the United States.	Cadets	2.41	0.99	5.52	<.001
	College Students	1.58	.82		

*Note: df for all t-tests was 145*

Table 2.3

*Mean Latencies for Correct Decisions Made by Target Type and Group*

	Time (ms)	<i>t</i>	<i>Df</i>	<i>p</i>
White-Armed				
Cadets	714	.79	143	.43
College Students	731			
Black-Armed				
Cadets	729	.62	143	.54
College Students	715			
White-Unarmed				
Cadets	801	.01	143	.99
College Students	772			
Black- Unarmed				
Cadets	791	.88	143	.38
College Students	801			

*Note: A trial was counted as a correct when a subject chose to shoot an armed target or chose to not shoot an unarmed target.*

Table 2.4

*Mean Mistakes Made by Target Type and Group*

	Mean	SD	<i>t</i>	<i>df</i>	<i>p</i>
White-Armed					
Cadets	1.68	1.83	1.19	145	.24
College Students	2.07	2.06			
Black-Armed					
Cadets	1.56	1.49	.11	145	.91
College Students	1.58	1.51			
White-Unarmed					
Cadets	1.92	1.84	.01	145	.99
College Students	1.92	1.69			
Black- Unarmed					
Cadets	1.97	2.21	.02	145	.98
College Students	1.98	1.83			

*Note: A trial was counted as a correct when a subject chose to shoot an armed target or chose to not shoot an unarmed target.*

Table 2.5

*Acquittal-Conviction Questionnaire Item Differences Between Groups*

		<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Incorrect acquittals are far worse because crime is terrible these days, and we must do everything we can in order to curb it.	Cadets	3.21	1.79	0.98	.33
	College Students	2.94	1.49		
Incorrect convictions are far worse because every conviction of an innocent person is a threat to the liberty of all of us.	Cadets	5.22	1.50	0.69	.49
	College Students	5.38	1.27		
Incorrect convictions are far worse because whenever I hear about cases of people being put in jail for no reason, it makes me worry that it could happen to me.	Cadets	4.25	1.56	.06	.95
	College Students	4.24	1.59		
Incorrect acquittals are far worse because occasional wrongful convictions are a necessary evil that we have to accept in order to protect the vast majority of our citizens who are completely law abiding.	Cadets	3.40	1.54	.79	.43
	College Students	3.60	1.50		
Incorrect convictions are far worse because convicting people of crimes they didn't commit is immoral.	Cadets	5.02	1.41	2.73	.007
	College Students	5.55	0.95		
Incorrect acquittals are far worse because it really upsets me when I hear about cases where criminals go unpunished.	Cadets	4.83	1.73	.15	.88
	College Students	4.79	1.51		
Incorrect acquittals are far worse because police and prosecutors know what they are doing; they would never arrest and charge someone for no reason.	Cadets	3.90	1.53	4.42	<.001
	College Students	2.81	1.45		

*Note: df for all t-tests was 145*

Table 2.6

*Criminal Justice Attitudes Questionnaire Item Differences Between Groups*

		<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
It is better for society to let some guilty people go free than to risk convicting an innocent person.	Cadets	3.22	1.25	2.32	.02
	College Students	2.76	1.14		
A person on trial who does not take the witness stand and deny the crime is probably guilty.	Cadets	3.43	1.00	0.21	.84
	College Students	3.39	1.05		
Even the worst criminal should be considered for mercy.	Cadets	4.05	1.07	4.61	<.001
	College Students	3.18	1.17		
District attorneys have to be watched carefully, since they will use any means they can to get convictions.	Cadets	3.44	0.91	4.79	<.001
	College Students	2.69	0.97		
All laws should be strictly enforced, no matter what the results.	Cadets	2.65	1.07	2.92	.004
	College Students	3.15	1.01		
A person would not be brought to trial unless he or she were guilty of a crime.	Cadets	3.16	1.08	7.72	<.001
	College Students	4.36	0.80		
If the police obtain evidence illegally it should not be permitted in court, even if it would help convict a guilty person.	Cadets	2.84	1.37	0.63	.53
	College Students	2.98	1.21		
The plea of insanity is a loophole allowing too many guilty people to go free.	Cadets	2.16	1.13	1.40	.16
	College Students	2.42	1.09		
Harsher treatment of criminals is not the solution to the crime problem.	Cadets	3.70	1.10	6.10	<.001
	College Students	2.56	1.13		
Defense attorneys have to be watched carefully, since they will use any means to get their clients off.	Cadets	2.24	1.10	2.18	.03
	College Students	2.62	1.00		

*Note: df for all t-tests was 145*

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## Chapter 3

### Analysis of Racial Disparities in Citations, Searches, and Seizures

#### During Traffic Stops

Racial profiling can be defined as the targeting of members of a racial group for some form of police action because the officers involved believe that members of that group are more likely than others to engage in criminal behavior in general, rather than because the officers have information that connects them to specific crimes. It has become a hot issue in policing and law research. Some law enforcement officers and researchers have claimed that racial profiling is an acceptable policing strategy because there are racial disparities in the commission of certain crimes (Kennedy, 1997; Taylor & Whitney, 1999). Others claim that it is a policing strategy based on negative stereotypes or resulting from racism, and that it is illegal even if it does help predict criminal behavior (Lamberth, 1996; Lundman & Kaufman, 2003).

Racial profiling on the highway flowered as a byproduct of the War on Drugs from the 1980s. During this period, law enforcement officials focused on aggressively targeting drug dealers and drug traffickers as part of “Operation Pipeline,” a national crack-down on drug trafficking on the highways that was orchestrated by the Federal Drug Enforcement Administration (Engel & Calnon, 2004b). As part of Operation Pipeline training, police officials were given “profiles” of drug offenders as an identification aid. For example, the first racial profile was developed to help stem the

tide of drugs moving from Miami to the Northeast. In the profile, race (specifically, being a minority) was mentioned as a specific characteristic of drug couriers, and officials were trained to conduct pretextual stops (i.e., stopping those who match profiles ostensibly for some other, usually minor or subjective, traffic offenses) in order to search for illegal drugs (Harris, 1999).

Research on racial profiling has been difficult, in part because of the difficulty in determining benchmarks, for example an appropriate way of estimating characteristics of the “driving but not-stopped” population (Engel & Calnon, 2004a; Engel, Calnon, & Bernard, 2002; Ramirez, McDevitt, & Farrell, 2000). Despite this difficulty, research has revealed some disturbing trends regarding the differential treatment of racial groups on the road. This study adds to that body of research by examining three years of the national Police-Public Contact Survey, a major periodic survey that examines interactions between civilian and police officers in the United States.

#### Prior Research

##### *Traffic Stops*

If racial profiling is occurring on the roadways, it would be reflected first in different rates of traffic stops between minority and white motorists. In research on a stretch of I-95 in New Jersey that was for the site of intensive of drug interdiction, Blacks were almost twice as likely as Whites to be stopped by police (Gross & Barnes, 2002). Lamberth (1996) found similar disparities in stop rates for the same stretch of highway. He designed an observational study to examine the traffic offense rates for Blacks and Whites. Despite representing only 17.5% of traffic offenders, Blacks represented 28.8% of stopped motorists (Lamberth, 1996).

In a similar observational study on the New Jersey turnpike, Lamberth found that Blacks represented 35% of the population that was pulled over while representing only 15% of traffic violators (Lamberth, 1998). This traffic stop differential was also found in Richmond, VA where minorities were pulled over at a rate disproportionate to their representation in the driving eligible population during a six-week period in 2000 (Smith & Petrocelli, 2001). And analyses of national data from the 1999 Police-Public Contact survey found that Blacks and Hispanics were significantly more likely to report being stopped by police (Lundman & Kaufman, 2003). Young, black males were the most likely to be stopped (Engel & Calnon, 2004b; Lundman & Kaufman, 2003). Taken together, these results strongly suggest that minority motorists are being pulled over at disproportional rates compared to Whites.

The current research will first extend past research by including a large sample of Hispanic drivers. While some studies based on the secondary analysis of data (e.g., Gross & Barnes, 2002) have been able to report data for Hispanic samples, many observational studies have focused exclusively on black-white differences in order to increase the reliability of reporting observed race in moving vehicles. The current study also focuses on a large, representative sample of the national population whereas most similar research has focused on small geographic regions where drug interdiction policies exist. Consistent with past research on traffic stops it is expected in the current study that a higher percentage of black and Hispanic motorists will report being stopped by police compared to white motorists.

### *Citations*

Research indicates that minority motorists who are stopped are also more likely than white motorists to receive traffic citations. An examination of data from the 1999 Police-Public Contact Survey found that among stopped drivers, 57.3% of black drivers and 62.6% of Hispanic drivers reported receiving a traffic citation compared to 49.9% of white drivers (Engel & Calnon, 2004b). In a study of major Ohio cities, Harris (1999) found that, after controlling for the percentage of black households without cars, Blacks were more than 2 times as likely as Whites to receive a traffic citation. One possible reason Blacks receive more citations than Whites even when their offending rates are similar is a difference in average severity of traffic offense between the groups. Studies in both New Jersey (Lange, Blackman, & Johnson, 2001) and Pennsylvania (Engel & Calnon, 2004a) have found that there are racial differences in speeding behavior that may explain the differential rates of citations. However, the New Jersey study has a number of flaws (including the exclusion of large amounts of unusable data) that bring its results into question (Kadane & Lamberth, 2008). It is unlikely that a difference in average traffic offense severity can completely explain the differing rates of citations.

A study by Kadane and Lamberth (2008) supports the notion that offense severity does not explain differing rates of citations by conducting a more methodologically sound study, along a stretch of the New Jersey Turnpike. In their first study a survey vehicle made 25 trips along a stretch of the Turnpike driving at 4 mph over the posted speed limit and a researcher noted the race/ethnicity of drivers who passed the survey vehicle. Nineteen percent of offenders were black. To examine the possibility that a greater proportion of “egregious speeders” (going 15 or more miles over the posted speed limit) were Blacks, a second study used a radar gun mounted inside a vehicle traveling at the

speed limit as a survey vehicle. Using speeds from the radar gun and researcher observation of race, Kadane and Lamberth found that Black drivers made up approximately 19% of the egregious speeders. However, when these observational results were compared to police data reporting the actual number of stops along the same stretch of road, a great disparity emerged: more than 30% of traffic stops were of Black. Black speeders were more than 2 times as likely as white speeders to be stopped and egregious black speeders were 1.87 times more likely than white egregious speeders to be stopped (Kadane & Lamberth, 2008).

The current study will not allow a comparison of speeders to egregious speeders, but will provide other insights into the rates at which police issue citations. For example, little research has focused on rates of receiving a warning or being released without any police action during a traffic stop. The *Soto* case (a court case brought against the New Jersey State Police for racial profiling along I-95) found that Blacks were disproportionately represented among motorists who were stopped but did not receive a citation suggesting that stops of Blacks may have been more likely to be pretextual than those of Whites. The Police-Public Contact Surveys offer the unique opportunity to examine three possible, non-arrest outcomes of traffic stops in greater detail: no action, warning, and ticket.

Based on past research it is expected that in all three years of the Police-Public Contact Survey a higher rate of minority drivers who are stopped will report receiving tickets relative to stopped white drivers. This hypothesis contradicts the findings of *Soto*, but the current study is from a nationally representative sample compared to *Soto* which focused on an area with a policy of drug interdiction. In particular, it is expected that

there will be an increase in citations issued to Hispanic drivers due to the increased saliency of illegal immigration, particularly in some parts of the country, from 1999 to 2005. Because a warning is a less serious outcome than a ticket, issuing warnings disproportionately to white motorists may be one way that racial bias can be observed. It is expected that a greater percentage of Whites will report being issued warnings compared to Blacks and Hispanics. Consistent with past data, it is also expected that Black drivers will be more likely than other racial groups to be released with no action.

### *Searches*

While some studies have found no difference in the rates of searching white and minority drivers (e.g., Smith & Petrocelli, 2001), many studies find significant differences in search rates among racial groups (Durose, Schmitt, & Langan, 2005, 2007; Gross & Barnes, 2002; Lamberth, 1996; Langan, Greenfeld, Smith, Durose, & Levin, 2001). In a study of stops on a stretch of I-95 near Baltimore, Blacks were more than 5 times as likely as Whites to be searched (Gross & Barnes, 2002). Analysis of data from the 1999 Police-Public Contact Survey found that both Blacks and Hispanics were more than twice as likely as Whites to experience a search during a traffic stop (Engel & Calnon, 2004b).

Generally, a search would be considered “successful” when it yields contraband, but the success of the search also depends on the size of the cache of contraband. The goal of interdiction programs is not to identify recreational drug users; rather it is to find and arrest drug traffickers. The best strategy would allow police to identify drivers who are most likely to be carrying *large* quantities of drugs—not simply those who have any amount of contraband.

However, nothing is truly known about the rates at which drugs are carried by certain groups on the roadways. The only rates we have are for drivers who were stopped and searched by the police, and the decisions to stop and search could have been based on many possible reasons, including bias. Furthermore, any strategy using race as a criteria to stop drivers would be unconstitutional and would subject large percentages of certain racial groups to searches simply because a small minority of the group is more likely to be carrying large quantities of drugs (Knowles, Persico, & Todd, 2001). The findings of studies that focused on stopped drivers will be reviewed, but should be viewed as not necessarily representing true patterns among entire racial groups.

In the I-95 study in Maryland, Black and Hispanic drivers who were searched were no more likely than Whites to be carrying drugs, despite being stopped more frequently (Gross & Barnes, 2002). In fact, Whites that were searched were more likely to be carrying contraband than their minority counterparts. However, minority drivers were searched disproportionately more likely than white drivers to be carrying *large* quantities of contraband. Other studies have also found higher rates of successful searches among Whites compared to minorities (Lamberth, 1996; Spitzer, 1999; Zingraff et al., 2000)

The current study will allow data for searches and seizures to be analyzed from a nationally representative sample compared to the geographically restricted studies from the past. While it will not be possible to pinpoint exact locations of searches (i.e., determine if drug interdiction policies are likely), the data will allow for a rough analysis to see if differential rates of searches are focused in MSA areas compared to less densely populated regions. Other data about respondents will help identify other characteristics



(outside of race) that would increase the likelihood of a search. The surveys will also allow for an analysis of a larger sample of Hispanic drivers than other studies.

It is expected that, consistent with past research, minority drivers will be searched at a higher rate than white drivers. It is also hypothesized that a smaller percentage of minority drivers will report being caught with contraband. Other characteristics expected to predict searches include age, sex, and MSA status.

### Methods

This study is an analysis of secondary data from three different collection periods. All data are drawn from the Police-Public Contact Survey (PPCS), which is designed to examine interactions between civilians and police (with particular focus on traffic stops) and it has been included as a supplement to the National Crime Victimization Survey (NCVS) three times: in 1999, 2002, and 2005. The NCVS is a Bureau of Justice Statistics survey designed to estimate victimization rates and record crime characteristics. It is administered by the U.S. Census Bureau every three years and uses a complex panel survey design. Because of its large scale and reasonable standardization during all three administrations, the PPCS is a promising way to examine racial profiling through self-reports of interactions with police. Details for the three samples used in this study are outlined below.

#### *1999 PPCS*

The PPCS took place during the last six months of 1999. At this time, there were 94,717 people over the age of 16 in the NCVS sample; 80,543 of these people completed the PPCS. The response rate (85%) for the PPCS was high, but slightly lower than the NCVS response rate (89%). This PPCS sample weights to a national sample of 209,350,

600 (Langan, et al., 2001). The percentages of males (48.2%) and females (51.8%) were consistent Census projections, as were the percentages of Whites (74.1%), Blacks (11.7%), Hispanics (10.2%), and people identifying as other races (4.3%). Twenty-one percent of the sample had had contact with police during the last 12 months.

Of the total 1999 PPCS sample, 6.7 % of females and 11.2% males reported being stopped by police as the driver of a vehicle in the last 12 months. A higher percentage of Hispanics (17.4 %) reported being stopped as the driver of a vehicle compared to Whites (9.1%), Blacks (8.4%) and respondents of other races, 2.9%.

#### *2002 PPCS*

The 2002 PPCS supplement took place during the last six months of 2002 and included 76, 910 respondents of the total over 16 NCVS sample (93,410). The response rate for the PPCS (82%) was high, but lower than the NCVS response rate (87%). The sample weights to a national sample of 215, 536, 780 (Durose, et al., 2005). The percentages of men (45.6%) and women (54.4%) were slightly unbalanced. The sample was racially diverse among Whites (73.7%), Blacks (10.5%), Hispanics (11.6%) and people that identified as other races (4.1%). Roughly one-fifth of the sample (20.5%) had had contact with police in the previous 12 months (Durose, et al., 2005).

Of the total 2002 PPCS sample, 9.4% of men and 5.6% of women reported having their most recent face to face contact with police was as the driver during a traffic stop. Whites reported the highest proportion (7.6%) compared to Blacks (6.8%), Hispanics (6.5%), and drivers of other races, 5.6%.

## *2005 PPCS*

The 2005 PPCS supplement is from the last six months of 2005. There were a total of 63,943 participants from the total NCVS sample (80,237). The response rate for the PPCS (80%) was lower than the NCVS response rate (87%) and the PPCS sample weights to a national estimate of 228,040,117 people. All participants were over the age of 16 (Durose, et al., 2007). The percentages of men (45.5%) and women (54.5%) were not equal and the sample of racially diverse among Whites (72%), Blacks (10.7%), Hispanics (11.5%), and other races (5.8%). Just under one-fifth (18.5%) of the sample reported having police contact during the last 12 months (Durose, et al., 2007).

Of the total 2005 PPCS sample, a higher proportion of men (9.5%) compared to women (5.7%) reported that their most recent contact with police was as the driver during a traffic stop. Whites again reported the highest rate (7.5%) among the racial groups: Black (5.7%), Hispanic (6.7%), and other races (6.3%).

## Results

### *Outcomes and Procedures*

#### *Analysis Samples*

*1999 sample.* For the analyses that follow, a restricted sample was used. Because the research focused on traffic stop outcomes, only those respondents who reported being the driver during a traffic stop in the last 12 months were included in analyses. The current sample (N = 7,027) was 58.2 % male (41.8 % female) with a diverse mix of White (78.0 %), Black (9.9%), Hispanic (8.5 %), and other race (3.6 %) respondents.

*2002 sample.* The analysis sample for the 2002 PPCS (N = 5628) was 58.4 % male (41.6 % female). Like the 1999 PPCS, the 2002 respondents were racially diverse.

Whites (76.9 %) were the largest group followed by Hispanics (10.0 %), Blacks (9.7 %), and respondents who reported another race, 3.4 %. The decrease in sample between the 1999 and 2002 surveys is largely explained by a difference in survey design: in 1999 a person responded to traffic stop items if they had been stopped any time in the past 12 months while in 2002 traffic stop items were only asked if that stop had also been the most *recent* contact the respondent had had with police and had occurred in the last 12 months. The surveys from 2002 and 2005 use the same design.

*2005 sample.* The 2005 PPCS analysis sample (N = 4744) includes individuals for whom their most recent contact with police was as the driver during a traffic stop (the same definition as the 2002 sample). The sample had more males (58.2 %) than females (41.8 %) and the sample was racially diverse. Whites remained the largest group (75.5 %) followed by Hispanics (9.9 %), Blacks (8.6 %), and respondents identifying as another race, 5.9%<sup>4</sup>.

### *Reason for Stop*

One important factor in considering why a motorist may have been stopped is the *reason* he reported he was stopped. Across all years of the PPCS survey the most common reason reported was “speeding.” Other reasons included other moving violations (e.g., illegal lane change, failure to stop at a stop sign/light), seatbelt violations, and drunk driving. The reasons motorists reported being stopped and their data are reported in Table 3.1 for all 3 years.

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<sup>4</sup> The increase in percentage for the last group (and decrease in other groups) compared to the previous surveys can be explained by a new question for racial identification. In the 1999 and 2002 surveys participants could choose from only 3 races (White, Black, and Other) and then indicate Hispanic origin. Beginning in 2005 there were more than 20 racial groups to choose from and the Hispanic origin item.

Consistent with past research (Engel & Calnon, 2002), stopped white motorists were more likely than motorists of other racial groups to report speeding as the reason they were stopped. Black and Hispanic drivers were more likely than Whites to be stopped for non-speeding offenses, license/registration checks, suspicion, and vehicle defects. These differences in reasons for stop are interesting as they indicate that minority drivers report being stopped at greater rates for reasons that may be more subjective than the reasons Whites reported being stopped. However, as stated by Engel and Calnon (2004) it is impossible to know if these stops are truly pretextual or if perhaps there are systematic differences across racial groups that make it more likely for minority drivers to be stopped for offenses like vehicle defects (e.g., vehicle quality).

#### *Citations*

*1999 PPCS.* In the PPCS dataset there are three possible non-arrest outcomes for a traffic stop: receiving a ticket, receiving a warning (written or verbal), or being released with no action. Replicating and extending earlier research with this dataset (Engel & Calnon, 2004), disparities existed between races with regard to these outcomes. Non-arrest outcome results for all survey years are summarized in Table 3.2.

