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Police Use of Force: Examining the Factors Relating to Police Officers Shooting Unarmed Black Males

Abstract

The purpose of this study was to examine the factors relating to police officers shooting unarmed Black males and to seek to understand what impact, if any, a police officer's race, age, years of service, or place of residence has on the decision to shoot an armed or unarmed suspect. The study examined whether or not these factors impacted the decision-making process in shoot/don't shoot scenarios. Thirty sworn police officers participated in the quantitative study that was conducted using a Ti Lab firearms high-fidelity video simulator and a laser-modified Sig Sauer P380 handgun to engage in four shoot/don't shoot video scenarios. The findings suggest that the police officers displayed implicit bias, but there was no activation of the bias against the Black male suspects. The participants were able to override their implicit bias. The participants shot armed White males more quickly than armed Black males, and the participants took significantly longer to shoot an armed White female than an armed Black or White male. It is recommended that future studies use a mixed-methods design to understand the pre- and post-decision points of the participants when engaging in different scenarios. Further, consideration should be given to comparing officer behavior in a simulator to an officer's in-the-field behavior while wearing a body camera.

Document Type

Dissertation

Degree Name

Doctor of Education (EdD)

Department

Executive Leadership

First Supervisor

Sister Remigia Kushner

Second Supervisor

Kishon Hickman

Subject Categories

Education

Police Use of Force: Examining the Factors Relating to
Police Officers Shooting Unarmed Black Males

By

De Lacy D. Davis

Submitted in partial fulfillment
of the requirements for the degree
Ed.D. in Executive Leadership

Supervised by
Sister Remigia Kushner, Ph.D.

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Ralph C. Wilson, Jr. School of Education
St. John Fisher College

August 2019

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Dedication

This dissertation is dedicated to Professor Gable Day (1818-1895), my great-great grandfather who was the first generation of my family in the United States. I honor my grandmother, Clara Mollybell Taylor Johnson, for opening the doors of education for me. I dedicate this work to my mother, Sandra Jean Johnson-Davis, for instilling values in me, for marching with me for justice and equality for all, and for teaching me what democracy looks like. I honor my birth father, David De Lacy Sobers, and stepfather, Roy Lee Davis, for teaching me manhood. I honor my brother, Andre, for being the best example of all the men that I know through his lived experiences. I dedicate this work to my sisters, Bernette, Donna, and Vanessa—thank you for your unconditional love. A-La, my birth child, Daddy has been inspired by your greatness! I thank my adopted children for their support: Jarisa, LaJuan, Tiffany, Karim, Kendale, and Kaitlyn; my godchildren, Sahara, Shawna, and Takia. I dedicate this to my aunties, Shelva Winters, Shelia Hobson-Johnson, Janice Simpson, and all of my family members including the Butler family.

I am thankful to my community mothers for standing in the gap on behalf of my birth mother: Anna Taliaferro, Rita Owens, Mumsey, La Mesha Irizarry, Idriss Stelley Foundation, Christine Moncrief Johnson, Mothers of Murdered Sons And Daughters (MOMSAD), and Fredrica Bey—who provided me with opportunities to serve the community.

I thank my Dissertation Committee, Sr. Remigia Kushner and Dr. Kishon Hickman, for your guidance, patience, and continuous support.

I am thankful to many in my village who created opportunities for the foundation of this work: James Mtume, Gil Noble, all of the student ministers of the mosques, Atiya Rashidi, Dana Rone, Mildred English, Gwen Watts, Margaret Key, and Gloria Buck; my FSO-UC team: Gail Seagull, Andrea, Nilaja, Russ, Oshunusi, Shabey, Licette, LaDona, and Nidia for believing in me; Rev. Donald Luster, Dr. Kenneth Marius, Ms. Alma Beatty, Mr. Darrell K. Terry, and Zach Lipner.