The least serious outcome of a traffic stop is for an officer to take no action. This outcome was reported to be lower for Whites (17.5%) compared to the other possible outcomes, indicating that a traffic stop typically results in some kind of action. A higher percentage of Blacks reported being released with no action (18.7 %) compared to receiving a warning. Hispanics were the group least likely to report being released with no action, 11.1 %. Respondents of other races reported a low rate (12.1 %) of being released with no action. These differences were significant,  $\chi^2(3) = 18.02, p < .001$

In comparison, Whites were more likely (29.7 %) to report being given a warning than being released with no action. However, Blacks (18.9 %) and Hispanics (24.4 %) were less likely than Whites to report receiving only a warning. Respondents of other races also reported receiving warnings at a lower rate (21.5 %) than Whites. These differences were significant,  $\chi^2(3) = 48.05, p < .001$ . The most serious of the non-arrest outcomes is receiving a ticket. A smaller percentage of white motorists (49.9 %) reported receiving a ticket compared to Blacks (57.3 %), Hispanics (62.8 %), and respondents of other races, 61.4 %. These differences were significant,  $\chi^2(3) = 53.58, p < .001$ .

#### *2002 PPCS*

Results from the 2002 PPCS were consistent with the 1999 survey. Stopped black motorists (18.8%) were again the group most likely to report that the police took no action compared to white (13.9%), Hispanic (10.4 %), and other race (6.4 %) motorists.  $\chi^2(3) = 27.74, p < .001$ . Like in 1999, White motorists were again the group most likely to report receiving only a warning (27.4 %). Respondents of other races reported a decreased percentage of warnings (20.3%) compared to 1999; however their reported rate of receiving warnings was still higher than rates reported by Blacks (18.3 %) or Hispanics, 18.2 %;  $\chi^2(3) = 42.36, p < .001$ .

A greater percentage of white motorists (56.5 %) reported receiving a ticket compared to 1999. The percentage of black motorists reporting receiving a ticket also increased (58.4 %), though less dramatically than for Whites. However, the groups reporting the largest increases in tickets were Hispanics (71.5 %) and respondents of other races, 73.1 %. Among all races there was a significant difference in the likelihood of receiving a ticket,  $\chi^2(3) = 58.45, p < .001$ .

It is unclear why the ticketing rates increased in 2002 compared to the rates reported in the 1999 survey. The increase in ticketing among Hispanic and drivers of other minority races was particularly dramatic. One possible explanation is that the issue of illegal immigration may have been more salient to police in 2002, leading to a great number of stops among Hispanics as an unofficial way of enforcing immigration policy. Another potential explanation is the change in survey format in 2002 where drivers were only asked about traffic stops if it was their most recent police contact.

#### *2005 PPCS*

In 2005 Blacks were again the racial group reporting the greatest rate of being released after a traffic stop with no action, 17.6%. Stopped white drivers (13.4 %) were more likely than Hispanics (11.6 %) and drivers of other races (10.8 %) to report having no action taken against them during a traffic stop. The group differences were significant,  $\chi^2(3) = 8.97, p = .03$ . Consistent with the other years, stopped white drivers were more likely to report receiving a warning (28.4 %) than black (22.1 %), Hispanic (20.4 %), and other race (24.2 %) drivers,  $\chi^2(3) = 19.76, p < .001$ .

Stopped Hispanic drivers reported a high rate of receiving tickets (65.0 %) compared to other drivers. The rates of reported tickets for Whites (56.2 %) and Blacks (55.8%) were equivalent while stopped drivers of other races again reported high (63.5 %) rates. The group differences were significantly different,  $\chi^2(3) = 16.23, p = .001$ .

Taken together, these results indicate that minority motorists are more likely to receive the harshest, non-arrest outcome during a traffic (i.e., ticketing) and less likely to receive the middle outcome of a warning. The pattern could be explained by two factors or their combination: 1) Police bias toward minority motorists increases the rate of

ticketing among these drivers compared to Whites, or 2) The traffic offenses committed by minority motorists are more likely to be offenses warranting the issuance of a ticket. Additionally, black motorists were more likely than white motorists to be released without any type of citation indicating that perhaps stops of black motorists may be more likely to be pretextual compared to stops of Whites.

In order to more closely examine the variables that might predict non-arrest traffic outcomes, logistic regression analyses were conducted. Each regression had a binary dependent variable (action vs. no action, warning vs. no warning, and ticket vs. no ticket) and a several categorical independent variables (i.e., sex, race, income). For each outcome and year, three models were built in order to compare them.

*No Action logistic regressions.* To identify predictors of no police action during a traffic stop, three separate logistic regression models were built for the 1999 data. The variables included in each model are listed in Table 3.3. All models predicted outcomes better than a model including only the intercept; however, the middle model, which included demographic variables and the reason for the traffic stop was the best fit. This model explained the most variance (as assessed by a Cox-Snell pseudo- $R^2$  statistic;  $R^2_{CS} = .23$ ) and had the highest degree of fit,  $F(16, 127) = 52.06$ . Significant predictors of receiving no action included age, MSA status, and the reason the driver reported being stopped (Table 3.4). Specifically, drivers of Hispanic origin were 35 % less likely than their white counterparts to report having no police action during a traffic stop. Being stopped for a reason other than speeding increased the odds that an individual would be released with no police action. Living in either a non-central MSA area or MSA central city increased the odds that a person would not be released without police action



The most complete logistic regression model (which included demographics, the reason for being stopped and the number of police officers) was the best predictor for the 2002 data (Table 3.5). The model was a better fit than an intercept-only model ( $F(18, 126) = 46.91, p < .001$ ) and the model explained a moderate amount of variance,  $R^2_{CS} = .21$ . Age, living in an MSA central city and being stopped for a non-speeding offense were all significant predictors of being released with no police action. Being older, living in a non-MSA area, and being stopped for a non-speeding offense all increased the likelihood of being released with no police action. Individuals who reported living in a MSA central city area were less likely to be released with no police action (Table 3.6).

Like in 1999, the model of middle complexity was best at prediction outcomes in 2005. The model included demographic variables and the reason reported for the stop (Table 3.7). This model was significantly better at prediction than a model including only the intercept ( $F(18, 127) = 28.62, p < .001$ ) and explained a moderate level of variance,  $R^2_{CS} = .19$ . Significant predictors of a no police action outcome again were age, MSA status, and the reason for the stop. Consistent with the other survey years, being older, living in a non-MSA area, and being stopped for a non-speeding offense all increased the likelihood of being released with no police action (Table 3.8).

Taken together, the results from the three survey years indicate that race is not a significant predictor of being released from a traffic stop with no police action. However, certain variables that may be related to race based (e.g., living in an MSA area, being stopped for a non-speeding violation) may be confounded with race. Consistent predictors that increase the likelihood of being released with no police action are being older, living in a non-MSA area, and being stopped for a non-speeding offense. The

current data do not support the notion that race predicts no police action during a traffic stop. It is of interest to note that the odds of being released with no action if the driver is black are greater than the odds of release for a white driver across all three years, but these increased odds are not significant when examined with other predictors.

*Warning logistic regressions.* The logistic regressions designed to predict warnings were less strong than those to predict no action and ticketing – the models to predict warnings all explained less than 10 % of variance (as calculated by a Cox-Snell statistic) and while significantly better than models including only an intercept for predicting receiving a warning, the models did not have impressive overall fit.

The mid-level model (including demographic characteristics and reason for stop) had the best fit of the three models calculated for the 1999 data (Table. 3.9). The model explained a small amount of variance ( $R^2_{CS} = .06$ ) and was significantly better than an intercept-only model at predicting outcomes,  $F(16, 127) = 15.01, p < .001$ . Significant predictors of receiving a warning included MSA status, race, sex, and the reason for the stop. Having an income of less than \$20,000 was a marginally significant predictor. Specifically, those with lower incomes, men, minorities, living in an MSA area, and some traffic offenses other than speeding decreased the likelihood of receiving a warning. The odds of receiving a warning were 23 % higher for women than men. The odds of receiving a warning were 37 % lower for Blacks and 32 % lower for Hispanics than for Whites. Being stopped for a vehicle defect increased the odds of being released with only a warning while being stopped for a roadside check, record check, or because of suspicion all decreased the odds of being given a warning (Table 3.10).

For 2002, the model including demographic variables and the reason for the stop was also the best predictor of outcomes (Table 3.11). Approximately 6% of variance was explained by the model and the model was a significantly better fit than an intercept only model,  $F(18, 126) = 10.69, p < .001$ . Like the 1999 model, the prediction and explanatory value of this model is not high. Significant predictors of receiving a warning were sex, race, and the reported reason for the stop. The odds of being given a warning were 37 % for Whites compared to Blacks and 45 % for Whites than for Hispanic drivers. Men were also less likely to receive a warning than were women. Being stopped for a vehicle defect, seatbelt violation, or stopping offense increased the odds of receiving a warning while being stopped for a record check or drunk driving decreased the odds of receiving a warning (Table 3.12).

The most complex logistic regression model (including demographic information, reason for stop, if the stop occurred at night, and the number of officers involved in the stop) had the best fit for the 2005 data (Table 3.13). The model was a significantly better fit ( $F(20, 125) = 8.77, p < .001$ ) than an intercept-only model and explained a low level of variance,  $R^2_{CS} = .07$ . Significant predictors of receiving a warning in 2005 were age, living in a non-central city MSA area, race, sex, and the reason reported for the stop. Specifically, the odds of receiving a warning were 24 % greater for a white driver compared to black driver and 35 % greater for a white driver than a driver of Hispanic origin. The odds of men receiving a warning were less than the odds of women receiving a warning and people living outside of MSA areas had higher odds of receiving a warning than those in MSA areas. Finally, people stopped for violations like vehicle defects, record checks, seatbelt violation, and non-speeding traffic violations were more

likely than those stopped for speeding to receive a warning. Predictably, drivers stopped for offenses like drunk driving were less likely than speeding drivers to receive a warning (Table 3.14).

Across all three years, the variables that significantly predicted receiving a warning during a traffic stop were sex, race, MSA status, and the reason for the stop. Compared to women, men were less likely to receive warnings while the odds of receiving a warning for Blacks and Hispanics were lower than the odds of receiving a warning for Whites. Expectedly, the odds of drivers stopped for less serious offenses (e.g., vehicle defects, seatbelt violations) receiving a warning were higher than those stopped for speeding while the odds of receiving a warning were lower for those stopped for more serious offenses (e.g., drunk driving), compared to those stopped for speeding.

However, the low level of fit and variance explained by these models suggests that the factors contributing to receiving a warning may be quite diverse and, perhaps, more dependent on the situation (e.g., time of day, busyness of officer) than the outcomes of no action or ticketing. These situational factors were not captured in the current survey. It is also possible that there was more error in reporting warnings versus the other two outcomes as a warning can be either verbal or written and may not be interpreted the same way by all drivers. For example, some motorists may interpret a stern admonishment as a verbal warning while others may interpret it as a less formal “suggestion.”

*Ticket logistic regressions.* The model with a middle level of complexity (demographic variables and reason for arrest) was the best fit model for the 1999 survey (Table 3.15). The model was significantly better predictor than an intercept only model

( $F(16,127) = 45.45, p < .001$ ) and the model explained a modest 18 % of the variance. Significant predictors of receiving a ticket were age, MSA status, race, sex, and the reason for the stop. The odds of drivers living in an MSA central city receiving a ticket were over twice that of drivers living in a non-MSA area. The odds of men receiving a ticket were 21 % greater than the odds of women receiving a ticket. The odds for receiving a ticket were 47 % higher for Blacks and 52 % higher for Hispanics compared to Whites. Finally, all reasons for being stopped had lower odds of receiving a ticket than being stopped for speeding (Table 3.16).

The mid-level model was the best fit for the 2002 data and predicted approximately 16% of the variance (Table 3.17). The model was a significantly better fit than an intercept-only model,  $F(18, 126) = 29.70, p < .001$ . All predictors except income were significant predictors of receiving a ticket. Specifically, the odds of receiving a ticket increased 31 % if the person was interviewed in person (compared to on the phone), 30 % if the driver was black, and 28% if the driver was male. The odds of receiving a ticket were 96% higher for Hispanics compared to Whites. Living in an MSA area also increased the likelihood of receiving a ticket while all reasons for being stopped except being stopped for a drunk driving check decreased the odds of receiving a ticket relative to being stopped for speeding (Table 3.18).

The most complex model was the best fit for the 2005 data and explained approximately 17% of the variance (Table 3.19). The model was a significantly better fit than an intercept-only model,  $F(20, 125) = 22.11, p < .001$ . Age, MSA status, if the stop occurred at night, and Hispanic origin were all significant predictors of receiving a ticket. The odds of receiving a ticket were 59 % higher for Hispanics compared to Whites.

Being stopped at night had odds nearly 50% less than being stopped during the day for receiving a ticket. Living in an MSA area (central city or non-central city) increased the odds of receiving a ticket (Table 3.20).

Consistent predictors for receiving a ticket across the years included race, sex, MSA status and the reason for the stop. Men, minority drivers, drivers from MSA areas and drivers stopped for non-speeding offenses (excluding drunk driving checks) all had greater odds of receiving a ticket than their reference categories. These differences in odds, particularly among the racial groups is interesting as it suggests that there may be a racial bias affecting when tickets are given. Hispanic motorists in particular had much higher odds of receiving a ticket compared to white motorists.

#### *Arrest*

*1999 PPCS.* Arrest is the most serious potential outcome of a traffic stop. Arrests were fairly uncommon in the sample, occurring only in 2.8 % of the reported traffic stops. There were significant differences among races for the likelihood of arrest,  $\chi^2(3) = 20.61, p < .001$ . Blacks (5.2 %) were twice as likely as Whites (2.6 %) to report being arrested during a traffic stop. Hispanics (4.3 %) also reported a higher rate of arrests while respondents of other races reported a slightly lower percentage of arrests (2.1 %) <sup>5</sup> than Whites. Data for arrests across all 3 survey years are presented in Table 3.21.

*2002 PPCS.* The patterns in the 2002 data matched those seen in 1999. Whites were less likely (2.0 %) than Blacks (5.8 %) and Hispanics (5.2 %) to report being arrested during a traffic stop. However, no stopped drivers of other races reported being arrested during the stop. The group differences were significant,  $\chi^2(3) = 46.60, p < .001$ .

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<sup>5</sup> This percentage is based on cell (arrested – other race) with less than 5 observations (N = 4).

2005 PPCS. Stopped black drivers were again the group reporting the highest rates of arrest (4.5 %), and this rate was more than twice the rate reported by white drivers (2.1 %) in 2005. Hispanic drivers (3.1 %) and drivers of other races (2.6 %) also reported higher rates of arrest than Whites. The differences in arrest rates were significantly different among groups,  $\chi^2(3) = 10.35, p = .02$ .

These descriptive data preliminarily support the earlier hypothesis that the violations committed by minority motorists may, on average, be more serious than those committed by their white counterparts. A more serious violation would be likely to increase the likelihood of both ticketing and arrest. However, to further examine predictors of arrest, logistic regressions for each survey year were completed with a binary DV (arrest vs. no arrest) and categorical predictor variables.

Because arrests were relatively rare, the data were collapsed across survey years for the logistic regressions in order to increase power. Arrest was entered as a binary outcome variable (arrest vs. no arrest) and three nested logistic models of varying complexity were created and compared against each other to determine the model with the best overall fit.

*Logistic regression.* The model with the most complexity (Table 3.22) was had the best overall fit ( $F(19,126) = 3.54, p < .001$ ) and the pseudo  $R^2$  of the model was modest  $R^2_{CS} = .23$ . Age, finding contraband, and personal search were significant predictors of arrest. The odds of arrest for a black driver were 33 % higher than for white drivers. Hispanic drivers had a lower odd than Whites of being arrested. Men also had greater odds of arrest than women (Table 3.23).

The higher rate of arrest among black drivers indicates one of two things: 1) black motorists are disproportionately committing more serious traffic offenses, or 2) there is a bias in arrest where black drivers are discriminated against. The current data are not capable of determining which of these may be possible.

### *Handcuffing*

One practice that may be more sensitive to detecting racial bias in police procedure is handcuffing. While handcuffing is most often used during arrest, it can also occur without arrest (e.g., during a search). Handcuffing rates may also indicate if certain groups are being identified as more “threatening” by police as the purpose of handcuffing is ostensibly to protect the officer by restraining the motions of the civilian. Handcuffing data are summarized in Table 3.21.

*1999 PPCS.* Like arrest, handcuffing was rare and occurred in only 2.8 % of the 1999 sample; however, the reported percentages among groups for handcuffing differ from those for arrest. Blacks (6.4 %) were 2.5 times as likely as Whites (2.5 %) to report being handcuffed by police. Hispanics were also more likely (5.0 %) than Whites to report being handcuffed while respondents of other races were the least likely to report handcuffing, 1.7 %<sup>6</sup>. Differences among the group were significant,  $\chi^2(3) = 44.47, p < .001$ .

*2002 PPCS.* Handcuffing was again a rare occurrence in the 2002 sample. Stopped black drivers (6.4%) were more than 3 times as white drivers (2.0 %) to report being handcuffed during a traffic stop. Hispanic drivers (5.6 %) reported handcuffing rates at more than 2.5 times that of Whites. No drivers of other races reported being

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<sup>6</sup> The cell for handcuffed drivers in the “other race” group had fewer than 5 observations (N = 3).



handcuffed during a traffic stop. The differences among groups were significant,  $\chi^2 (3) = 46.60, p < .001$ .

*2005 PPCS.* Stopped black drivers reported a proportion (4.2 %) of being handcuffed nearly twice that of white drivers, 2.5 %. Hispanic drivers (3.5 %) and drivers of other races (3.1 %) also reported rates of handcuffing that were higher than Whites. However, despite significant group differences ( $\chi^2 (3) = 7.80, p = .05$ ), handcuffing did remain a rare occurrence.

The descriptive results are intriguing because of their failure to align to the arrest results. For example, the percentage of Whites reporting handcuffing is similar to the percentage reporting arrest. However, for Blacks the trend is different: more Blacks reported being handcuffed than reported being arrested. The same is true for Hispanic motorists. While these results are limited by the nature of self-report research, they do suggest a possible racial bias in handcuffing procedure. Data for handcuffing with no arrest are presented in Table 3.21.

### *Force*

*1999 PPCS.* The use or threat of force<sup>7</sup> against civilians is supposed to be reserved for cases where an officer, bystander, and/or the suspect are in danger. Given the serious nature of police use or threat of force, the number of respondents reporting having force used against them was appropriately low. Blacks (1.7 %) and Hispanics (1.9 %) were more likely than Whites (0.9 %) to report the use or threat of force from police. No respondents of other races reported such incidents. There was a significant

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<sup>7</sup> The initial “use of force” question in the 1999 PPCS survey asked if respondents had force used against them or were threatened with force, including examples of physical force like grabbing or hitting. A follow-up question established the type of force used or threatened (e.g., push, grab, canine unit, gun, kick). The rates of these individual types of force were too small to be statistically examined.

difference among the races on the likelihood of experiencing force or having it threatened<sup>8</sup>,  $\chi^2(3) = 11.01, p = .01$ . Data for the use of force for all 3 survey years are presented in Table 3.24.

*2002 PPCS.* In 2002, stopped White drivers (0.8%) were the group reporting the lowest rate of the use or threat of force. Black (2.7%) and Hispanic motorists (2.4%) reported the highest rates of force. Just over one percent of drivers of other races (1.1 %) reported having force threatened or use against them.

*2005 PPCS.* The reported proportions of drivers who experienced police force during a traffic stop were lower in 2005 than in previous years. No drivers of other races reported experiencing police force. Among the remaining groups, Whites reported the lowest rate of force (0.12 %) compared to Blacks (0.56 %) and Hispanics, 1.6 %. There is no clear reason why the reported proportions of force decreased in the 2005 sample.

*Logistic regression.* Due to the rarity of police-civilian interactions involving force, a logistic regression was not performed on the annual data. The logistic regression models were run on data concatenated across all 3 years of the survey in order to increase sample size. The most complex model was a significantly better fit than a intercept-only model ( $F(21, 124) = 55.74, p < .001$ , the pseudo  $R^2$  was minimal,  $R^2_{CS} = .10$  (Table 3.25). Significant predictors of force included arrest, handcuffing, and interview type. The odds of experiencing police force were more than 9% greater for both Blacks and 84% greater for Hispanics compared to Whites. The odds of experiencing force were less for men than for women. Data for this model are presented in Table 3.26.

#### *Searches and Seizures*

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<sup>8</sup> This calculation included a cell for respondents who identified as another race and reported force (N = 0).

Past research (e.g., Gross & Barnes, 2002) has shown that minority drivers are more likely than Whites to be pulled over and searched, but that searches of white motorists have a higher “hit rate” for contraband. The following analyses were conducted to see if these findings could be replicated in a nationally representative sample of drivers. Three different types of searches are examined: vehicle, personal, and any search (vehicle, personal, or both). A logistic regression was also performed on each year for the any search variable to identify additional variables that predicted a driver being subjected to some kind of search.