I dedicate this to the police officers who have sacrificed for my survival: former Buffalo, NY Police Officer, Cariol Horne, thank you for standing up at all costs; Walter Brooks—for the courage to fight back; James Scott; George Creekmur; the National Black Police Association forerunners: Chuck Taylor, Howard Saffold, Renault Robinson, Jean Clayton, Yvonne Holley, Roger Abel, Bobby Rivers, Ozzie Thompson, Charles Billups; Detroit African Police Association members: Reggie Crawford, Roosevelt Lawrence; and Theo Broughton, Rochelle Bilal, Guardian Civic League, Members of National Coalition of Law Enforcement Officers For Justice, Reform and Accountability (NCLEOJ), Cheryl Dorsey, Redditt Hudson, Steve Parrish, Noel Leader, Matthew Fogg, and Vernon Wells, New Jersey Council of Black Police Associations, National Association of Black Law Enforcement Officers (NABLEO); founding members of Black Cops Against Police Brutality (B-CAP), Coach Powell, Clem, Baba, Hosia, Tim, Lawrence, Sharon, Shabazz, Vanessa, Bilal, Calvin, Shawn, Labeeb, Mike, Dawn, Nina, Sis. Gloria, and Harry; Police Directors: Joe Santiago, Tracey Bowers, Carol Russell, and Carl Riley, I stand on your shoulders.

I am thankful to the Academy, beginning with the late Dr. Howard Seeley, my mentor, you prepared me for this. Dr. Adelaide L. Sanford, for recommending this

program; Dr. Deloris Washington (cousin), Dr. Chris Chapman, Dr. Chike Akua, Dr. Helen Tinsley, Dr. Princess Towe, Dr. Liza Chow, for being my shoulder to cry on no matter what time, day or night; Stephanie Chui, Atlantic Healthcare, Dr. Melissa Barber, Dr. Reynaldo Ortiz Manaya, Dr. Tyrone Powers, Dr. Joy DeGruy, Dr. Ray Hagins, Dr. Andrey Bundley, Dr. Lenworth Gunther, Dr. J, Dr. Khalfani Toure, Dr. Howard Fuller, Dr. Gerard Robinson, Dr. Claude Anderson, Dr. Louis Gilbert, and Henry McCurtis, MD, thank you for believing in me and encouraging me on this journey.

Biographical Sketch

De Lacy Davis is currently the Executive Director at the Family Support Organization of Union County. Mr. Davis attended Drew University from 1980 to 1984 and graduated with a Bachelor of Arts in English degree in 1984. He attended Fairleigh Dickinson University from 2001 to 2003 and graduated with a Master of Science degree in 2003. He attended Rutgers University-Newark from 2010 to 2012 and graduated with a Master of Public Administration degree in 2012. He came to St. John Fisher College in the summer of 2017 and began doctoral studies in the Ed.D. Program in Executive Leadership. Mr. Davis pursued his research in Police Use of Force: Examining the Factors Relating to Police Officers Shooting Unarmed Black Males under the direction of Sister Remigia Kushner and Dr. Kishon Hickman and received the Ed.D. degree in 2019.

Acknowledgments

The Family Support Organization of Union County (FSO-UC) Board of Directors is acknowledged and thanked for making this dream possible.

To the North Jersey Police Department, Police Director, Firearms Simulator Operator, and the police officers who made this study possible, thank you.

Attorney Emma Jones, New Haven, CT, is acknowledged for her input and assistance in this work.

Abstract

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Chapter 1: Introduction

While the Texas district attorney decides whether to charge a White female, former Dallas, Texas police officer with murder or manslaughter for the off-duty shooting death of Bothom Jean in his apartment, protests, demonstrations, and outrage have gripped the city of Dallas (*New York Times*, 2018). High-profile shootings of unarmed Black males in the United States like Bothom Jean (2018), Dallas, TX; Stephone Clark (2018), Sacramento, CA; Jordon Edwards (2017), Balch Spring, TX; Terrence Crutcher (2016), Tulsa, OK; Walter Scott (2015), North Charleston, NC, have led the public to believe that police officers are biased against Black males (James, 2011). Many protestors have questioned police practices, but, remain hopeful that improved community-police relationships will end violence against the Black community (NBC News, 2016).