#### *Vehicle Searches*

*1999 PPCS.* Hispanic drivers (9.6 %) reported the highest rate of searches and were 2.2 times as likely as white drivers (4.3 %) to report having their vehicle searched during a stop. Black drivers (8.5 %) were nearly twice as likely as white drivers to report a vehicle search and respondents of other races also had a higher rate of searches (5.9 %) compared to Whites. The rates of vehicle searches among the races were significantly different,  $\chi^2(3) = 48.16, p < .001$ . Results for all vehicle search data are reported in Table 3.27.

*2002 PPCS.* Drivers of other races reported the lowest rate (2.3 %) of having their vehicle searched during a traffic stop. Hispanic drivers (10.1 %) reported having their vehicle nearly 3.5 times the rate reported by white drivers, 2.9 %. Black drivers reported a rate (7.1 %) more than twice that of Whites. The differences among the groups were significant,  $\chi^2(3) = 81.94, p < .001$ .

*2005 PPCS.* Stopped black (7.4 %) and Hispanic (7.7 %) drivers reported a higher proportion of vehicle searches than Whites, 3.2 %. Drivers of other races (4.9 %)

also reported a rate of vehicle searches that was higher than for white drivers. The group differences were significant,  $\chi^2 (3) = 34.63, p < .001$ .

#### *Personal Searches.*

*1999 PPCS.* Personal searches involve behaviors like “frisking” or patting a person down. A search is usually conducted to see if a person is armed and/or has contraband. In the current sample there was a significant difference among races for the likelihood of having their person searched,  $\chi^2 (3) = 45.93, p < .001$ . Blacks were the group reporting the highest proportion (8.0 %) and were more than 2.2 times as likely as Whites (3.5 %) to report experiencing a personal search. Hispanic motorists (7.1 %) were 2 times as likely as white motorists to report a personal search. Respondents of other races were the least likely (3.2 %) to report being searched. Results for all personal search data are reported in Table 3.27.

*2002 PPCS.* The proportion of personal searches was highest among Hispanic drivers (8.4 %) compared to black (8.1 %) and white (2.5 %) drivers. Both of these groups were more than 3 times as likely as white drivers to report experiencing a personal search. Drivers of other races (1.3 %)<sup>9</sup> reported the lowest proportion of personal searches.  $\chi^2 (3) = 86.46, p < .001$ .

*2005 PPCS.* Blacks reported personal searches (6.6 %) at a proportion nearly three times higher than that of stopped white drivers, 2.3 %. Hispanic drivers (5.3 %) reported twice the rate of personal searches as white drivers and drivers of other races (3.5 %) a higher rate. The differences were significant,  $\chi^2 (3) = 31.46, p < .001$ .

Black and Hispanic drivers reported proportions of personal searches that were consistently higher than the proportions reported by white drivers. These higher

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<sup>9</sup> The number of drivers of “other races” reporting a personal search was less than 5 (N = 2).

proportions suggest that stops of minority motorists may be more likely to be pretextual than stops of white drivers. However, it will be important to examine the “success” rates of these searches in a later section.

### *Total Searches*

A variable representing if a person experienced any kind of search (or both) was calculated as not all drivers experiencing a personal search will have their vehicle search and vice versa. Results for all search data are reported in Table 3.27.

*1999 PPCS.* More than 1 out of 10 Blacks (11.0 %) and Hispanics (11.3 %) reported being subjected to some kind of search during a traffic stop when they were the driver. These rates are twice the rate reported by white drivers (5.5 %) and also higher than the rate reported by drivers of other races, 6.5 %. The differences in proportions of being searched were significant,  $\chi^2 (3) = 57.61, p < .001$ .

*2002 PPCS.* The racial group reporting the highest proportion of any search was the Hispanic drivers, 11.4 %. Black drivers also reported a higher proportion of searches (10.2 %) than white drivers (3.5 %) or drivers of other races, 2.9%. These differences were statistically significant,  $\chi^2 (3) = 100.44, p < .001$ .

*2005 PPCS.* In 2005, stopped black (9.5 %) and Hispanic (8.8 %) drivers were the groups reporting the highest proportion of being searched by police during a traffic stop. White drivers reported the lowest rate (3.7 %) of searches followed by drivers of other races, 5.3 %. The group differences were significant,  $\chi^2 (3) = 46.57, p < .001$ .

Black and Hispanic drivers reported levels of searches that often approached or exceeded 1 in 10 stopped drivers. The difference in rates of searches of between these groups and white drivers was significant and strongly suggests that race may be an

important factor in the decision to conduct either a personal or vehicle search. However, to examine other factors that might also predict search, a logistic regression was conducted for each year.

*1999 logistic regression.* The simplest model (Table 3.28) had the best overall fit for the 1999 data,  $F(10, 133) = 30.64, p < .001$ . However, the variance explained by this model was quite low and only 5%. All variables with the exception of MSA status were significant predictors of being searched. Black drivers had odds that were 80 % greater and Hispanic drivers had odds that were 48 % greater of being searched compared to white drivers. The odds of being searched for men were 354 % greater than for women. Finally, individuals with lower incomes also had greater odds of being searched than those with an income of \$50,000 or more a year (Table 3.29).

*2002 logistic regression.* The most complex model had the best overall fit when both the  $F$  statistic ( $F(20, 124) = 18.11, p < .001$ ) and the amount of variance explained by the model ( $R^2_{CS} = .14$ ) were considered (Table 3.30). Significant predictors of being a driver being searched were age, income, race, sex, reason the person reported being stopped, the number of officers involved in the stop, and if the person reported being arrested. As would be expected, the odds of being searched if the person reported being arrested were more than 57 times higher than if the person was not arrested. Black and Hispanic drivers both had odds of being searched that were 80% greater than the odds of a white driver being searched. The odds of being searched were more than 200 % higher for men than for women. Drivers who were stopped for vehicle defects, drunk driving, and record checks also had higher odds of being searched than drivers stopped for a speeding (Table 3.31).

*2005 logistic regressions.* The most complex model had the best fit with the 2005 data (Table 3.32). The model had a significant overall fit ( $F(21, 124) = 12.68, p < .001$ ) and predicted a modest amount of variance,  $R^2_{CS} = .12$ . Significant predictors of being searched were age, sex, reason reported for stop, number of officers, and arrest. As expected, arrest greatly increased the odds of being searched. Males had higher odds 222 % higher of being searched compared to females. Blacks had odds 80 % higher and Hispanics 109 % higher than Whites of being searched. Interestingly, drivers who were stopped at night had odds of being searched that were 38 % greater than drivers stopped during the day (Table 3.33).

Taken together the logistic regressions show that race is a significant predictor of being searched. Blacks and Hispanics have odds of being searched that are significantly higher than those of their white counterparts. These increased odds suggest that racial profiling may be occurring or that many of these stops are pretextual.

#### *Search Success*

To examine the “success” of searches, drivers who reported any kind of search were asked if contraband (e.g., weapons, drugs, alcohol) was found during the search.

*1999 PPCS.* Consistent with past research, stopped white drivers were the group reporting the largest proportion (16.7 %) of total searches yielding contraband. Hispanics (9.6 %) and black (7.5 %) drivers also reported being caught with contraband; however, no drivers of other races reported a search yielding contraband. Group differences were marginally significant,  $\chi^2(3) = 7.32, p = .06$ .

*2002 PPCS.* White drivers who were searched reported the highest proportion of searches yielding contraband, 14.5 %. In fact, white drivers reported a rate of successful

searches that was more than 4 times higher than Black drivers (3.4 %). Hispanic drivers also reported a high rate of successful searches, 13.0 %. Drivers of other races reported the highest rate of successful searches (26.5 %); however, this rate is because 1 out of 4 total searches yielded contraband. Therefore, the small base size means that this proportion cannot be considered accurate.

*2005 PPCS.* Searched white (14.8 %) and black (16.6 %) drivers reported roughly equivalent rates of being found with contraband. None of the searched Hispanic drivers or drivers of other races reported being found with contraband. The group differences were marginally significant,  $\chi^2(3) = 7.23, p = .06$ .

## Discussion

The results of this study summarize differences in traffic stop outcomes among racial and ethnic groups based on individuals' self-reported data from a nationally representative sample. As such, these data allow for an examination of differences at a national level. Past research on racial profiling heavily relied on data from localized areas known for policies of drug interdiction; this study goes beyond that to see if these patterns hold at a national level.

### *Stop Outcomes*

The data show that, consistent with *Soto* findings, stopped Black drivers were the group most likely to predict being released from a traffic stop with no police action. This finding suggests that stops of Blacks may be more likely to be pretextual than stops of Whites; thus, Black drivers are released more often with no action because the offense for which they were pulled over was minor and they were targeted based on their race. Hispanics were the ethnic group that was the least likely to be released without action.



However, race was *not* a significant predictor of no police action across the years in a logistic regression despite several factors that may be related to race being significant predictors (e.g., MSA status).

Whites reported the highest rates of warnings among the racial groups, which suggested that a bias in favor of white drivers might cause police to give them warnings in lieu of tickets. Minority drivers report the highest rates of ticketing; however, the rates for ticketing Whites increased over the years of the studies closing the gap between White and Black drivers. The ticketing rates for Hispanic drivers were the highest across groups for all three years suggesting that either Hispanic drivers are particularly targeted by police because of their ethnicity or that the traffic offenses committed by Hispanic drivers are more serious on average than those committed by other ethnic groups.

Black drivers reported the highest rates of arrest as drivers during a traffic stop across all 3 years of the PPCS survey. Hispanic drivers also reported rates of arrest that were higher than the rates reported by White drivers. It is important, however, to note that arrest was rare. The logistic regression model predicting arrest did not explain an impressive amount of variance but significant predictors included race, age, and sex. Consistent with predictions, the odds of arrest were higher for Blacks and Hispanics than for Whites. Taken together, the results suggest that the traffic offenses committed by minority drivers may, on average, be more serious than those committed by white drivers. The current study does not offer a way to test that explanation against the competing explanation that differences in arrest rates are the product of bias.

The results comparing rates of handcuffing to arrest rates are one way that bias on the part of police officers may be detected. Minority motorists were more likely than

white motorists to report being handcuffed without being arrested. This higher rate of no-arrest handcuffing suggests that police may be perceiving minority drivers as more dangerous than white drivers.

These results suggest that there is a bias in the outcomes of traffic stops for members of different racial and ethnic groups; the bias against minority drivers can be inferred most strongly in the decision to give a driver a warning versus a ticket. While rates of arrest also show significant differences between racial and ethnic groups it is difficult to draw conclusions about bias because the decision to arrest a driver is more likely to require an officer to have a reason for the arrest he believes will stand up to scrutiny. An arrest also takes a great deal of time so it is unlikely that officers would make the decision to arrest lightly. However, the related variable of handcuffing is another area where bias is possibly observed—minority drivers are more likely than their white counterparts to be handcuffed and not arrested suggesting that police may perceive minority drivers as potentially more dangerous.

These findings replicate earlier findings from the 1999 PPCS survey that found higher ticketing and arrest rates among minority drivers (Engel & Calnon, 2004; Harris, 1999), demonstrating that the results are reliable and consistent across the years of the PPCS survey. The results also replicate other work showing that black drivers are more likely than white drivers to face harsher traffic stop outcomes.

The current study does extend on past research by looking at traffic stop data from several time periods. The data for the current study also come from a nationally representative sample instead of a single localized area. In addition, the current study also focused on Hispanic drivers while much of the past research on racial profiling has

exclusively comparing Whites and Blacks. As the Hispanic population of the United States continues to increase it is important to understand how this ethnic group may be facing racial profiling on the national highways.

### *Searches and Seizures*

The current study found that Black and Hispanic drivers reported higher proportions of having their person or vehicle searched compared to white drivers. In fact, for 2 of the 3 survey years more than 1 in 10 Black and Hispanic drivers who were stopped reported some kind of search during a traffic stop. However, consistent with past research (Gross & Barnes, 2002; Engel & Calnon, 2004b) white drivers were the group that most consistently reported the highest rate of being caught with contraband. An important exception is that the 2005 data found equivalent rates of reported contraband seizures between Blacks and Whites.

These findings, especially when also examining differences in the rates for the reasons that drivers reported being stopped across groups, support the belief that police may use racial profiling as a reason to search drivers. In addition, they may be making pretextual stops in order to search drivers of certain races.

### *Limitations*

The primary limitation of the current study is that it relies on the self-report data of the drivers. Because the survey asks about contacts with police in the last 12 months it is possible that the recollections of drivers may not be accurate, even with the careful bounding built into the NCVS. It is also possible that drivers may intentionally lie about the contact they had with police. Some drivers may be more likely to downplay and interaction while others may overplay the interaction. If these tendencies vary by race,

they may systematically affect the results. Some of the outcome variables, mainly warnings vs. no outcomes, may also be interpreted differently by respondents. As noted earlier, it is possible that one driver interprets the comments of an officer as an informal rebuke while others interpret it as a verbal warning.

The change of the format that occurred in the survey between 1999 and 2002 is also a limitation that prevents a pure comparison across years. Only asking the traffic stop questions of those for whom their most recent contact with police was as the driver during a traffic stop was a change that could affect the reliability of results across years; however, it does not appear to have changed patterns significantly, only the rates of certain outcomes (e.g., ticketing among Whites).

A final limitation of the study was that it provided no objective details about the situation surrounding the traffic stop. For example, there is no way to assess the seriousness of the reason for which the driver was stopped outside of the self-reported reason for the stop. In any study hoping to examine bias it is important to have an understanding of the situation to rule out potential confounding factors. For example, some research has found differences in the seriousness of speeding between White and Black drivers (Engel & Calnon, 2004a; Lange et al., 2001) while other studies do not find this effect (e.g., Kadane & Lamberth, 2008). Without knowing the details of the offense it is difficult to conclude the role situational factors may have played in a police decision.

#### *Future Directions*

Future studies attempting to examine racial profiling on American highways should continue to examine differences at not just the local level, but also at the national level. Most research on racial profiling has focused on specific stretches of highways

because of their area's policies of drug interdictions. It was believed that racial profiling would be most pronounced in these areas; however, the results of the current study suggest that differences in the treatment of minority drivers at a national level. This difference in treatment is not limited to searches—it also extends to the outcomes of traffic stops. Research (e.g. Harris, 1999; Engel & Calnon, 2004) has focused primarily on higher-order outcomes (e.g., searches, arrest, ticketing) but has not assessed some more subtle ways that bias can occur in traffic stops. The rates of warnings and handcuffing outside of arrest, as well as drivers' impressions of police behavior/attitude, are several variables that should be examined in future research.

It may not be that racial profiling is the sole reason for differences in the treatment of minority suspects. Differences in the more subjective decisions (e.g., warning vs. ticket) suggest that perhaps an unconscious bias may affect the decisions of officers. The first study of this dissertation found that a group of police cadets had a significantly stronger bias against Blacks than did a group of college students. It is possible that this bias also affects officers on the roadways and may influence their interpretations of the actions of drivers. Consistent with the literature reviewed in Study 1 that Blacks are more easily associated with weapons and criminality than are Whites; thus, it is possible that the actions of black drivers are perceived as more aggressive than the actions of white drivers. This unconscious association or bias may influence the decisions of officers to ticket, handcuff, and search minority drivers at a higher rate than white drivers.

Because of the potential influence of implicit bias, it would be interesting for future research to assess implicit racial attitudes in officers and the relationship of that

bias with their traffic stop decisions. Another test of officers that would provide clarity is to directly assess their interpretation of a traffic stop – the driver’s demeanor, actions, nature of the offense – and compare the officer’s impression to that of an objective observer to determine if equivalent behaviors between racial and ethnic groups are perceived differently by officers.

Future research should also examine more closely the situations surrounding traffic stops. It is difficult to rely on the self-reports of either officers or drivers because of the opportunity for self-presentation biases and inaccurate memory. Research where researchers ride along with officers in order to capture details of police action has been conducted, but this research has not been yoked to knowledge about implicit biases.

Overall, social psychology has the potential to make valuable contributions to the study of racial profiling and police bias in traffic stop decisions. The ability of the field to synthesize research on attitudes (both explicit and implicit), behavior, and situational factors is a piece that is missing from the study of the racial profiling.

Table 3.1

*Percentages of Total PPCS Sample Reporting Being Stopped While Driver of a Vehicle  
by Race*

	Speeding	Vehicle Defect	Record Check	Roadside Check	Other Traffic Violation	Other Reason
White						
1999	53.64	10.46	9.02	2.54	21.10	3.23
2002	50.84	6.93	7.71	0	33.48	1.84
2005	55.39	9.04	10.38	2.40	26.09	3.66
Black						
1999	43.45	13.42	10.97	1.43	28.05	2.67
2002	49.98	10.34	17.35	1.13	18.27	2.93
2005	44.22	12.63	15.18	0.84	20.69	6.44
Hispanic						
1999	42.28	13.42	9.33	1.27	28.03	3.62
2002	44.40	14.02	7.82	1.65	28.6	3.52
2005	44.93	11.90	12.20	1.61	25.18	4.18
Other Race						
1999	45.65	15.88	3.96	1.16	30.71	2.63
2002	56.95	8.72	11.30	1.31	19.41	2.33
2005	55.23	8.78	4.75	2.40	26.09	2.75

Table 3.2

*Percentages of Non-Arrest Traffic Stop Outcomes by Race*

	White	Black	Hispanic	Other
No Action				
1999	17.5	18.7	12.1	11.1
2002	13.9	18.8	10.4	6.4
2005	13.4	17.6	11.6	10.8
Warning				
1999	29.7	18.9	21.5	24.2
2002	27.4	18.3	18.2	20.3
2005	28.4	22.1	20.4	24.2
Ticket				
1999	49.9	57.3	62.8	61.4
2002	56.5	58.4	71.5	73.1
2005	56.2	55.8	65.0	63.4



Table 3.3

*Logistic Regression Models for No Police Action: 1999 PPCS*

Low Complexity	<b>Middle Complexity</b>	High Complexity
Sex	<b>Sex</b>	Sex
Race	<b>Race</b>	Race
Age	<b>Age</b>	Age
MSA Status	<b>MSA Status</b>	MSA Status
Income	<b>Income</b>	Income
Interview Type	<b>Interview Type</b>	Interview Type
	<b>Reason for Stop</b>	Reason for Stop
		Number of Officers
		Number of Occupants

*Note: Bolded model had best overall fit.*

Table 3.4

*Logistic Regression Predictors of No Police Action: 1999 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	-3.67***	.20	
Demographics			
Age	0.02***	.003	1.02
Male	-0.05	.09	0.95
Black	0.09	.15	1.09
Hispanic	-0.29	.33	0.75
Other Race	-0.43**	.17	0.65
<\$20,000/yr	0.04	.12	1.05
\$20,000-49,000/yr	0.04	.10	1.04
MSA Central City	-0.72***	.15	0.49
MSA Non-Central City	-0.64***	.14	0.53
In Person Interview	0.08	.09	1.09
Reason for Stop			
Vehicle defect	1.96***	.17	7.09
Record check	3.72***	.17	41.15
Roadside Check	4.28***	.27	72.01
Other traffic offense	1.47***	.12	4.36
Driver suspected	3.05***	.22	21.06
Other reason	3.43***	.29	30.93
Overall Fit (F value)	52.06***		
Pseudo R <sup>2</sup>	.23		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.5

*Logistic Regression Models for No Police Action: 2002 PPCS*

Low Complexity	Middle Complexity	<b>High Complexity</b>
Sex	Sex	<b>Sex</b>
Race	Race	<b>Race</b>
Age	Age	<b>Age</b>
MSA Status	MSA Status	<b>MSA Status</b>
Income	Income	<b>Income</b>
Interview Type	Interview Type	<b>Interview Type</b>
	Reason for Stop	<b>Reason for Stop</b>
		<b>Number of Officers</b>

*Note: Bolded Model had the best fit*

Table 3.6

*Logistic Regression Predictors of No Police Action: 2002 PPCS*

Variable	Coeff.	SE	Odds Ratio
Intercept	-4.10	.32	
Demographics			
Age	0.02***	.004	1.02
Male	-0.17	.13	0.84
Black	0.01	.17	1.01
Hispanic	-0.21	.21	0.81
Other Race	-0.45	.37	0.64
<\$20,000/yr	0.24	.14	1.27
\$20,000-49,000/yr	0.16	.14	1.18
MSA Central City	-0.64**	.25	0.53
MSA Non-Central City	-0.48	.29	0.62
In Person Interview	0.06	.14	1.07
Reason for Stop			
Vehicle defect	2.03***	.19	7.61
Record check	3.30***	.16	27.15
Roadside Check	3.58***	.33	36.05
Seatbelt violation	1.19***	.26	3.30
Stopping violation	0.57*	.28	1.77
Other traffic offense	1.94***	.20	6.94
Illegal turn	0.82**	.32	2.27
Other reason	2.86***	.24	17.53
Other Stop Details			
More than one officer	0.81***	.12	2.24
Overall Fit (F value)	47.84***		
Pseudo R <sup>2</sup>	0.22		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.7

*Logistic Regression Models for No Police Action: 2005 PPCS*

Low Complexity	<b>Middle Complexity</b>	High Complexity
Sex	<b>Sex</b>	Sex
Race	<b>Race</b>	Race
Age	<b>Age</b>	Age
MSA Status	<b>MSA Status</b>	MSA Status
Income	<b>Income</b>	Income
Interview Type	<b>Interview Type</b>	Interview Type
	<b>Reason for Stop</b>	Reason for Stop
		Stop at Night
		Number of Officers

*Note: Bolded model had best overall fit.*

Table 3.8

*Logistic Regression Predictors of No Police Action: 2005 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	-3.82***	.31	
Demographics			
Age	0.02***	.004	1.02
Male	-0.11	.12	0.90
Black	0.30	.17	1.35
Hispanic	-0.09	.20	0.91
Other Race	0.08	.30	1.08
<\$20,000/yr	-0.11	.12	0.90
\$20,000-49,000/yr	-0.02	.14	0.98
MSA Central City	-0.74***	.22	0.48
MSA Non-Central City	-0.44*	.19	0.65
In Person Interview	-0.09	.11	0.92
Reason for Stop			
Vehicle defect	1.81***	.21	6.10
Record check	3.31***	.18	27.36
Roadside check	4.33***	.29	76.09
Seatbelt violation	1.63***	.25	5.12
Stopping violation	0.70*	.29	2.01
Illegal turn	1.29***	.25	3.65
Other traffic violation	2.36***	.29	10.58
Other reason	3.47***	.22	32.06
Overall Fit (F value)	28.62***		
Pseudo R <sup>2</sup>	.19		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.9

*Logistic Regression Models for Receiving a Warning: 1999 PPCS*

Low Complexity	<b>Middle Complexity</b>	High Complexity
Sex	<b>Sex</b>	Sex
Race	<b>Race</b>	Race
Age	<b>Age</b>	Age
MSA Status	<b>MSA Status</b>	MSA Status
Income	<b>Income</b>	Income
Interview Type	<b>Interview Type</b>	Interview Type
	<b>Reason for Stop</b>	Reason for Stop
		Number of Occupants
		Number of Officers

*Note: Bolded model had best overall fit*

Table 3.10

*Logistic Regression Predictors of Receiving a Warning: 1999 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	-0.26	.15	
Demographics			
Age	-0.01	.002	1.00
Male	-0.26***	.06	0.77
Black	-0.46***	.12	0.63
Hispanic	-0.29	.16	0.74
Other Race	-0.39***	.11	0.68
<\$20,000/yr	-0.13	.08	0.88
\$20,000-49,000/yr	-0.12	.07	0.89
MSA Central City	-0.55***	.12	0.58
MSA Non-Central City	-0.34**	.11	0.71
In Person Interview	0.04	.08	1.04
Reason for Stop			
Vehicle defect	0.88***	.10	2.42
Record check	-0.83***	.17	0.44
Roadside Check	-2.03***	.41	0.13
Other traffic offense	0.05	.07	1.05
Driver suspected	-1.15***	.31	0.32
Other reason	-1.62**	.51	0.20
Overall Fit (F value)	15.10***		
Pseudo R <sup>2</sup>	.06		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$



Table 3.11

*Logistic Regression Models for Receiving a Warning: 2002 PPCS*

Low Complexity	<b>Middle Complexity</b>	High Complexity
Sex	<b>Sex</b>	Sex
Race	<b>Race</b>	Race
Age	<b>Age</b>	Age
MSA Status	<b>MSA Status</b>	MSA Status
Income	<b>Income</b>	Income
Interview Type	<b>Interview Type</b>	Interview Type
	<b>Reason for Stop</b>	Reason for Stop
		Number of Officers

*Note: Bolded model was best overall fit.*

Table 3.12

*Logistic Regression Predictors of Receiving a Warning: 2002 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	-0.57**	.18	
Demographics			
Age	-0.01	.003	1.00
Male	-0.16**	.07	0.85
Black	-0.46***	.13	0.63
Hispanic	-0.60***	.12	0.55
Other Race	-0.42*	.18	0.66
<\$20,000/yr	-0.12	.09	0.89
\$20,000-49,000/yr	-0.09	.08	0.92
MSA Central City	-0.30	.17	0.74
MSA Non-Central City	-0.22	.16	0.80
In Person Interview	-0.16	.09	0.85
Reason for Stop			
Vehicle defect	1.13***	.12	3.11
Record check	-0.87***	.18	0.42
Roadside Check	-2.60**	.86	0.07
Seatbelt violation	-0.31	.20	0.73
Stopping violation	0.39**	.12	1.47
Other traffic offense	0.37	.19	1.45
Illegal turn	0.39**	.14	1.48
Other reason	-0.18	.25	0.84
Overall Fit (F value)	10.69***		
Pseudo R <sup>2</sup>	.06		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.13

*Logistic Regression Models for Receiving a Warning: 2005 PPCS*

Low Complexity	Middle Complexity	High Complexity
Sex	Sex	<b>Sex</b>
Race	Race	<b>Race</b>
Age	Age	<b>Age</b>
MSA Status	MSA Status	<b>MSA Status</b>
Income	Income	<b>Income</b>
Interview Type	Interview Type	<b>Interview Type</b>
	Reason for Stop	<b>Reason for Stop</b>
		<b>Stop at Night</b>
		<b>Number of Officers</b>

*Note: Bolded model was best overall fit.*

Table 3.14

*Logistic Regression Predictors of Receiving a Warning: 2005 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	-0.86***	.19	
Demographics			
Age	0.01*	.003	1.01
Male	-0.36***	.08	0.70
Black	-0.27	.15	0.76
Hispanic	-0.43**	.14	0.65
Other Race	-0.17	.17	0.84
<\$20,000/yr	-0.07	.09	0.93
\$20,000-49,000/yr	0.16	.11	1.17
MSA Central City	-0.27	.15	0.76
MSA Non-Central City	-0.29*	.13	0.75
In Person Interview	-0.07	.09	0.93
Reason for Stop			
Vehicle defect	1.02***	.15	2.78
Record check	-0.24	.17	0.79
Roadside check	-1.27**	.49	0.28
Seatbelt violation	-0.67**	.21	0.51
Stopping violation	0.48***	.13	1.61
Illegal turn	0.30	.16	1.35
Other traffic violation	0.56**	.22	1.75
Other reason	-0.24	.25	0.79
Other Stop Details			
More than one officer			
Stopped at night			
Overall Fit (F value)	8.93***		
Pseudo R <sup>2</sup>	.07		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.15

*Logistic Regression Models for Receiving a Ticket: 1999 PPCS*

Low Complexity	<b>Middle Complexity</b>	High Complexity
Sex	<b>Sex</b>	Sex
Race	<b>Race</b>	Race
Age	<b>Age</b>	Age
MSA Status	<b>MSA Status</b>	MSA Status
Income	<b>Income</b>	Income
Interview Type	<b>Interview Type</b>	Interview Type
	<b>Reason for Stop</b>	Reason for Stop
		Number of Occupants
		Number of Officers

*Note: Bolded model had best overall fit*

Table 3.16

*Logistic Regression Predictors of Receiving a Ticket: 1999 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	0.33**	.13	
Demographics			
Age	-0.01***	.002	0.99
Male	0.19**	.06	1.21
Black	0.38***	.11	1.47
Hispanic	0.42**	.15	1.52
Other Race	0.59***	.10	1.81
<\$20,000/yr	0.06	.08	1.07
\$20,000-49,000/yr	0.07	.07	1.07
MSA Central City	0.88***	.11	2.42
MSA Non-Central City	0.65***	.09	1.92
In Person Interview	-0.05	.06	0.95
Reason for Stop			
Vehicle defect	-1.68***	.10	0.19
Record check	-2.05***	.15	0.13
Roadside Check	-4.07***	.45	0.02
Other traffic offense	-0.70***	.07	0.50
Driver suspected	-3.17***	.29	0.04
Other reason	-1.98***	.36	0.14
Overall Fit (F value)	45.45***		
Pseudo R <sup>2</sup>	.18		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.17

*Logistic Regression Models for Receiving a Ticket: 2002 PPCS*

Low Complexity	<b>Middle Complexity</b>	High Complexity
Sex	<b>Sex</b>	Sex
Race	<b>Race</b>	Race
Age	<b>Age</b>	Age
MSA Status	<b>MSA Status</b>	MSA Status
Income	<b>Income</b>	Income
Interview Type	<b>Interview Type</b>	Interview Type
	<b>Reason for Stop</b>	Reason for Stop
		Number of Officers

*Note: Bolded model had best overall fit*

Table 3.18

*Logistic Regression Predictors of Receiving a Ticket: 2002 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	0.67***	.19	
Demographics			
Age	-0.01***	.002	.99
Male	0.25***	.06	1.28
Black	0.27*	.13	1.30
Hispanic	0.67***	.12	1.96
Other Race	0.56**	.19	1.75
<\$20,000/yr	0.13	.09	1.14
\$20,000-49,000/yr	0.14	.08	1.15
MSA Central City	0.50**	.17	1.65
MSA Non-Central City	0.37**	.16	1.45
In Person Interview	0.27***	.07	1.31
Reason for Stop			
Vehicle defect	-1.87***	.12	0.15
Record check	-1.95***	.16	0.14
Roadside Check	-2.25***	.36	0.11
Seatbelt violation	-0.18	.17	0.84
Stopping violation	-0.43***	.13	0.65
Other traffic offense	-1.14***	.18	0.32
Illegal turn	-0.60***	.15	0.55
Other reason	-1.86***	.21	0.16
Overall Fit (F value)	29.70***		
Pseudo R <sup>2</sup>	.16		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$



Table 3.19

*Logistic Regression Models for Receiving a Ticket: 2005 PPCS*

Low Complexity	Middle Complexity	High Complexity
Sex	Sex	<b>Sex</b>
Race	Race	<b>Race</b>
Age	Age	<b>Age</b>
MSA Status	MSA Status	<b>MSA Status</b>
Income	Income	<b>Income</b>
Interview Type	Interview Type	<b>Interview Type</b>
	Reason for Stop	<b>Reason for Stop</b>
		<b>Stop at Night</b>
		<b>Number of Officers</b>

Table 3.20

*Logistic Regression Predictors of Receiving a Ticket: 2005 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	0.94***	.18	
Demographics			
Age	-0.01***	.002	.99
Male	0.33***	.08	1.39
Black	0.12	.13	1.12
Hispanic	0.47***	.14	1.59
Other Race	0.12	.16	1.12
<\$20,000/yr	0.10	.09	1.11
\$20,000-49,000/yr	-.11	.09	.89
MSA Central City	0.51***	.13	1.66
MSA Non-Central City	0.43***	.11	1.53
In Person Interview	0.02	.08	1.02
Reason for Stop			
Vehicle defect	-1.50***	.14	.22
Record check	-1.47***	.13	.23
Roadside check	-2.97***	.44	.05
Seatbelt violation	0.03	.19	1.03
Stopping violation	-0.56***	.14	.57
Illegal turn	-0.57***	.15	.57
Other traffic violation	-1.57***	.19	.21
Other reason	-1.78***	.21	.17
Other Stop Details			
More than one officer	-0.67***	.08	
Stopped at night	-0.22*	.10	
Overall Fit (F value)	22.11***		
Pseudo R <sup>2</sup>	.17		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.21

*Percentages of Stopped Drivers Reporting Handcuffing, Arrest, and Handcuffing with No Arrest by Race*

	White	Black	Hispanic	Other
<b>Handcuffed</b>				
1999	2.5	6.4	5.0	1.7
2002	2.0	6.4	5.6	0
2005	2.2	4.2	3.5	3.1
<b>Arrest</b>				
1999	2.6	5.2	4.3	2.1
2002	2.0	5.8	5.2	0
2005	2.1	4.5	3.1	2.6
<b>Handcuffed-No Arrest</b>				
1999	0.47	1.31	1.37	0
2002	0.18	1.03	1.55	0
2005	0.28	0.31	0.93	1.17

Table 3.22

*Logistic Regression Models for Arrest*

Low Complexity	Middle Complexity	High Complexity
Sex	Sex	<b>Sex</b>
Race	Race	<b>Race</b>
Age	Age	<b>Age</b>
MSA Status	MSA Status	<b>MSA Status</b>
Income	Income	<b>Income</b>
Interview Type	Interview Type	<b>Interview Type</b>
	Reason for Stop	<b>Reason for Stop</b>
	Number of Officer	<b>Number of Officers</b>
		<b>Contraband Found</b>
		<b>Personal Search</b>
		<b>Vehicle Search</b>

*Note: Bolded model was best fit*

Table 3.23

*Logistic Regression Predictors of Arrest*

Variables	Coeff.	SE	Odds Ratio
Intercept	-2.13	.89	
Demographics			
Age	0.03*	.01	1.03
Male	-0.41	.42	0.66
Black	0.28	.33	1.33
Hispanic	-0.51	.35	0.60
Other Race	-0.71	.64	0.49
<\$20,000/yr	-0.44	.41	0.64
\$20,000-49,000/yr	-0.22	.36	0.81
MSA Central City	-0.71	.46	0.49
MSA Non-Central City	-0.65	.43	0.52
In Person Interview	0.07	.27	
Reason for Stop			
Vehicle defect	-0.25	.40	0.78
Record check	-0.22	.42	0.80
Roadside check	1.00	.72	2.72
Other traffic violation	0.44	.32	1.55
Other reason	-0.01	.52	0.99
Other Stop Details			
More than one officer	0.06	.27	1.06
Contraband found	1.38**	.46	3.98
Personal search	2.14***	.40	8.48
Vehicle search	0.06	.39	1.06
Overall Fit (F value)	3.54***		
Pseudo R <sup>2</sup>	.22		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.24

*Percentages of Stopped Drivers Reporting Police Force by Race*

	White	Black	Hispanic	Other
Force				
1999	0.9	1.7	1.9	0
2002	0.8	2.7	2.4	1.1
2005	0.1	0.6	1.6	0

Table 3.25

*Logistic Regression Models for Police Force*

Low Complexity	Middle Complexity	<b>High Complexity</b>
Sex	Sex	<b>Sex</b>
Race	Race	<b>Race</b>
Age	Age	<b>Age</b>
MSA Status	MSA Status	<b>MSA Status</b>
Income	Income	<b>Income</b>
Interview Type	Interview Type	<b>Interview Type</b>
	Reason for Stop	<b>Reason for Stop</b>
	Number of Officer	<b>Number of Officers</b>
		<b>Contraband Found</b>
		<b>Personal Search</b>
		<b>Vehicle Search</b>
		<b>Handcuffed</b>
		<b>Arrest</b>

*Note: Bolded model was best fit*

Table 3.26

*Logistic Regression Predictors of Police Force*

Variables	Coeff.	SE	Odds Ratio
Intercept	-3.91*	2.01	
Demographics			
Age	-0.02	.03	0.98
Male	-0.61	.63	0.54
Black	0.08	.77	1.09
Hispanic	0.61	.61	1.84
Other Race	-12.03***	.60	0.01
<\$20,000/yr	-0.33	.78	0.72
\$20,000-49,000/yr	0.32	.71	1.38
MSA Central City	-0.70	.77	0.49
MSA Non-Central City	-0.01	.74	1.00
In Person Interview	1.32**	.44	3.74
Reason for Stop			
Vehicle defect	-1.06	.95	0.35
Record check	-0.09	1.19	0.91
Roadside check	-0.37	.86	0.69
Other traffic violation	0.80	.84	2.22
Other reason	1.49	.81	4.42
Other Stop Details			
Contraband found	-0.30	.80	0.74
Personal search	-0.01	.53	1.00
Vehicle search	0.97	.97	2.64
Handcuffed	1.62**	.65	5.06
Arrest	-1.33*	.60	0.26
Overall Fit (F value)	55.74***		
Pseudo R <sup>2</sup>	.10		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$



Table 3.27

*Percentages of Stopped Drivers Searched by Race*

	White	Black	Hispanic	Other
<b>Vehicle Searches</b>				
1999	4.4	8.5	9.8	5.4
2002	2.9	7.1	10.1	2.3
2005	3.2	7.4	7.7	4.9
<b>Personal Searches</b>				
1999	3.5	8.0	7.1	3.2
2002	2.5	8.1	8.4	1.3
2005	2.3	6.6	5.3	3.5
<b>Any Search</b>				
1999	5.5	11.0	11.3	6.5
2002	3.5	10.2	11.4	2.9
2005	3.7	9.5	8.8	5.3

Table 3.28

*Logistic Regression Models for Being Searched: 1999 PPCS*

<b>Low Complexity</b>	Middle Complexity	High Complexity
<b>Sex</b>	Sex	Sex
<b>Race</b>	Race	Race
<b>Age</b>	Age	Age
<b>MSA Status</b>	MSA Status	MSA Status
<b>Income</b>	Income	Income
<b>Interview Type</b>	Interview Type	Interview Type
	Reason for Stop	Reason for Stop
		Number of Occupants
		Number of Officers
		Arrest
		Found Contraband

*Note: Bolded model was the best fit*

Table 3.29

*Logistic Regression Predictors of Being Searched: 1999 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	-3.26***	.31	
Demographics			
Age	-0.04***	.01	0.96
Male	1.51***	.16	4.54
Black	0.59***	.16	1.80
Hispanic	0.39**	.13	1.48
Other Race	-0.03	.30	0.97
<\$20,000/yr	0.85***	.14	2.35
\$20,000-49,000/yr	0.50**	.15	1.64
MSA Central City	0.27	.20	1.31
MSA Non-Central City	0.12	.18	1.13
In Person Interview	0.28**	.11	1.32
Overall Fit (F value)	30.64***		
Pseudo R <sup>2</sup>	.05		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.30

*Logistic Regression Models for Being Searched: 2002 PPCS*

Low Complexity	Middle Complexity	High Complexity
Sex	Sex	<b>Sex</b>
Race	Race	<b>Race</b>
Age	Age	<b>Age</b>
MSA Status	MSA Status	<b>MSA Status</b>
Income	Income	<b>Income</b>
Interview Type	Interview Type	<b>Interview Type</b>
	Reason for Stop	<b>Reason for Stop</b>
		<b>Number of Officers</b>
		<b>Arrest</b>

*Note: Bolded model had the best fit*

Table 3.31

*Logistic Regression Predictors of Being Searched: 2002 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	-5.06***	.51	
Demographics			
Age	-0.04***	.01	.96
Male	1.21***	.22	3.34
Black	0.59*	.24	1.80
Hispanic	0.59*	.25	1.80
Other Race	-0.05	.53	0.96
<\$20,000/yr	0.47*	.22	1.59
\$20,000-49,000/yr	0.62**	.21	1.85
MSA Central City	0.49	.38	1.64
MSA Non-Central City	0.53	.39	1.70
In Person Interview	0.31	.20	1.37
Reason for Stop			
Vehicle defect	1.00***	.26	2.73
Record check	0.04	.35	1.05
Roadside Check	1.03	.57	2.79
Seatbelt violation	-0.48	.64	0.62
Stopping violation	0.68	.37	1.98
Other traffic offense	0.93*	.40	2.53
Illegal turn	-0.04	.58	0.96
Other reason	2.25***	.31	9.46
Other Stop Details			
More than one officer	1.61***	.20	5.01
Arrested	4.06***	.35	57.78
Overall Fit (F value)	18.11***		
Pseudo R <sup>2</sup>	.14		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

Table 3.32

*Logistic Regression Models for Being Searched: 2005 PPCS*

Low Complexity	Middle Complexity	High Complexity
Sex	Sex	Sex
Race	Race	Race
Age	Age	Age
MSA Status	MSA Status	MSA Status
Income	Income	Income
Interview Type	Interview Type	Interview Type
	Reason for Stop	Reason for Stop
		Number of Officers
		Stop at Night
		Arrest

Table 3.33

*Logistic Regression Predictors of Being Searched: 2005 PPCS*

Variables	Coeff.	SE	Odds Ratio
Intercept	-4.82***	.51	
Demographics			
Age	-0.03***	.01	.97
Male	1.17***	.24	3.22
Black	0.59*	.30	1.80
Hispanic	0.74**	.26	2.09
Other Race	0.42	.41	1.52
<\$20,000/yr	0.54*	.24	1.72
\$20,000-49,000/yr	0.44	.26	1.56
MSA Central City	0.33	.35	1.39
MSA Non-Central City	0.05	.32	1.05
In Person Interview	-0.07	.21	.93
Reason for Stop			
Vehicle defect	0.62	.35	1.86
Record check	0.65*	.31	1.91
Roadside check	0.61	.43	1.84
Seatbelt violation	0.12	.63	1.13
Stopping violation	-0.55	.44	.58
Illegal turn	1.27***	.32	3.57
Other traffic violation	1.18**	.37	3.25
Other reason	1.00*	.50	2.72
Other Stop Details			
More than one officer	1.61***	.22	5.00
Stopped at night	3.83***	.39	46.12
Overall Fit (F value)	12.68***		
Pseudo R <sup>2</sup>	.12		

\*  $p < .05$ \*\*  $p < .01$ \*\*\*  $p < .001$

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## Chapter 4

### The Effect of Video Recording Custodial Interrogations on Legal Outcomes

Media portrayals of police interrogations often present highly dramatized, adversarial depictions of police officers getting confessions out of guilty suspects and suspects demanding legal representation. Due to the secrecy of the actual interrogation process in the United States, civilians believe that these fictional interactions are accurate representations of real-life interrogations. They are not. Most suspects do not ask for a lawyer. The majority of interrogations are not recorded in any way. As researchers are increasingly allowed “into the interrogation room,” a better understanding of common procedures, tactics, and assumptions during interrogations provides insight into how some interrogation procedures may increase the likelihood of false confessions and other negative legal outcomes.

In response to several high profile cases of false confessions (e.g., the Central Park jogger case, the case of Eddie Joe Lloyd), the practice of recording interrogations, particularly in serious felonies, is becoming more common. At present, more than 450 law enforcement departments throughout all 50 states record all interrogations (Scheck, Neufeld, & Dwyer, 2001). This number is small though, in comparison to the approximately 663, 535 departments in the U.S. The practice of recording interrogations is sometimes voluntary on the part of the law enforcement department but may also be

mandated by a court or as part of a settlement following a wrongful conviction. Such directives may also result from legislation--four states have made recording some class of interrogations mandatory.

All the same, the vast majority of police interrogations in the United States are not recorded. Many members of the law enforcement community believe that recording will reduce the likelihood of desired outcomes of interrogations, primarily admissions and confessions. They also worry that if people could see interrogation recordings (e.g., juries, defense attorneys), they would misunderstand certain police tactics and form a negative view of law enforcement, even when all recorded police behavior is legal (Leo & Richman, 2007; Sullivan, 2004). Finally, police may view these mandates as attempts to tell them how to do their job and as reflections of a general mistrust.

A recent study that interviewed investigators from 238 police departments that record interrogations found that police officials were highly supportive of the process (Sullivan, 2004). Interviewees indicated that recording allowed them to concentrate on the interrogation itself (e.g., they didn't have to focus on taking thorough notes), allowed a replay of the interview to discover information not initially detected, and reduced time spent in court. These officials also indicated that fears of suspects refusing to confess while recorded were unfounded—suspects continued to speak freely to police. It is important to note that this report was not conducted in a scientific manner, and did not use accepted sampling or survey techniques (Sullivan, 2004). Although the interviewees indicated that there were clear benefits to recording, none of these benefits was specifically studied.

Numerous writers have described the techniques commonly used by police in interrogating suspects, and the costs and benefits of current practices. Some have argued that the standard procedures are the best possible means of extracting confessions from guilty suspects, with little or no risk of inducing false confessions from innocent ones (Inbau, Reid, Buckley, & Jayne, 2001). Others are more critical, condemning the secrecy of the process and suggesting that false confessions are a common result of police practices. In addition, researchers and practitioners have written about the consequences of recording interrogations, some arguing that it would interfere with the police's ability to obtain convictions, others that it would introduce a much-needed transparency to the process without any adverse effects.

#### *Interrogation and the Presumption of Guilt*

The most widely used interrogation method is the Reid technique, which is outlined in the manual *Criminal Interrogations and Confessions* (Inbau et al., 2001), and the technique has been in use since 1962. This technique divides the questioning of suspects into 3 parts: 1) Factual Analysis (during which probable suspects are identified and improbable suspects are discarded), 2) Behavioral Analysis Interview (a question and answer session designed to elicit behavioral responses that may be related to guilt or innocence), and 3) Interrogation (questioning designed to elicit an admission of guilt). There are nine steps to the Reid Interrogation beginning with direct confrontation of the suspect (Inbau et al., 2001). If the suspect does not admit guilt at that point, several additional steps are designed to elicit a confession through less direct means (e.g., offering alternative explanations, never allowing suspect to deny guilt, shifting blame away from suspect).

According to its proponents, the Reid method does not produce false confessions because innocent people aren't interrogated; they are weeded out in the earlier "interview" process during which questioning and "behavioral analysis" techniques allow an officer to identify a guilty suspect for interrogation (Inbau et al., 2001).

The Reid technique and similar training frames the interrogation as a "guilt presumptive" process in which success is measured by the ability of the interrogator to get an admission or confession. The assumption of guilt produces an environment ripe for confirmation bias in which the behavior of interrogators is shaped by their belief in the suspect's guilt. The behavior of interrogators in turn influences the behavior of the suspect (Kassin, Goldstein, & Savitsky, 2003; Kassin & Gudjonsson, 2004).

The effect of this presumption of guilt on the inference of guilt is demonstrated by a laboratory experiment by Kassin and his colleagues (Kassin et al., 2003) in which some subjects (the "suspect" group) either stole \$100 in a mock theft or committed an innocent act. Other subjects (the "investigator" group) were instructed to question a suspect, having been led to believe either that most suspects were guilty (guilt presumptive condition) or that most were innocent (innocence presumptive condition). Neutral observers then listened to tapes of the interrogations and judged the guilt of the suspect.

Suspects in the guilt presumptive condition were significantly more likely to be judged as guilty of the crime by the neutral observer, and were also seen as more anxious and defensive. One explanation for this increased anxiety and defensiveness is that investigators in this condition exerted more pressure and asked more guilt-presumptive questions. In addition, tension was highest in the guilt-presumptive condition with innocent suspects, because denials of guilt resulted in more aggressive questioning by

their investigators. This aggressive behavior occurred despite the fact the denials in this condition were judged as more believable by the observers (Kassin et al., 2003).

Therefore, the guilt presumptive nature of interrogation produces behavior that is judged as guilty, not just by investigators but also by observers, even when a suspect is innocent. The goal of the interrogation is to get a confession, and these interactions are shaped to do just that. Unfortunately, the procedures commonly used by police increase not only the number of true confessions, but also the number of false ones.

### *Admissions and Confessions*

A frequently cited concern of law enforcement officials is that recording interrogations will reduce the number of admissions and confessions when criminals learn that they are being recorded and know that the confession will be used against them (Leo & Richman, 2007; Sullivan, 2004). While it is difficult to determine exact rates of confession in the United States due to inconsistent use of the definition of confession vs. admission<sup>10</sup> (Kassin & Gudjonsson, 2004), research finds real-life confession rates ranging from 42% to 68% (Leo, 1996; Neubauer, 1974; Thomas III, 1996; Witt, 1973). A survey of police investigators found that police estimated that 67.57% of suspects made self-incriminating statements, with 30% being full confessions (Kassin et al., 2007). Such high rates of confession would appear to be good news—it means that the guilty are confessing to crimes and streamlining the legal process. However, the troubling fact is that the guilty aren't the only ones confessing.

An examination by the Innocence Project of cases in which people have been exonerated by DNA evidence found that 20% of these wrongful convictions involved

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<sup>10</sup> There is an important legal distinction between confessions and admissions. Confessions involve fully admitting to the crime. Admissions involve admitting some aspects of the crime (such as being present at the scene), but not accepting guilt.

false admissions or confessions (Scheck et al., 2001). Other studies of exonerations suggest that these *known* cases of exoneration are a small fraction of a much larger number of wrongful convictions following false confessions (Drizin & Leo, 2004; Gross, Jacoby, Matheson, Montgomery, & Patel, 2005). This conclusion is also supported by experimental studies. Laboratory paradigms produce remarkably high rates of false confessions (Kassin & Keichel, 1996; Klaver, Rose, & Lee, 2003; Redlich & Goodman, 2003; Russano, Meissner, Narchet, & Kassin, 2005).

Therefore, there are two main concerns when examining the effect of video recording on interrogations: 1) the practice should either reduce the number of false confessions or make them easier to detect, while 2) not hindering the ability of officers to get true confessions.

*False confessions.* There are several variables that have been examined as possible predictors of false confessions. Two of the most important variables are the length of the interrogation and the use of certain interrogation tactics.

Cases involving false confessions tend to include longer than average interrogations. Leo and Drizin (2004) found that the mean length of an interrogation that resulted in a false confession was 16.3 hours. Most interrogations last less than 2 hours (Leo, 1996), with a self-report survey of officers finding a mean of 1.6 hours (Kassin et al., 2007). However, in many cases of false confessions it is only the actual confession that is recorded. In the Central Park jogger case, in which 5 juveniles confessed and were convicted only to be acquitted years later of the brutal rape and assault of a female jogger, the confessions were videotaped while the lengthy interrogations that preceded them were not (Leo & Richman, 2007).



In addition to the length of the interrogation, certain police interrogation tactics are likely to increase the likelihood of false confessions. In particular, the tactic of minimization has been related to false confessions. Minimization involves understating the seriousness of the crime, or the suspect's involvement in the crime, in order to gain statements of admission or a complete confession. Usually during this stage of an interrogation, interrogators offer moral justifications or excuses that allow the suspect to save face (Kassin & Gudjonsson, 2004). The Central Park jogger case is an excellent example of how minimization can lead to false confessions. During that case, officers offered alternative explanations for the role of each suspect they interrogated (e.g., "I know you just held her down") and suggested that because of his limited role, the suspect would be released. This tactic caused each suspect to feel that he was admitting to something relatively minor and that if he just admitted to the less serious offense he would be released. In each of the 5 confessions, the confessor minimized his own role in the attack and all 5 suspects later stated that they believed that they would be released after they confessed (Kassin & Gudjonsson, 2004).

It is not simply that minimization provides a way for a suspect to believe he is admitting to a less serious crime, it also that often produces an expectation of leniency. Officers may make statements that lead the suspect to believe that he can go home if he will just confess. Police are not allowed to explicitly offer leniency in exchange for a confession; however, minimization tactics imply leniency, which can lead an innocent person to confess (Kassin & Gudjonsson, 2004). Research has found that neutral observers predict less harsh sentences after reading transcripts in which minimization tactics were followed by a confession (Kassin & McNall, 1991), indicating that people

outside of an interrogation also interpret minimization tactics as implying to less punishment.

Suspects in laboratory experiments also see implicit promises of leniency in minimization tactics. Participants who were innocent of cheating during a lab task were more likely to falsely confess to cheating when minimization tactics were used during questioning than when they were not (Russano et al., 2005). Minimization tactics produced more confessions than maximization tactics (i.e., use of scare tactics, threats) among innocents in a computer crash paradigm designed to elicit false confessions (Klaver et al., 2003).

In the computer crash paradigm, participants were told to avoid pressing a certain key during a computer task because it would cause the computer to crash and lose data. The computer would then “crash” during the testing period and the experimenter would accuse the participant of pressing the forbidden key, even though that key had never actually been pressed. When minimization tactics were used in the questioning of the participant, more false confessions were obtained than when maximization tactics were used (Klaver, et al. 2003). It is important to note that while tactics such as minimization increase the likelihood of false confessions, they also increase rates of true confessions (Russano et al., 2005), so the use of these tactics by law enforcement does appear to have some benefit.

Many researchers believe that most false confessions could be discovered if the entire interrogation were recorded (Leo & Richman, 2007). Recording the entire interrogation would provide investigators, lawyers, judges, and juries with a more complete picture of the circumstances surrounding a confession, thus decreasing the

likelihood of false convictions because it would be easier to identify intense, long interrogations that may predispose a person to confess just in order to end the interrogation.

*Recording and ability to obtain confession.* Many law enforcement officials fear that recording interrogations will lower rates of confession because suspects will be unwilling to talk if they are recorded (Sullivan, 2004; Leo & Richman, 2007). However, officers who regularly record interrogations do not report that the practice hinders their ability to obtain confessions. In a survey of departments that regularly record interrogations, most officers observed that if the suspect was aware of the recording (which is not always the case), that any initial reluctance disappeared once the interrogation got under way and the suspect focused on the conversation (Sullivan, 2004). Other reviews of recording policies have found similar results (Geller, 1992; Police, 1998). In addition, a national survey of 631 police investigators found that 81% of the sample believed interrogations should be recorded (video or audio) from start to finish (Kassin et al., 2007). Of those who believed that there should be a recording of the interrogation, 51% thought the recording should be video, 42% thought it should be audio, and 7% thought it should be captured in a written transcript (Kassin, et al., 2007). These results are surprising given the widespread resistance to recording procedures; however, the respondents for this survey were recruited through researchers' contacts so the sample may have tended to be more progressive than average.

#### *Miranda Waivers*

Suspects in custody must be made aware of their right to remain silent and to have a lawyer present, according to the Supreme Court ruling in *Miranda v. Arizona* (1966).

Suspects are allowed to waive these rights and may do so orally or in written form, depending on individual state guidelines. Because these rights are made explicit, and are designed to protect suspects, it would be expected that waiving them would be rare. In fact, the majority of suspects waive their Miranda rights. Police estimate that 81% of suspects do so (Kassin et al., 2007) and in a study of real-life interrogations Leo (1996) found that 78% of suspects waived their rights.

One problem is that is that suspects who are inexperienced (e.g., no prior record) or innocent are most likely to waive their rights. Suspects with a felony record are nearly four times as likely to invoke their rights compared to suspects with no prior record (Leo, 1996). The pattern of innocent suspects waiving their rights more than the guilty is also found in experimental research on interrogations (Kassin, 2005; Kassin & Fong, 1999; Kassin & Norwick, 2004).

## Current Study

### *State Bar of Michigan Task Force on Custodial Interrogations*

The current research was completed as part of a partnership with the State Bar of Michigan (SBM) Task Force on Custodial Interrogations. The task force wanted to conduct a scientific study of the effect of video recording interrogations on legal outcomes. As more states (including Michigan) consider legislation requiring recording of interrogation, the SBM felt that it was important to conduct an objective analysis of the effects of recording before taking a position on legislation that mandates the recording of custodial interrogations.

The Task Force was comprised of people from all parts of the legal system: prosecutors, defense attorneys, judges, and police chiefs. The Task Force asked 3

researchers from the University of Michigan (Katherine Knight, Phoebe C. Ellsworth, and Samuel R. Gross) to design and conduct the scientific study.

The goal of the scientific study was to find out whether the video recording of certain felony interrogations would change the rate of certain legal outcomes. First, it was important to establish whether recording interrogations would increase the likelihood of guilty pleas. Proponents of video recording feel that this kind of evidence would provide prosecutors with stronger evidence against suspects, primarily because it reduces the opportunity of the suspect to claim improper police conduct during an interrogation. Guilty pleas could occur either as an initial guilty plea or as part of a plea bargain.

In addition, Task Force members were interested in whether the number of confessions decreased following the implementation of the policy, as has been feared by some members of law enforcement (e.g., Inbau, et al., 2001).

Some of the outcomes that the Task Force hoped to examine could not be studied in the current study because of the small sample size and the rarity of those outcomes. . For example, it would be interesting to examine the use of the video recordings in court, and the reactions of juries. Some proponents of recording policies argue that the recordings would be strong prosecution evidence, while some police that worry juries would perceive certain police tactics (e.g., lying about having evidence) as being manipulative or unethical<sup>11</sup>. However, only a few cases in this sample went to trial.

It was also impossible to study whether the rates of complaints and/or lawsuits against police departments decreased after the recording policy went into effect. Video recordings of interrogations may protect the department from false accusations of

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<sup>11</sup> While the ethics and manipulative effect of such tactics are a topic for debate, practices such as falsely claiming that there is evidence against the suspect are, at present, legal in the American legal system.

misconduct or abuse during interrogations. The length of recorded interrogations also could not be examined because the length of interrogations that were not video recorded could not be reliably determined.

Finally, another outcome that could not be examined in the current study because it did not happen during the pilot period was the number of Walker hearings. Walker hearings are court proceedings in which the admissibility of a confession is challenged, and it was believed by the Task Force that these hearings would decrease when interrogations were recorded in their entirety.

## Method

### *Participants*

The participating police department for this study is a small city in Michigan with a population of approximately 36,000 according to the 2000 census. Whites are the largest racial group in the city (~74%) and Blacks the largest minority group (~20%). Approximately 4% of the population reported that they were Hispanic or Latino.

This police department volunteered to be a pilot site for the SBM study on the recording of interrogations. In exchange for its participation, the department received the necessary recording equipment at no expense. The department agreed to make available records from before the onset of the recording policy, records following the policy, and copies of all recorded interrogations. Participation consent was given by the department chief and all officers were made aware of the recording policy.

The prosecutor's office in the same jurisdiction also agreed to participate in this research. Their participation was necessary so that cases could be followed to find out their legal outcomes.

### *Case Characteristics*

The focus of this study is interrogations in major felony cases. As outlined by the SBM Task Force protocol, the following types of interrogations are included in the samples: homicide (all degrees and forms), robbery (all degrees and forms including carjacking and assaults with intent to rob), criminal sexual assaults (all degrees), and felony assaults. Members of the participating department were supposed to record all interrogations of crimes from these categories, with only a few exceptions which are outlined by the Task Force (e.g., equipment already in use for another interrogation, equipment broken, spontaneous utterances). To be included in the sample, the interrogation must be custodial, which is defined as a situation in which a person is under arrest or in which a reasonable person would not feel free to leave. This definition was communicated to the pilot site both in person (by the experimenter) and in the written materials that accompanied the site's agreement to participate in the project. In fact, the former chief of the site had been a member of the task force that created the definition. However, there may have been problems communicating this definition to the police for multiple reasons including the fact that the definition of a custodial interrogation is construed as much narrower within law enforcement (i.e., a person has been detained, [for example being handcuffed], or it has been made clear the person is not free to leave).

A number of other case characteristics (e.g., demographics, situation surrounding arrest, evidence collected) were also coded in case they acted as potential predictors of legal outcomes. In order to examine possible changes in the frequency of legal outcomes, police and prosecutors' files from before the beginning of the recording program and after its onset were examined.

*Before sample.* The before sample includes cases from September 1<sup>st</sup>, 2006 to December 31<sup>st</sup>, 2006. The sample period was chosen to match the after sample in order to control for any effects of time of year. To create this sample, all police records for cases matching the types listed above were obtained from the pilot site. This sample was then examined by the primary researcher and two trained law student research assistants to identify cases that included a custodial interrogation. Those cases were coded for type of case, arrest, and interrogation details by a team of five trained research assistants. The cases were then followed to the prosecutors' files where they were coded for legal outcomes. In cases where t multiple suspects were interrogated, each suspect and interrogation was coded separately.

*After sample.* The after sample included cases from September 1<sup>st</sup>, 2007 to December 31<sup>st</sup>, 2007. To determine this sample, all police files from the time period for the crimes being studied were examined by the team of five research assistants and the primary investigator to determine in which cases custodial interrogations occurred. These cases were then coded in the same manner as the before sample and the cases were followed to the prosecutors office to examine legal outcomes.

### *Interrogation Procedures*

It is important to note that the research in no way affected the way the police conducted interrogations, except to require them to be recorded if they met the criteria. Researchers were not present in the interrogation room as they have been in previous research (Leo, 1996) and did not directly speak to police about interrogations. Suspects were not to be notified that they were being recorded unless they specifically asked<sup>12</sup>,

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<sup>12</sup> There is no indication in any of the case files or in the video recordings of the interrogations that a suspect asked if he or she was being recorded during the current study.



although signs posted throughout the department clearly warned that a person might be recorded at any point while on the premises.

*Case file coding.* The coding scheme for the police records focused on a number of variables that may be related to legal outcomes and was developed by the primary researcher based on the standard information contained in the files from the test site, the goals of the study, and feedback from colleagues and research assistants. The coding focused on characteristics of the suspect, the offense, the arrest, and the interrogation. A number of suspect characteristics were coded, including: sex, race, age, local residency, and relationship to the victim.

Another major goal of the coding scheme was to capture specifics about both the crime and arrest. Variables coded to describe the crime were: type of crime, time/date of crime, the number of suspects, if the case was closed, the number of victims, the age, race, and sex of victims, and if the case involved some kind of weapon and/or injury. Details related to the arrest included: where the arrest occurred, if there were witnesses to the arrest, if the suspect was handcuffed, if Miranda rights were read, if the suspect was armed, if the suspect resisted arrest, and if force had to be used to arrest the suspect.

Finally, the most important variables coded were related to the interrogation itself. These variables included: where the interrogation occurred, the number of officers that took part in the interrogation, whether the suspect was read his Miranda rights, whether the suspect asked for an attorney, the approximate length of the interrogation (if that could be determined), the time of day the interrogation took place, and whether the suspect made any admissions during the confession. While some of the data from the police files were used as an outcome variable measure (e.g., whether the person

confessed), most of the data from these files were used as predictor variables in analyses. Another important characteristic of the coding scheme was that it including writing 3 separate narratives. Coders wrote a narrative describing the general case and crime, a narrative of the arrest, and a narrative of the interrogation. The complete coding scheme is included in Appendix 4.1.

*Prosecutor's file coding.* In order to code the cases for information from the Prosecutor's Office it was necessary to first determine whether the case had proceeded from the police to that office. For all interrogated suspects, a search for the case's corresponding paper file was conducted. If a paper file was not found, the suspect's name and the incident were then checked against the electronic files to determine if prosecution had been pursued. At this time the case was assigned one of three initial outcomes was recorded: no record (no record of case coming to prosecutor's office), warrant denied (a warrant was applied for but the charges were not pursued by the prosecutor), and case (the warrant was pursued and charges filed).

If a paper file for the case was available, that record was consulted for the relevant information. If a paper file was not available, or if the paper file was incomplete, unclear, or contained contradictory information, the electronic file was accessed for the legal outcome information. Paper files were preferred, as they provided greater detail and the opportunity to code for variables other than legal outcomes; electronic files offered only a summary of the legal events in the case.

The prosecutor's files do not contain a great deal of case information; they primarily focus on the legal proceedings (e.g., dates and types of hearings) and outcomes (e.g., sentences, etc.). In a small group of cases additional demographic variables (e.g.,

history of substance abuse, past felonies, marital status) were available for coding because of the inclusion of a particular document; however, for the majority of studies only the identifying information, legal outcomes, and sentencing could be reliably coded.

## Results

### *Suspect Demographics*

Sixty-four custodial interrogations of individuals were conducted during the course of the study. Thirty-four of these interrogations constituted the before sample while 30 represented the after sample. The majority of the sample was male (79.7%). Racially, black suspects represented 65.6% of the total sample while Whites represented 31.3% of the sample. Suspect ages ranged from 13 to 65 years with a mean of 23.4 years,  $SD = 9.77$  years.

These characteristics were then examined in the before and after sample separately. It is important to note that the after sample refers to the sample of cases collected after recording policy went into effect; however, not all of these cases were video recorded.

In the before sample ( $N = 34$ ), 28 of those interrogated were men, 82.4 %. Black suspects constituted 76.5 % of the population that was interrogated and whites represented 17.6%<sup>13</sup>. The average age of the before sample was 22.3 years,  $SD = 11.0$  years.

In the after sample ( $N = 30$ ), the average age of the sample was 24.6 years,  $SD = 8.18$  years. To examine if the average age was significantly different between the samples, an independent t-test was conducted and there was no significant difference in

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<sup>13</sup> Suspects of unknown race represented 5.9 % of the sample.

average ages,  $t(61) = .93, p = .36$ . Male suspects made up 76.7 % of those who were interrogated and black suspects (53.3 %) represented a larger number of the custodial interrogations than Whites, 46.7 %.

#### *Victim Characteristics*

For the total sample of custodial interrogations there were a total of 87 victims (58.6 % male). The majority of these victims were white (57.8 %) compared to blacks (14.5 %), Hispanics (4.8 %), and victims whose race was recorded as other or unknown (22.9 %).

#### *Crimes*

Among the total sample of custodial interrogations, armed robberies represented the largest proportion (23.4 %) of crimes being investigated by police. Criminal sexual conduct cases (21.9 %), aggravated/felonious assaults (21.9 %), robberies (28.1 %), and other crimes for which one of the crimes for the current study was listed as a second charge (4.7 %) made up the rest of the sample. Robberies could be broken into two large subgroups: strong-arm robberies constituted 15.6 % of the total cases and general robberies constituted 12.5 % of all cases.

#### *Custodial Interrogation Locations and Recording*

It was expected that the majority of custodial interrogations would occur at the police station, but an examination of the cases revealed that custodial interrogations could occur in a number of places, most likely because of the broad definition used for “custodial interrogation” (an interview where a normal person would not feel free to leave). The police station was the location where most occurred (40.6 %). The jail (23.4 %) and other locations (26.6 %) were also locations where a significant number of

interrogations occurred while a police vehicle was where the fewest occurred, 7.8 %.

Other locations included places like residences, youth homes, halfway homes, and on the street<sup>14</sup>.

The data for the location of interrogations for all samples is located in Table 4.2. Overall, for both the before and after sample, the largest percentage of interrogations occurred at the police station. Notably, the before sample also had a large number of interrogations ( $N = 12$ ) that took place in “other” locations indicating that after the recording policy went into effect there was a greater incentive to conduct questioning in a more official environment (See Table 4.2).

#### *Recorded vs. Non-Recorded*

The results of the recording pilot were disappointing, with only 10 cases being clearly identified as having the custodial interrogation recorded. Eight of these cases were from the after sample while 2 were from the before sample. An additional 6 cases (4 before, 2 after) used a voice only recording as a means to capture the interrogation. The logbook maintained by the pilot site to keep track of video recordings that were made showed a total of 24 recordings being made during the after sample time period (September 1, 2007- December 31, 2007); however, a number of these recordings were for offenses that fell outside of the pilot project protocol (e.g., breaking and entering, narcotics offenses).

It was important to examine if the cases in the after sample that were not recorded differed from those that were. Among the after sample of cases, none of the criminal

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<sup>14</sup> Some street questionings were considered custodial interrogations because they fit two criteria: 1) the person was being questioned about their role in a specific crime (i.e., not simple fact-finding), and 2) it was clear that the person would not feel free to leave the situation despite not being explicitly detained by police. These interrogations usually occurred when the suspect was located on the street shortly after a crime and often involved separating suspects from one another.

sexual conduct cases involved a video recording. Video recording only occurred for robbery cases and aggravated or felonious assault cases. It may be these types of cases were generally more complex and involved more parties, making police believe that having video evidence would be particularly valuable. There was also no racial bias in the decision to record: 4 (of 12 total) black suspects were video recorded and 4 (of 10 total) white suspects were video recorded.

It is unclear at this time why so few interrogations were video-recorded. One potential explanation examined in more detail later in this paper is that police simply did not adhere to the definition of a custodial interrogation laid out by the SBM task force. Cases that were not recorded in the after sample will be included in the “no record” sample in the following analyses.

#### *Interrogation Location*

To assess whether police were following the study protocol and at least recording the interrogations that occurred at the police station (where the recording equipment was available), the percentages of interrogations at the police station that used video recording were compared for the before and after sample. In the before sample only 1 of 13 (7.7 %) interrogations in which the interrogation took place at the police station was video recorded and only 3 of 13 interrogations (23.1 %) at the police station involved some kind of recording (video or voice). In comparison, of the 13 interrogations from the after sample in which a custodial interrogation was conducted at the police station, 7 (53.8 %) were video recorded<sup>15</sup>. An additional 2 interrogations had voice only recording, meaning

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<sup>15</sup> One additional interrogation was video recorded at the jail, which is equipped with video equipment but was outside the jurisdiction of this pilot project. However, because it was a video recorded interrogation, that interrogation will be included as part of “video recorded” sample for later analyses.

that 9 of the 13 interrogations (69.2 %) were recorded in some way. These data are summarized in Table 4.3.

Overall, the small number of cases that were eligible for the study in which video recording occurred is disappointing and limits the conclusions that can be drawn from subsequent analyses. However, looking at the occurrence of video recording between the samples shows that after the policy was implemented the number of cases that were video recorded did increase significantly,  $\chi^2 (1) = 5.00, p = .04$ . The number of cases that had some kind of record made for them (voice only or video) did not increase significantly from the before to after sample due to the number of cases in the before sample that had voice only recordings made of interrogations,  $\chi^2 (1) = 1.90, p = .25$ .

While the number of cases that used video recording was low, the percentage of interrogations that occurred at the police station and were video recorded did increase significantly ( $t(61) = 2.29, p = .03$ ) compared to the percentage recorded at the station before the policy was implemented. The data that were presented in Table 4.3 suggest that the police may have made effort to adhere to the policy when they were at the location where the video equipment was located, but that compliance was far from perfect. Potential reasons for this lack of compliance will be examined in greater depth in the discussion section.

Another fact that can be confirmed from this data is that the policy did not dissuade police from conducting interrogations at the police station. In fact the percentage of interrogations that were conducted at the police station in the after sample (43.3 %) was slightly higher than the percentage conducted there in the before sample, 39.4 % (Table 4.2). Therefore, it appears that a policy mandating recording at a central

location does not cause police to go elsewhere to conduct interrogations in order to avoid recording; however, the policy also did not guarantee that all interrogations at that location were video recorded.

#### *Cases Pursued to Prosecutor's Office*

For the total sample of 64 cases, 57.8 % of those with whom the police conducted a custodial interrogation had charges pursued against them. Four of the interrogated suspects (6.3 %) had a warrant denied by the prosecutor (meaning no charges were brought) while 22 suspects (34.4 %) had no record at the prosecutor's office, indicating that the case against them was not pursued to that level.

*Recording sample and outcomes.* The first question examined was whether video recording custodial interrogations would increase the number of cases that would advance to the prosecutor's office. All cases that were video recorded (collapsed across before and after samples) were compared to all cases that did not include a video recorded interrogation (collapsed across sample). The data are summarized in Table 4.4. In cases that did not include a video recorded interrogation, 54.7 % had charges brought against them. Eight of the 10 suspects (80 %) for whom the custodial interrogation was recorded had charges brought against them. A second analysis was done where the outcomes of interrogations where there was some kind of additional record (voice-only or video) were compared to interrogations where there was none. Just over half of the cases (51.1 %) that did not have either a voice-only or video recording had charges brought against them compared to 81.3 % of the cases that did have this kind of record<sup>16</sup>.

These results indicate one of two things: 1) Recording interrogations increases the likelihood that charges will be brought against a suspect, or 2) Suspects who are more

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<sup>16</sup> N = 13



likely to have charges brought against them are more likely to have their interrogations recorded. The latter explanation is more likely. A police officer is more likely to bring a suspect to the police station for a custodial interrogation and record that interrogation if he has reason to believe that the case will be pursued further. It could be considered a waste of time and resources to transport a suspect and record the interview if the suspect's guilt is unclear or if the officer believes charges are unlikely.

### *Confessions and Admissions*

Another important analysis focused on whether the number of interrogations that included admissions or confessions in the recorded and non-recorded samples would be the same. This analysis addresses the law enforcement fear that recording an interrogation reduces the likelihood of a confession. It is important to note that not all cases in which an admission was obtained led to an arrest and prosecution, because in some cases the suspect did not totally confess. If a suspect made comments during the interrogation admitting some element of the crime (e.g., he was present at the site, he had the stolen property) the case was coded as a admission; however, these admissions varied from total confessions (where the suspect admitted to both the act and the fact it was criminal) to minimal confessions like only admitting presence. A second variable captured the extent of these confessions.

For the total sample, 39 suspects (60.9 %) admitted to some element of the crime. Of these admissions, only 10 (25.6 %) were coded as complete confessions. These data are summarized in Table 4.5. Eleven suspects (28.2 %) admitted presence but denied the conduct while 8 (20.5 %) admitted some conduct but denied legal guilt. Some suspects

(10.3 %) admitted conduct but denied that it was criminal and finally some admitted participating (15.4 %) but denied responsibility.

In the sample of cases where there was no video recorded interrogation, 31 suspects (58.5 %) gave some kind of admission or confession. Of these admissions, 9 suspects (29.0 %) gave full confessions. These data are summarized in Table 4.5. Seven (22.6 %) admitted presence but denied the conduct, six (19.4 %) admitted some conduct but denied legal guilt, five (16.1 %) admitted they participated but denied responsibility, and four suspects admitted conduct (12.9 %) but claimed it was not criminal.

In the sample where interrogations were video recorded, 80.0 % of suspects made some kind of admission or confession. However, only one of these admissions was a complete confession. Most suspects (50.0 %;  $N = 4$ ) admitted presence but denied the conduct and two (25.0 %) admitted some conduct but denied legal guilt. There was no significant difference in the percentage of those making some kind of admission or confession between the samples,  $\chi^2 (2) = 1.71, p = .43$ . There was also no significant difference between samples on the percentage of suspects making a complete confession,  $\chi^2 (1) = 0.33, p = .57$ .

As an additional analysis, interrogations where there was some kind of recording (voice-only or video) were collapsed across samples ( $N = 16$ ) for examination. Thirteen (81.3 %) of these recorded interrogations had some kind of admission or confession. This pattern was not significantly different than the percentages observed in the no record sample,  $\chi^2 (1) = 3.49, p = .18$ . Of the admissions, 4 (30.8 %) were complete confessions, 4 (30.8 %) admitted presence but no conduct, 3 (23.1 %) admitted some conduct but denied legal guilt, and 2 (15.4 %) admitted participation but denied responsibility. There

was no significant difference in the proportions of total confessions between the samples,  $\chi^2 (1) = 1.26, p = .26$ .

These results suggest that neither the number of admissions nor the number of total confessions is affected by recording. One consideration is that none of the suspects who were video recorded *knew* they were being recorded, so it would be expected that they would not change their behavior. However, there is another significant difference between the samples that may affect interpretation of these results: the video recording equipment was located at the police station, so location of the interrogation is a confound between the two samples. To try to parse out this effect, an analysis was conducted that looked only at interrogations that occurred at the police station. In this restricted sample ( $N = 26$ ), there were 18 suspects who made some kind of admission. Eleven of 18 (61.1 %) suspects who were not video recorded made some kind of admission, while 7 of the 8 (87.5 %) suspects who were video recorded made an admission.

While the power of these results is threatened by the low base size for recorded confessions, these data indicate that a policy of video recording did not significantly change the number of admissions or the total number of confessions obtained from custodial interrogations. Because many police worry that a mandate of video recording would lessen the chance of gaining a confession, this finding is an important first step in demonstrating quantitatively the more qualitative research on the subject (e.g., Sullivan, 2004).

#### *Guilty Pleas and Plea Bargaining*

Another focus of the study was to see if the number of guilty pleas (with or without a plea bargain) would increase when cases were recorded due to the increased

leverage a videotaped interrogation would provide and the high quality of such evidence. For the total sample there were 36 interrogations that could be reliably coded for their outcome after they proceeded to the prosecutor's office. Ten of these cases were dismissed (27.8 %). The rates of other outcomes can be seen in Table 4.7.

The total sample had a large percentage of cases resulting in some kind of plea bargain (47.2 %). Plea bargains could take many forms: a defendant could plead guilty to a lesser charge in exchange for a higher charge being dropped, he could plead guilty to a the top charge and have lower charges dismissed, or a nolle prosequi could occur in which charges were dismissed in one case as part of a deal for another case. The breakdown of these variants can be seen in Table 4.7. Overall, between plea bargains and pleas, 61.1 % of the defendants pled guilty to the crime with which they were charged.

In the non-recording sample, there were 28 cases that proceeded to the prosecutor. Nine (32.1 %) of these cases were dismissed. Exactly half of the cases involved some kind of plea agreement and over half of the defendants (57.1 %) pleaded guilty. There were 8 cases that proceeded to the prosecutor from the video recorded sample. The percentage of these cases that were dismissed (12.5 %) was not significantly different from the non-video recorded sample,  $\chi^2 (1) = 1.20, p = .27$ . Only 3 (37.5 %) of suspects from video recorded cases entered into plea agreements, which was not significantly different from the non-recorded sample,  $\chi^2 (1) = .39, p = .53$ . A total of 6 (75.0 %) of the 8 cases involving recorded interrogations ended with some kind of guilty plea, which was also not significantly different from the non-recorded sample,  $\chi^2 (1) = .84, p = .36$ . These data are summarized in Table 4.7.

As an additional analysis, the interrogations where there was either a voice only or video recording were collapsed across samples and compared to the interrogations where no such recording was made. Thirteen of these interrogations proceeded to the prosecutor's office and only 1 (7.7 %) was dismissed. This proportion was significantly different than what was observed in the non-recorded sample,  $\chi^2 (1) = 4.09, p = .04$ . Seven of the defendants (53.8 %) entered into some kind of plea bargain which was not significantly different than what was observed in the non-record sample,  $\chi^2 (1) = .36, p = .55$ . Ten of the 13 (62.5 %) did plead guilty in some way, but this was not significantly different than the non-record sample,  $\chi^2 (1) = 2.14, p = .14$ . These data are summarized in Table 4.7.

These results are limited by low power due to few cases where an interrogation was recorded. However, they do suggest that recording policies *may* lead to a decrease in the number of dismissals and a possible increase in the number of plea bargains and overall number of guilty pleas. Results show that when recording is collapsed across audio and video recording, a significantly lower percentage of cases were dismissed. While the difference between the groups was not significant with regard to differences in guilty pleas, there was a trend toward cases that had some kind of recording having an increased likelihood of ending in a guilty plea.

#### *Other Variables of Interest That Could Not Be Examined*

There were numerous other outcome variables that were originally planned to be examined in this study. However, these outcomes were either non-existent in the current sample or there was no way to accurately assess them. Walker hearings are hearings where the admissibility of a confession is considered. It was hypothesized that recording

interrogations would decrease the number of these hearings because video recordings would remove the “he said, he said” nature of these hearings. There were no Walker hearings in the current study, and the low number of cases proceeding to trial makes it very unlikely that any occurred.

Another variable of interest that could not be examined was the number of cases/complaints brought against police for brutality or threats. One purpose of mandated video recording is to protect police from charges (and lawsuits) claiming abuse in the interrogation room. During the study period there were no cases or lawsuits lodged against the pilot site for any of the cases examined.

Finally, the role of recorded interrogations in court proceedings could not be studied because of the low number of cases that went to trial ( $N = 3$ )<sup>17</sup>. It was hypothesized that recording interrogations would reduce the number of cases going to trial and that the videotaped confessions would be used in court and would lead to more guilty pleas. Future research with a larger number of cases that continue to trial would be needed to determine the effects of video recording on courtroom-related outcomes.

## Discussion

### *Current Study*

The current study is the first study to attempt to systematically examine the effect of mandated recording of custodial police interrogations on legal outcomes. It required the development of a coding frame appropriate for use with police files, coding of prosecutor’s files and court records, and the comparison of cases where a custodial

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<sup>17</sup> One of these cases had a trial scheduled at the time the study closed but may have either proceeded to trial or been closed in another fashion after the end of the study.

interrogation was recorded. It also necessitated a high degree of coordination between the researcher and the pilot site's offices.

This research tentatively supports the theory that recording custodial interrogations does not affect the ability of police to get confessions, nor does it decrease the likelihood of a case proceeding to prosecution. In fact, cases where some kind of recording was made (voice only or video) were less likely to be dismissed in court than the cases where the interrogation was not recorded and there was a trend to suggest that they might also increase the likelihood of a guilty plea. These are the first data that follow cases of recorded and non-recorded custodial interrogations through the legal process to assess their outcomes.

#### *Limitations*

The goals of this study could not be fully accomplished due to the low number of interrogations that were actually recorded over the course of the study ( $N = 10$ ). This low number of cases is explained by many factors: the fact that only interrogations occurring at the police station could be videotaped, the relatively low crime rate for these felonies at the pilot site, and the low number of cases that proceeded to the prosecutor and the even lower number that proceeded to trial.

The study was likely most hindered by the failure of the research team and the police department to align on the definition of a custodial interrogation. The research team, guided by the State Bar Task Force's definition, adhered to a more "legal" or court-worthy definition of custodial interrogation. While this definition was communicated to the pilot site on numerous occasions, it is clear from the low number of video recorded interrogations that the definition police used was not the same. Police training suggests

that informing a suspect that he is free to leave is enough to make a situation non-custodial; however, our definition of custodial interrogation meant that some of these instances may be considered custodial, depending on certain factors (e.g., age of the suspect, location of interrogation, the way the suspect arrived at that location), because a reasonable person may not truly feel free to leave the situation. Another possibility is simply that the police consciously chose not to comply with the Task Force definition of a custodial interrogation due to convenience or displeasure with being studied.

The interview room that was equipped with the recording devices was clearly being used—private conversations with the officers and their logbook indicated it was used for interrogations, witness statements, and interviewing victims. However, it did not appear that police made a special effort to use the room if it would be easier to conduct questioning at a different location.

An additional confound that could not be reliably controlled for was the location of the interrogation and the difference in suspicion that that indicates. Police will be more likely to use the interview room at the police station with suspects of whom they are more suspicious or, predictably, with arrested suspects. Custodial interrogations that occur in other locations may indicate that a police officer considers that person a less serious suspect and thus is less likely to consider that questioning a custodial interview. Therefore, suspects who had their interrogation were being questioned at the police station and may already be more likely to have their case continue to prosecution.

The low number of cases that proceeded to trial prevented the current study from examining how video recorded custodial interrogations affect courtroom outcomes. Early objectives for this study included examining if certain hearing types (e.g., Walker



hearings) decreased because of the presence of video recorded interrogations. Also, it was hypothesized that the recordings would be widely used if a suspect went to trial. However, because only 3 cases proceeded to trial, and one of these has yet to be completed, it was impossible to examine how the recording policy affected courtroom variables. The speed of the judicial system also limited the time-frame of the current study. A typical case in the pilot site will take an average of 4 months to go to trial if a plea bargain is not reached and the case is not dismissed. While this time frame is quick relative to other jurisdictions, it did limit the time during which we could conduct the study in order to ensure that the largest percentage of cases possible had been resolved by the time analysis began.

A final limitation was the nature of the paper files used in coding. The police files were very complete—usually containing all information relevant to the case including warrant requests, evidence lists, and even mugshots. However, the descriptions of the interrogations contained in these files had to be assessed by outside researchers. While these researchers had a high degree of reliability among one another (in only one case did research assistants disagree about whether a questioning was a custodial interrogation), they were all limited to the information contained in the recap of the incident. It is possible that because of the summary nature of these records that the questioning of an individual may come across as an interrogation when it was in fact only fact-finding. It is also possible that police may downplay some of their actions and thus make some interviews appear brief or simple when they were in fact an interrogation. This downplaying would be most likely in cases where a suspect was not arrested, but perhaps being interrogated in a custodial situation.

Finally, the types of analyses that could be used were limited by the number of interrogations, and particularly by the low number of cases that were video recorded. More advanced analysis using techniques like logistic regressions to predict outcomes would be incredibly valuable for studies examining this topic; however, the small sample for the current study did not allow for these statistical tests.

#### *Future Directions and Design Improvements*

Because of the limitations of the current study, it is necessary to reflect more thoroughly on ways that the procedures, design, and analysis of future studies can be improved.

*Custodial interrogation definition.* The biggest threat to studies of this nature is the failure of police and researchers to agree upon what constitutes a custodial interrogation. As noted in the introduction, police are trained to consider an “interrogation” a conversation in which the goal is a confession. This is true at the pilot site—the officers there mentioned using the Reid technique to the primary researcher in an earlier meeting. Thus, police reserve this word for only those cases in which they are confident an individual is guilty and they are trying to extract a confession. While researchers, and even legal professionals, would consider some types of questioning to be interrogations, to police they are still considered “interviews.” Even in their reports, the police referred to situations that were clearly custodial interrogations as “interviews.” One possible modification would be to adjust the definition of custodial interviews to include only those where Miranda rights have been waived. However, in the cases from the pilot site it was clear that there were varying levels of Miranda warnings given (e.g., waiving rights vs. being informed of them) so that criterion may not be particularly

reliable. There were also cases where the situation was clearly custodial under the definition but police had not yet proceeded to Mirandize the suspect (i.e., often when finding suspects on the street after a crime).

In order to gain alignment, it is important that both the researchers and the police clearly decide on a definition that is workable for both their goals. While this definition was clearly defined and discussed with the pilot site for the current study, it was not a definition that the officers that conducted the interrogations had any input in deciding. It may be necessary to choose a site with a higher felony crime rate and to initially use a narrower definition of what constitutes a custodial interrogation in order to gain reliable compliance and then work on broadening the definition if the policy is well-received.

*Flexibility of recording devices.* The recording devices used for the current study were quite advanced but were installed in only one location—an interview room at the pilot site’s police station. It is clear from the number of interrogations that occurred outside of the police station that if a policy mandating the recording of custodial interrogations (with the current definition of custodial interrogations) is to be successful, it must allow officers more flexibility in recording interviews. It appears that audio recordings, while not as ideal as video recording, would be one addition to the policy that could allow an officer to record an interview in a variety of places. The use of dashboard cameras and the squadcar as a makeshift interview room is also an option.

One concern raised regularly by officers involved in the task force was that forcing an officer to transport a suspect to a location for an interview could cause the officer to lose an advantage he had by questioning the suspect in another setting. While this belief is interesting in itself as a study, it must be acknowledged in any study that

hopes to reliably examine the outcomes of custodial interrogations. Flexibility, especially initially, is a necessary ingredient to capture as many interrogations as possible. Therefore, one potential improvement to the current design is supplying the officers with digital voice recorders that they can use outside of the station. This flexibility also removes the bias inherent in transporting suspects to the police station for questioning, namely that only those individuals who are suspects in serious crimes or who are strongly believed to be guilty would be taken to the police station for questioning. This confound is necessary to correct for if one hopes to compare legal outcomes from cases.

*Future sites.* One limitation of the current pilot site was simply its size and crime rate. Studies of this topic need to be conducted on a larger scale, preferably in a city with a high rate of felony crimes. In order for the results to be the most reliable it is also important that the research be conducted in numerous locations, with sites of different sizes and demographic make-up. It may be that the policy is quite useful in high crime areas but more cumbersome in rural jurisdictions.

*Time frame.* Ideally a study of this nature could be longitudinal in nature and conducted over several years, from before a policy is implemented through the first years of its life. This design would provide more reliable results because it would allow for acclimation of the police department to the policy. In addition, having more cases would also correct the effect of any single case (e.g., an armed robbery case with many suspects) on findings. If a cross-sectional design needed to be implemented for policy purposes, it would be suggested that the study be conducted simultaneously in several sites and that an acclimation period for the police department be added at the beginning of the study

period. This period of time would allow the researchers and police to work together more closely to ensure that any differences in interpretation were worked out prior to the project.

*Nature of files.* Inherent in any secondary analysis of data is the chance that the interpretation of the researchers will not fit the interpretation/intent of the person creating the record. To remove any potential biases on the part of the researcher, it would be ideal to work with police during the acclimation period to go over sample case files to understand the process and information contained in the files more clearly. This process would also allow the researchers to identify any biases in the reports of the police (e.g., tendency to downplay certain characteristics of an interrogation) that need to be accounted for during coding.

#### *Overall Perspective*

Mandating the recording of custodial police interrogations is a policy with the potential to protect not only suspects, but also police officers. It is clear from my experience during the current study that the police officers used the recording devices in the interview room, even for purposes outside of questioning suspects—they saw it as an advantage. The two primary officer contacts both remarked to this researcher that the room was being used for a variety of purposes (e.g., victim statements, witness interviews) and that they liked having it available. This observation matches with past research that found police officers often considered recording a benefit after a policy was implemented.

The current research offers no evidence that suggests a policy of mandated recording in assaultive felonies causes any significant change in primary legal outcomes

with the exception of perhaps reducing the number of cases that are dismissed. The fact that there is no change is vital—it means that these policies do not, in an initial study, appear to work against the goals of law enforcement or reduce the likelihood of getting confessions or guilty pleas.

However, a great deal of research remains to be done on these topics. Not only is it important to understand how recording interrogations affects legal outcomes, it will also be important to examine how these recordings are used in the courtroom and the affect they have upon juries. Mandated recording policies have the potential to change law enforcement for the better, safeguarding both suspect and officer. This research should be given a high priority despite its complexity.

Table 4.1

*Suspect Characteristics Across Samples*

	Before (N = 34)	After (N = 30)	Total (N = 64)
<b>Race</b>			
Black	76.5	53.5	65.6
White	17.6	46.5	31.3
<b>Sex</b>			
Male	82.4	76.7	79.7
Female	17.3	23.3	20.3
Age	22.3 years	24.6 years	23.4 years

*Note: Sex and race data are presented as percentages*

Table 4.2

*Recording at Police Station for Before and After Samples*

	Before (N = 34)	After (N = 30)
Police Station	38.2	43.3
Jail	17.6	30.0
Police Vehicle	5.9	10.0
Other	35.3	16.7

*Note: All data are presented as percentages*



Table 4.3

*Percentage of Interrogations at Police Station That Were Recorded*

	Before (N = 13)	After (N = 13)
Video Recorded	7.7	53.8
Video or Voice Recorded	23.1	69.2
No Recording	76.9	30.8

*Note: All data are presented as percentages*

Table 4.4

*Suspects Charged and Video Recording*

	Not Charged	Warrant Denied	Prosecuted
Video Recorded	1 (10 %)	1 (10 %)	8 (80 %)
Video or Voice Recorded	2 (12.5 %)	1 (6.2 %)	13 (81.2 %)
No Recording	20 (8.5 %)	3 (5.8 %)	29 (55.8 %)

Table 4.5

*Admissions and Confessions by Sample*

	Recorded	Not Recorded	Total
Admission Only	70.0	57.4	45.3
Confession	10.0	16.7	15.6
No Admission/Confession	20.0	25.9	39.1

*Note: All data presented as percentages*

Table 4.6

*Admissions and Confessions For Any Recording*

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	Recorded (Video or Voice Only)	Not Recorded
Admission Only	56.3	57.4
Confession	25.0	16.7
No Admission/Confession	18.2	25.9

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*Note: All data presented as percentages*

Table 4.7

*Case Outcome by Sample*

	Video Recorded (N = 10)	Any Recording (N = 13)	Not Video Recorded (N = 54)	Total (N = 64)
Dismissed	12.5	6.2	32.1	27.8
Pled guilty to charge	25.0	12.5	10.7	13.9
Plea bargain (lower charge dropped)	12.5	12.5	10.7	11.1
Plea Bargain (pled guilty to lesser charge)	25.0	31.2	35.7	33.3
Convicted by jury	12.5	6.2	0	2.8
Hung jury	0	6.2	3.6	2.8
Not guilty in Bench Trial	0	0	3.6	2.8
Nolle Prosequi Confession	0	0	3.6	2.8
Still Pending	12.5	6.2	0	2.8

*Note: All data presented as percentages*

Appendix 4.1

**Case Characteristics**

**Inci#:** Incident Number (upper right corner)

**InciDate:** Incident Date (use date furthest to right in box)

**InciTime:** Incident Time (use military time, 00:00-24:00). Use furthest right time noted.

**PolID #:** Officer ID number (3 digit number, usually beginning with “0” following officer’s name)

\*\*\*\*\*

*For the offense variables, please only code on the suspect’s sheet if he/she was connected with that offense. Which offense a suspect is connected to is indicated in the “Suspect/Arrestee” box under “suspect connected to offense number.” For example, if two suspects are interrogated in relation to a crime involving two offenses (e.g., a criminal sexual assault that happened during a robbery) it is possible that one suspect is connected to both offenses while the other is only connected to one. So in the example, if both committed burglary but only one was connected to the sexual assault, then one suspect would have one offense completed (burglary) while the other would have both offenses completed (burglary & sexual assault).*

**Off1:** Type of Offense (Offense 1). Only complete if suspect is involved with this offense→ indicated in “Suspect/Arrestee” box under “Suspect connected to offense number.”

**Off1Clas:** Class of Offense (Offense 1). Listed in “Class” box on Jackson reports and should be a 4 digit number.

**Off2:** Type of Offense (Offense 2). Only complete if suspect is involved with this offense→ indicated in “Suspect/Arrestee” box under “Suspect connected to offense number.”

**Off2Clas:** Class of Offense (Offense 2). Listed in “Class” box on Jackson reports and should be a 4 digit number.

**Off3:** Type of Offense (Offense 3). Only complete if suspect is involved with this offense→ indicated in “Suspect/Arrestee” box under “Suspect connected to offense number.”

**Off3Clas:** Class of Offense (Offense 3). Listed in “Class” box on Jackson reports and should be a 4 digit number.

\*\*\*\*\*

**SusUsed:** Used in the commission of the crime, can choose up to three using variables. Please reference narrative if it is unclear if *this* suspect was the one to use any of these materials. Only mark the one(s) this suspect used. If it is unknown which suspect used any of these items, mark any of them referenced in the “Suspect Used” box. Be sure to note in the margin if it is unclear if this suspect used the checked item.

- 0 = None
- 1 = Alcohol
- 2 = Drugs
- 3 = Computer Equipment

**Burgle:** Method of entry (used **only** in cases of burglary). If the offense type indicates that the crime was burglary but nothing is checked in the “For burglary only” box, you should enter “not recorded.”

- 0 = No Force
- 1 = Force
- 77 = Not applicable
- 88 = Not recorded

**CaseStat:** Status of case

- 1 = Open
- 2 = Unfounded
- 3 = Exceptional Clearance
- 4 = Inactive
- 5 = Closed
- 6 = Closed, due to lack of evidence
- 7 = Turned over to other dept.
- 88 = Not recorded

**InciStat:** Incident Status

- 1 = Death of suspect
- 2 = Prosecution denied
- 3 = Extradition denied clearance
- 4 = Refused to cooperate
- 5 = Juvenile, no custody
- 77 = Not applicable
- 88 = Not recorded

**AgCircum:** Aggravated Assault/Homicide Circumstances/Agg. Injury. Found in same-named box. Check all that apply. If not applicable, leave blank.

- 77 = Not applicable

**JustHom:** Justifiable homicide circumstances. Found in same-named box. Check all that apply. If not applicable, leave blank.

- 77 = Not applicable

\*\*\*\*\*

**Off1Stat:** Offense Status (Offense 1). *Complete only if suspect is connected to offense #1.*

- 0 = Attempted
- 1 = Completed
- 88 = Not recorded

**Loc1:** Check one location from list provided on coding form. *Complete only if suspect is connected to offense #1.*

**Weap1:** Weapon(s) used in first offense *by this suspect*. You may need to refer to witness narratives to conclude this. **If suspect was not involved in the first offense, do not complete this variable.** If it is unclear from narratives whether this suspect had the weapon, **check the weapon referenced in the narrative anyway and note the uncertainty in the margin.** Choose *only* the worst weapon. If a weapon not listed was used, make a note to the side of the variable. If multiple weapons were used by the suspect, make a note to the side of the variable. Weapons are listed below with the “worst” weapon at the top of the list:

- 0 = None
- 1 = Gun/Firearm of any kind
- 2 = Cutting instrument
- 3 = Blunt object
- 4 = Other

**Off1Bias:** Was there a bias motivation for first offense? (i.e., was it a hate crime)

- 0 = No
- 1 = Yes
- 88 = Not recorded

**BiasType1:** Write out what type of bias motivation is suspected using option from the “Suspected Bias Motivation” box. The corresponding number for the bias should be listed on the line next to “Y” in the “Bias” box.

\*\*\*\*\*

**Off2Stat:** Offense Status (Offense 2). *Complete only if suspect is connected to offense #2.*

- 0 = Attempted
- 1 = Completed
- 88 = Not recorded

**Loc2:** (Write out location using options listed under **Loc1**). *Complete only if suspect is connected to offense #2.*



**Weap2:** Weapon(s) used in second offense *by this suspect*. You may need to refer to witness narratives to conclude this. **If suspect was not involved in the second offense, do not complete this variable.** If it is unclear from narratives whether this suspect had the weapon, **check the weapon referenced anyway and note the uncertainty in the margin.** Choose *only* the worst weapon. If a weapon not listed was used, make a note to the side of the variable. If multiple weapons were used by the suspect, make a note to the side of the variable. Weapons are listed below with the “worst” weapon at the top of the list:

- 0 = None
- 1 = Gun/Firearm of any kind
- 2 = Cutting instrument
- 3 = Blunt object
- 4 = Other

**Off2Bias:** Was there a bias motivation for second offense? Listed in “Bias” box of report.

- 0 = No
- 1 = Yes
- 88 = Not recorded

**BiasType2:** Write out what type of bias motivation is suspected using option from the “Suspected Bias Motivation” box. The corresponding number for the bias should be listed on the line next to “Y” in the “Bias” box.

\*\*\*\*\*

**Off3Stat:** Offense Status (Offense 3). **Complete only if suspect is connected to offense #3.**

- 0 = Attempted
- 1 = Completed
- 88 = Not recorded

**Loc3:** (Write out location using options listed under **Loc1**). **Complete only if suspect is connected to offense #3.**

**Weap3:** Weapon(s) used in third offense *by this suspect*. You may need to refer to witness narratives to conclude this. **If suspect was not involved in the third offense, do not complete this variable.** If it is unclear from narratives whether this suspect had the weapon, **check the weapon referenced anyway and note the uncertainty in the margin.** Choose *only* the worst weapon. If a weapon not listed was used, make a note to the side of the variable. If multiple weapons were used by the suspect, make a note to the side of the variable. Weapons are listed below with the “worst” weapon at the top of the list:

- 0 = None
- 1 = Gun/Firearm of any kind
- 2 = Cutting instrument
- 3 = Blunt object

4 = Other

**Off3Bias:** Was there a bias motivation for third offense? Listed in “Bias” box of report.

0 = No

1 = Yes

88 = Not recorded

**BiasType3:** Write out what type of bias motivation is suspected using option from the “Suspected Bias Motivation” box. The corresponding number for the bias should be listed on the line next to “Y” in the “Bias” box.

\*\*\*\*\*

### Suspect/Arrestee Characteristics

**SusNum:** Number of suspects listed on report. In many cases this will be clear from the number of “Arrestee/Suspect” boxes filled out. However, you should always doublecheck by reading the initial report → sometimes if a victim does not see the attackers and thus cannot offer any descriptions, only one arrestee/suspect box will be completed but the report will note the total number of suspects.

**DOB:** Date of birth for suspect (MM/DD/YYYY). If date of birth is not listed, check narratives to see if you can find an approximate age from statements (e.g., juvenile → under 18; witness gives description as “20-30 years old”). If there is absolutely no reference to approximate age, enter unknown. Be sure to cross-check any connected Prosecutor’s files before putting “unknown.” If there is uncertainty, write details in margin.

**SusSex:** Sex of suspect

0 = Male

1 = Female

**SusRace:** Race of first suspect

0 = White

1 = Black

2 = Asian

3 = American Indian

4 = Hispanic

5 = Unknown

88 = Not recorded

**SUnder18:** Was first suspect/arrestee under age of 18? This fact can be found by looking at the “Disposition of Arrestee under 18” box. If a box is checked, then mark “2” for this variable. If no box is checked, then check DOB (if provided) before marking “1.” If according to DOB they were under 18 *at the time of the crime*, then “yes” should be

entered. If the suspect is unknown (i.e., no identifying information is provided), then mark this variable as “unknown.”

0 = No

1 = Yes

66 = Unknown/Unable to tell

\*\*\*\*\*

## Victim Characteristics

**Vic#:** The number of victims listed on the report. If the victim listed on the report is a business (i.e., no individual name(s) listed, note that the victim is a business on the line. **Be sure to only note victims of the offense(s) the suspect is connected with.**

**Vic1Off:** Victim 1 connected to which offense(s) (1, 2, 3→ enter multiple numbers if necessary).

**Vic2Off:** Victim 2 connected to which offense(s) (1, 2, 3→ enter multiple numbers if necessary).

**Vic3Off:** Victim 3 connected to which offense(s) (1, 2, 3→ enter multiple numbers if necessary).

**V1DOB:** Date of birth for first victim (MM/DD/YYYY)

**V2DOB:** Date of birth for first victim (MM/DD/YYYY)

**V3DOB:** Date of birth for first victim (MM/DD/YYYY)

**V1Rel:** Relationship of the first victim to the suspect (e.g., boyfriend, spouse, child, stranger)

**V2Rel:** Relationship of the third victim to the suspect (e.g., boyfriend, spouse, child, stranger)

**V3Rel:** Relationship of the third victim to the suspect (e.g., boyfriend, spouse, child, stranger)

**V1Sex:** Sex of first victim

0 = Male

1 = Female

**V1Race:** Race of first victim

0 = White

1 = Black

2 = Asian

3 = American Indian

- 4 = Hispanic
- 5 = Unknown
- 88 = Not recorded

**V1Type:** Type of victim. Only one should be chosen.

- 0 = Individual
- 1 = Business
- 2 = Financial (ATM, bank, etc.)
- 3 = Police
- 4 = Government
- 5 = Religious
- 6 = Society/Public
- 7 = Unknown
- 88 = Not recorded

**V1Injury:** Check all that apply. If none are noted on the report, choose "None." Put details of injury in margin.

- 0 = None
- 1 = Broken bones
- 2 = Possible internal injuries
- 3 = Severe laceration
- 4 = Fatal
- 5 = Minor injury
- 6 = Major injury
- 7 = Loss of teeth
- 8 = Unconscious
- 9 = Gunshot wound

**V1Residence:** Residence of Victim 1.

- 0 = Community Resident
- 1 = Resides in the county, but not community
- 2 = Resides in the state, but not community
- 3 = Out of state
- 88 = Not recorded

\*\*\*\*\*

**V2Sex:** Sex of second victim

- 0 = Male
- 1 = Female

**V2Race:** Race of second victim

- 0 = White
- 1 = Black
- 2 = Asian
- 3 = American Indian

- 4 = Hispanic
- 5 = Unknown
- 88 = Not recorded

**V2Type:** Type of victim. Only one should be chosen.

- 0 = Individual
- 1 = Business
- 2 = Financial (ATM, bank, etc.)
- 3 = Police
- 4 = Government
- 5 = Religious
- 6 = Society/Public
- 7 = Unknown
- 88 = Not recorded

**V2Injury:** Check all that apply. If none are noted on the report, choose "None." Put details of injury in margin.

- 0 = None
- 1 = Broken bones
- 2 = Possible internal injuries
- 3 = Severe laceration
- 4 = Fatal
- 5 = Minor injury
- 6 = Major injury
- 7 = Loss of teeth
- 8 = Unconscious
- 9 = Gunshot wound

**V2Residence:** Residence of Victim 2.

- 0 = Community Resident
- 1 = Resides in the county, but not community
- 2 = Resides in the state, but not community
- 3 = Out of state
- 88 = Not recorded

\*\*\*\*\*

**V3Sex:** Sex of third victim

- 0 = Male
- 1 = Female

**V3Race:** Race of third victim

- 0 = White
- 1 = Black
- 2 = Asian
- 3 = American Indian

- 4 = Hispanic
- 5 = Unknown
- 88 = Not recorded

**V3Type:** Type of victim. Only one should be chosen.

- 0 = Individual
- 1 = Business
- 2 = Financial (ATM, bank, etc.)
- 3 = Police
- 4 = Government
- 5 = Religious
- 6 = Society/Public
- 9 = Unknown
- 88 = Not recorded

**V3Injury:** Check all that apply. If none are noted on the report, choose “None.” Put details of injury in margin.

- 0 = None
- 1 = Broken bones
- 2 = Possible internal injuries
- 3 = Severe laceration
- 4 = Fatal
- 5 = Minor injury
- 6 = Major injury
- 7 = Loss of teeth
- 8 = Unconscious
- 9 = Gunshot wound

**V3Residence:** Residence of Victim 3.

- 0 = Community Resident
- 1 = Resides in the county, but not community
- 2 = Resides in the state, but not community
- 3 = Out of state
- 88 = Not recorded

\*\*\*\*\*

### **Case Narrative**

Use as much space as necessary to write a detailed narrative of the case. Do not focus on the interrogation or arrest, as there will be space to describe those later. Make particular note of anything that makes the case unique, major players in the case (but do not use names), inconsistencies, and any more general impressions. You may also use the space to elaborate any margin notes you made on earlier pages. The purpose of these narratives is to act as a summary of the case in case the original case files are destroyed, so there

should be enough information included so that a person who never saw the original file is able to get the gist of the case.

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## Arrest Characteristics

**Arrest:** Was this suspect arrested? You will need to check the narratives to be sure. In the narratives, the suspect is considered arrested if he is told that he is under arrest and is *usually* considered under arrest if he is read his Miranda rights (see **Exception**).

**Exception:** If the suspect is read his Miranda rights as part of a short-term detention (e.g., handcuffed during search and then released without arrest), he may not have been arrested. You can also refer to the “arrest report” that accompanies most files that involve an arrest (although the absence of this report does not mean that an arrest did not take place). Similarly, if a person is read a Miranda Warning and later allowed to leave, he may not have been arrested. Make any notes in margin and discuss with the rest of the research group any case where arrest status is ambiguous.

0 = No

1 = Yes

**Warrant:** Is there an arrest warrant in the file or is it clear from the report that an arrest warrant was issued? Be sure to make notes in margin if the presence of a warrant is uncertain or not included in the file.

0 = Yes

1 = No

**ArrType:** Type of arrest. Found in “Type of Arrest” box. “On view” is defined as: witnessed by the officer and the suspect is taken into custody without a warrant previously issued. “Summon/cited” means no physical arrest but officer issues a ticket or appearance citation. “Taken into custody” means the suspect was arrested on an outstanding warrant or arrest based on a previous incident without a warrant or being witnessed by the officer.

1 = On view

2 = Summon/cited

3 = Taken into custody

4 = Unknown

77 = Not applicable

88 = Not recorded

**ArrLoc:** Where was the suspect arrested? If multiple apply, check all that apply and make note (e.g., suspect may have been arrested at the scene of the crime, which also happens to be his residence). Make a short note explaining location and nature of arrest.

0 = On view (that is, at the scene of the crime, immediately following crime)

1 = Arrestee residence

- 2 = Another residence
- 3 = Police station
- 4 = On street (at a point not immediately following crime)
- 5 = Workplace
- 6 = Surrendered to police
- 7 = Other (make note)
- 77 = Not applicable

**ArrForce:** Was physical force used by the police during the arrest of the suspect? (Simple handcuffing is not considered force.) Use of pepper spray or tasers **is** considered to be physical force. Write details in margin.

- 0 = No
- 1 = Yes
- 77 = Not applicable

**ArrResist:** Did the suspect resist arrest? Signs of resisting arrest include fleeing from police (on foot or vehicle), hiding from police, or fighting with police. Use margin for any notes

- 0 = No
- 1 = Yes
- 77 = Not applicable

**Handcuff:** Was the suspect handcuffed during arrest?

- 0 = Yes
- 1 = No
- 77 = Not applicable

**SArmed:** Was first suspect/arrestee armed with weapon *when arrested*. **Do not complete if suspect was never arrested.** Be sure to note that this is not a variable asking whether a weapon was used in the crime (that variable is covered in earlier coding) but if the arrestee was armed when taken into custody. This refers to weapons found on the arrestee's person (even if not brandished). Not included are weapons found as part of a search of a residence, etc. Please use margin for any notes. Be sure to code this variable even if it is unclear if the suspect was arrested.

- 0 = None
- 1 = Gun/Firearm of any kind
- 2 = Cutting instrument
- 3 = Blunt object
- 4 = Other

**OthSus:** Were other suspects arrested *at the same time* as this suspect? Only indicate "yes" if they are taken into custody at the **same** time and location as this suspect and note in the margin how many others were taken into custody.

- 0 = No
- 1 = Yes
- 77 = Not applicable



**OthSus2:** Were other suspects arrested for this same crime but at a *different* time and location than this suspect. Only indicate “yes” if they are taken into custody at a **different** time and location as this suspect and note in the margin how many others were taken into custody.

- 0 = No
- 1 = Yes
- 77 = Not applicable

**Miranda:** Was Miranda warning (written or verbal) given at the time of arrest? Use margin for notes. Please note timing, location, and how the warning was given.

- 0 = Yes
- 1 = No
- 77 = Not applicable

**PerSearch:** Was the person searched (e.g., frisked, pockets emptied) at the time of his arrest? Do not include searches of cars, residence, or other property. What would be included is property that would be regularly carried by the person (e.g., purses, briefcases, backpacks). **Make note of any physical evidence or contraband recovered during this search in the margin.**

- 0 = Yes
- 1 = No
- 77 = Not applicable

**ProSearch:** Was property (e.g., car, home, locker) of this person searched during or immediately around time of arrest? Do not include a search of the person himself. **Make note of any evidence or contraband recovered during this search in the margin.** Note in margin if there was a warrant for the search that occurred at the time of arrest.

- 0 = Yes
- 1 = No
- 77 = Not applicable

**Evidence:** What evidence was *seized at the time of the arrest*? Possible categories and their explanations are given below. Please include notes in margin/next to evidence to indicate whether that bit of evidence was from a personal or property search. **Do not include evidence collected from victims (e.g., rape kit) or biological evidence sent out to labs in this answer. That evidence will be noted later.**

- 0 = None
- 1 = Contraband (drugs)
- 2 = Cash
- 3 = Vehicles (vehicles seized as evidence at time of arrest)
- 4 = Stolen property (be sure to note if this property is not related to current case)
- 5 = Weapons (note type of weapons)
- 6 = Instrumentalities of the crime (e.g., mask, ropes, disguise, burglary tools)
- 7 = Clothing (specify who the clothing belonged to)
- 8 = Photographs (of crime or photographs taken by police at the time of arrest)

9 = Other (make a note in the margin)  
77 = Not applicable

**ArrWitn:** Were there any witnesses to the arrest? Include anyone outside of the arresting officer and suspect, this would include other members of law enforcement, family members, and other civilians. **Note on the line next to “Yes” the number of witnesses and note their relationship to the case, in the margin.**

0 = No  
1 = Yes  
77 = Not applicable

\*\*\*\*\*

### Arrest Narrative

Use as much space as necessary to write a detailed narrative of the arrest. Do not focus on the interrogation as there will be space to describe that later. You may also use the space to elaborate any margin notes you made on earlier pages. The purpose of these narratives is to act as a summary of the arrest in case the original case files are destroyed, so there should be enough information included so that a person who never saw the original file is able to get the gist of the details of the arrest. Be sure to include any important details that weren't included/asked in the above variables. **Please be sure to note any statements by the suspect at arrest as to innocence, guilt, alibis, etc.**

\*\*\*\*\*

### Interrogation Details

**InterLoc:** Where did the interrogation take place? Please use margin to elaborate if necessary.

0 = Police station (Jackson PD Headquarters)  
1 = Jail  
2 = Police vehicle  
3 = Other (make note of explanation in margin and explain in narrative)

**InterMir:** Did a Miranda warning take place at some point before the interrogation began? If “yes,” make note of when warning occurred (e.g., at arrest, before questions began at station).

0 = Yes  
1 = No

**InterArv:** How did the suspect arrive to the interrogation? Be sure to note any important factors or if there is a reason to be uncertain.

- 0 = Transported by police after arrest
- 1 = Transported by police voluntarily, but not under arrest
- 2 = Voluntarily came to police, but at the request of police
- 3 = Voluntarily came to police on own decision
- 4 = Other
- 66 = Unable to tell/Unknown from record

**TimeDay:** At what time of day did the interrogation take place? Use the time the interrogation *began* to make this judgment. Note the start time in the margin.

- 0 = Morning (6am to 11:59am)
- 1 = Afternoon (12pm to 5:59 pm)
- 2 = Evening (6pm to 11:59pm)
- 3 = Overnight (12am to 5:59am)
- 88 = Not recorded

**TimeEnd:** At what time of day did the interrogation end?

- 0 = Morning (6am to 11:59am)
- 1 = Afternoon (12pm to 5:59 pm)
- 2 = Evening (6pm to 11:59pm)
- 3 = Overnight (12am to 5:59am)
- 88 = Not recorded

**IntLength:** How long did the interrogation last? You may need to approximate this answer based on information from the police file. Be sure to note in the margin how you determined this and if you have reason to be uncertain.

**RecType:** In what manner was the interrogation recorded? Make any necessary notes in margin.

- 0 = Not recorded
- 1 = Tape recorded (voice only)
- 2 = Video recorded
- 3 = Other (make note in margin)

**Confess:** Did the suspect confess during the interrogation? He is considered to have confessed if he admits to the crime, even if he denies certain details (e.g., “I killed her, but it was an accident, I didn’t mean to!” or “I had sex with her but it was consensual.”). Note in the margin if the confession was recanted later in the interrogation. Also be sure to mention if the suspect gave a written statement as part of the confession.

- 0 = No
- 1 = Yes

**ConDet:** This variable is intended to capture the extent of a confession. Use your best judgment and makes notes in the margin and/or narrative to clarify your choice. Discuss with other member of the research team any confusing/unclear situations.

- 0 = No confession, complete denial
- 1 = Admitted presence, but denied conduct
- 2 = Admitted some conduct, but denied legal guilt
- 3 = Admitted participation but denied responsibility
- 4 = Admitted conduct but claimed it wasn't criminal (i.e., self-defense)
- 5 = Total confession

**InterArr:** If the suspect was eventually arrested (as noted in the "Arrest Characteristics" section), did this arrest occur before, during, or after the interrogation. Before is defined as the person being arrested and then questioned in a custodial situation During is considered the suspect being put under arrest in the midst of the interrogation (e.g., after a confession). After is considered the person being questioned in a custodial situation and then being able to leave that situation for a period of time before arrest (e.g., questioned at station and allowed to go home, but arrested the next day). If it is unclear, be sure to make notes in the margin.

- 0 = Not arrested
- 1 = Arrested before
- 2 = Arrested during
- 3 = Arrested after

**Provided:** Do the reports indicate if any of the following offered or provided during the course of the interrogation? Describe in margin or narrative.

- 1 = Food
- 2 = Drink
- 3 = Phone call
- 4 = Sleep
- 5 = Break (for bathroom or other purpose)
- 6 = Other (specify in margin)

**InterEvi:** Did the police reference any evidence (e.g., statements from co-suspects/victims/witnesses, biological evidence, evidence found on the suspect) during the interrogation? Be sure to note in the margin if you have reason to believe that the police lied about evidence at the time it was referenced. You may have to check dates on lab reports to see if they came in after the interrogation took place. Also note in the margin what evidence the police referenced.

- 0 = Yes
- 1 = No

**InterNum:** How many officers took part in the interrogation? "Taking part" is considered asking questions or having a prolonged presence in the room (i.e., not just stopping in to drop something off).

**InterAtt:** Did the suspect request an attorney at any point during the interrogation? Make notes in margin about when the attorney was requested, how he/she was contacted, and whether questioning continued after the request. Also note the reaction of police to the request.

0 = No

1 = Yes

\*\*\*\*\*

### Interrogation Narrative

Use as much space as necessary to write a detailed narrative of the interrogation. You may also use the space to elaborate any margin notes you made on earlier pages. The purpose of these narratives is to act as a summary of the arrest in case the original case files are destroyed, so there should be enough information included so that a person who never saw the original file is able to get the gist of the details of the interrogation. Be sure to include any important details that weren't included/asked in the above variables. **Please be sure to note any statements by the suspect as to innocence, guilt, alibis, etc. Give a good explanation of evidence referenced and your impressions of the interrogation. Be sure to note any inconsistencies or questionable behavior from either the police or suspect.**

\*\*\*\*\*

### Evidence Characteristics

**Polygraph:** Was a polygraph exam administered to this suspect at any point?

0= No

1 = Yes

**Polygraph Description:** Please write a brief explanation of the polygraph if one was done. Answer the following questions and note any other points you believe to be of importance.

- 1) Was an attorney present or consulted prior to suspect taking test?
- 2) Who requested the test? (suspect, DA, police)
- 3) When and where was the test given?
- 4) What were the questions given and their results?
- 5) Who was the polygraph examiner? (not names, but affiliation)

**LineUp:** Did the suspect take part in a line-up? Use the margin to note details about the line-up including: nature of line-up (e.g., sequential or simultaneous), # of people in line-up, whether line-up was live or thru photographs, was the suspect identified in the line-

up, who was taking the line-up (e.g., victim, eyewitness)? Did they identify someone else? Were they picked out and if so, on what try?

0 = No

1 = Yes

**LineDesc:** Please write a brief explanation of the line-up noting the characteristics referenced in **LineUp**.

**TotEvi:** Note all physical evidence (even if previously referenced in “Arrest Characteristics” section above) that implicates this suspect in the crime.

1 = None

2 = Contraband (drugs)

3 = Cash

4 = Vehicles

5 = Stolen property

6 = Weapons

7 = Instrumentalities of crime (e.g., burglary tools, ropes, disguises)

8 = Clothing

9 = Biological (e.g., blood, semen, saliva)

10 = Fingerprints

11 = Ballistics (e.g., recovered bullets)

12 = Fibers

13 = Hairs

14 = Photographs

15 = Eyewitnesses

**THE FOLLOWING SECTIONS SHOULD BE USED TO DETAIL THE EVIDENCE CHECKED ABOVE. Please answer the questions listed and include any other information that would be important for someone to know to understand how the evidence connects the suspect to the crime.**

**Contraband: Drugs.** What was found? Where and when was it found? What was it’s relation to the crime?

**Cash:** Amount recovered. Where and when was it found? What was it’s relation to the crime.

**Vehicles:** Details about vehicles and their connection to the crime. When and where found? How connected to suspect?

**Stolen Property:** How connected to crime? When and where was the property found? From which victim was the property taken? Note if the stolen property was not connected to the current crime.

**Weapons:** What weapons were recovered? How connected to the crime? When and where were they found?

**Other Instrumentalities of the Crime:** (e.g., disguises, ropes, burglary tools) What instrumentalities were recovered? When and where were they recovered? How were they connected to the crime?

**Clothing:** What clothing was recovered? Who did the clothing belong to? When and where was it recovered? How is it connected to the crime?

**Biological:** Specify whether biological evidence was sent out for DNA analysis or other kinds of typing. Where was each piece of biological evidence recovered from? When was it sent for analysis and when did the analysis report come back in? What did the report say? How is this evidence connected to the crime?

**Fingerprints:** Where and when were the fingerprints recovered? How do they implicate the suspect in the crime?

**Ballistics:** (recovered bullets/shells) Where and when were the bullets recovered? How are they connected to the suspect? How are they connected to the crime?

**Fibers:** What fibers were recovered? When and where from? How are they connected to the crime?

**Hairs:** What kind of hair was recovered? When and where from? How is it connected to the crime?

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## Chapter 5

### Conclusion

As the field of law and psychology grows, it is vital not only for new veins of research to be developed, but also for these new directions to use an interdisciplinary approach. The goal of this dissertation was to explore three questions focusing on the role of race in police decision making and practices. The three studies utilized different methods and, largely, different literatures demonstrating the importance of an interdisciplinary approach in the study of law and psychology topics. The combination of these three studies provides a contribution to the field of law and psychology.

The first study addressed a gap in the current research by examining directly the relationship between implicit racial attitudes and performance on a simulated shooting task. The first major finding was that police cadets had significantly higher racial bias scores on the IAT (favoring Whites) compared to college students. These bias scores were also significantly higher than scores obtained from large sample studies within diverse populations. This finding is the first indication that those who choose to pursue a career in law enforcement may have significantly higher rates of implicit bias against Blacks than those who do not choose that career path. The current study could not, however, provide information about what the implicit attitudes of more experienced law enforcement officials may be. The current sample was comprised of officers within their

first 12 months of work. Future research should examine what implicit attitudes look like in more experienced officers and if those attitudes are predicted by the environment in which they work.

With regard to the relationship between implicit attitude bias and performance on the Shooter Task, there was no relationship between these variables. Implicit racial attitudes did predict the number of mistakes that were made in trials where the target was black and unarmed (i.e., participants incorrectly chose to “shoot” the target).

Surprisingly, explicit attitudes (as assessed by the Modern Racism Scale) appear to be better predictors of Shooter Task performance than implicit attitudes. Police cadets scored significantly higher than college students on this measure. Scores on the MRS were marginally related to bias on the Shooter Task and they were also a significant predictor of the number of mistakes made during black-unarmed target trials. These results indicated that measures of explicit attitudes should not be discarded in the study of police shooting decisions; rather, these attitudes may be important predictors of this behavior.

The first study also examined police attitudes on a number of items about the criminal justice system. Cadets were more likely than college students to state that false acquittals were worse than false convictions, a distinction that may be important to understand in research on police practices. They also believed that false confessions and false convictions were less likely than did college students.

Taken together, the results of the first study indicate that there is still a great way to go with regard to predicting racial bias on the Shooter Task. Explicit attitudes play a more important role than initially assumed on this rather automatic task. The attitudes of

police on criminal justice issues are also another fruitful avenue for research, particularly with regard to their views of false acquittals versus false convictions.

The second study replicated past research on racial disparities in search and seizure rates and also provided a way to study how these rates have changed over a period of seven years. The takeaway message from the study is first that patterns of outcomes among the races did not differ significant in a longitudinal fashion. Minority drivers were consistently more likely to receive tickets, be searched, arrested, and handcuffed compared to their white counterparts. The rate of searches were, in particular, surprising as nearly 1 in 10 stopped Black and 1 in 10 stopped Hispanic drivers reported experiencing some kind of search.

Overall, this research supports the notion that “Driving While Black (or Hispanic)” does in fact exist. It does appear that members of these groups are more likely than Whites to be searched, to be handcuffed when they are not arrested, and to receive tickets instead of warnings. There is one caveat to these findings – the current study did not allow for an examination of how the seriousness of the traffic offense may be related to what occurred during the traffic stop. It will be important for future research to yoke stop and offense characteristics to rule out possible alternative explanations for these findings (e.g., minority drivers disproportionately commit more serious traffic offenses).

The third study was the first ever systematic study of how mandating the video recording of custodial interrogations may affect legal outcomes. The goals of the study were limited by the small sample size of cases that included a recorded interrogation. However, preliminary results with this small sample indicate that there was no difference

in the rate of admissions or confession between interrogations that were video recorded and interrogations that were not recorded. That finding helps to dispel the law enforcement concern that recording interrogations would prevent police from getting admissions. It also appeared that cases that were recorded were more likely to be prosecuted than those that were not recorded. These results should be viewed as preliminary as they are based on a very small sample of cases.

The other important contribution of the third study was the development of a instrument and protocol to code police files to study factors that may influence interrogations. This instrument captures information that is both quantitative and qualitative and can be used in future research that examines police files. In addition to the coding, a methodology for examining the effect of mandated recording was also established by the study. Limitations and problems with the method (including differing definitions of custodial interrogations and police compliance) were identified so that future research may have larger sample sizes with which to work.

With regard to race, sample sizes in the final study were too small to examine different racial effect and their relation to recording interrogations. There was not bias in recording – there was an equivalent amount of black and white suspects recorded during the study. The study did find that suspects were significantly more likely to be black than white. Examining how these differing rates of offending between these racial groups affects police interrogation practices will be a valuable contribution as the pilot project expands to new sites.

## Overall Perspective

These studies demonstrate that, despite the volume of research that has been conducted on race and stereotypes in the law enforcement field, there are still numerous research topics that have yet to be fully explored. There does appear to be a clear bias in how minorities are treated compared to whites, and research from the first study indicates that both implicit and explicit attitudes may be necessary to include in research on these topics. Relating these attitude measures to behavior during traffic stops, particularly decisions that may be more subtle (e.g., giving a warning vs. a ticket) is an important next step in research.

It is also important that this research not be used to label police as racists. Some of these results may indicate a true difference in law enforcement beliefs and endorsement of stereotypes, but some may be the result of training or a mere awareness that these stereotypes exist. As shown in the rates of offending by race in the interrogation pilot project, it may also be that racial biases are the product of the crime rates of the community in which the officer works. Examining in more detail the racial attitudes of police will be vital to continue this research.

Another important finding across the studies is that police tend to differ in significant ways from both the general population and others in the legal community. It is important to determine if these differences are due to a self-selection bias into the police community or a result of police training and culture.

Justice is not blind. These studies suggest that perhaps a disproportionate amount of people who may be biased against minorities are attracted to the field of law enforcement. However, even if a police officer is committed to racial equality, as the

majority likely are, he may still be influenced by both the environment in which he works and an awareness of stereotypes. These influences have the potential to bias behavior in a number of settings – shooting decisions, traffic stops, and in the interrogation room. Police officers are charged with the awesome responsibility of protecting civilians; however, they are also human. Because of the potentially tragic effects of poor decisions and because of the power held by this group it is the responsibility of researchers in this field to study factors that are not only interesting in a theoretical sense, but also in a practical way. Providing law enforcement with research may help them to identify problems, but more importantly it may demonstrate how to help correct these problems so that all people can be treated equally in all phases of the eyes of the law.