The idea that the police are given special rights and broad freedom to use coercive force, even if used improperly (Klockkars, 1996), suggested that police practices should be examined further. Klockkars maintained that police officers have broad powers to stop, detain and if necessary, use force against a citizen. According to Klockkars, in most states with few exceptions, there is no provision for a citizen to resist a police officer's use of force, even if it is illegal. Klockkars stated further that police officers' enormous range of legitimate authority to use force creates the problem of defining and controlling excessive force (Klockkars, 1996).

The police powers that Klockkars (1996) discussed are grounded in the Justice Byron White and the U.S Supreme Court decision (1968) in *Terry v. State of Ohio* (1968). On Thursday, October 31, 1963, Cleveland, OH Police Detective, Martin McFadden, observed John W. Terry, Richard Chilton, and Carl Katz in front of a downtown business acting suspiciously (*Terry v. State of Ohio*, 1968). According to the court transcript, Detective McFadden believed that the three men were *casing a job, a stick up*, and they were preparing to rob a business. The detective detained the three men, suspecting that a crime was about to be committed. The men were frisked for weapons—revolvers and bullets were discovered on two of the men (*Terry v. State of Ohio*, 1968). According to court decision, Terry was sentenced to 3 years for carrying a concealed weapon.

On December 12, 1967, Terry appealed the decision to the Justice White and the U.S. Supreme Court in *Terry v. State of Ohio* (1968). On June 10, 1968, Justice White and the U.S. Supreme Court (1968) held that “the Fourteenth Amendment right against unreasonable searches and seizures, made applicable to the states by the Fourteenth Amendment, “protects people, not places,” and therefore applies much to the citizen on the streets as well as home or elsewhere” (pp. 8-9). The Court reasoned that one should not reasonably expect a police officer on the street to secure a warrant for a search and seizure when on-the-spot observations must be made quickly (*Terry v. State of Ohio*, 1968).

The Court held that a police officer could stop and frisk a suspect, provided that the officer had reasonable suspicion that a crime had been committed or was about to be committed (*Terry v. State of Ohio*, 1968). The Court continued that the police officer

could have a reasonable belief that a suspect may be armed and dangerous. The Court held that a police officer may do a frisk of a suspect's outer garments for weapons for the officer's protection. In view of these types of community-police interactions, the purpose of this study was to examine the factors relating to police officers shooting unarmed Black males.

Other researchers have examined police use of force across four tenets: (a) race and explicit/implicit bias, (b) police training and community policing, (c) environment, and (d) officer experience (Duran & Loza, 2016; Fridell, 2016; Fyfe, 1988). Some literature suggests that police officers are implicitly biased when engaging Black male suspects. Competing literature maintains that police use less force against Black suspects than against White suspects (James, Fridell, & Straub, 2016a; James, James, & Vila, 2016b; Correll, Urlander, & Ito, 2005). Lum (2016) argued that the body of research in this area has mixed results, and it raises concerns regarding research methods, research locations, and types of data that should be analyzed (Lum, 2016; Lum & Nagin, 2017).

Effective policing in a democratic society is based on the principles that crime should be prevented, and the public's view of the police and their actions to prevent crime should matter independently of how effective the police may or may not be (Lum & Nagin, 2017). Williams, Close, and Kang (2016) examined the expanding role that community members play to assist public organizations, like police departments, to develop and implement their public services at the least possible cost of money or energy. Williams et al. (2016) posited that partnerships between the community and police organizations reduces both costs.

“Community-oriented policing is an operational philosophy that reduces community-police conflict and supports democratic societal values” (Williams et al., 2016, p. 4). Proactive community policing forums and strategies have been effective when the police have interacted with the public as sentinels—and not apprehension agents targetting specific people or areas (Lum & Nagin, 2017).

Nicholson-Crotty, Nicholson-Crotty, and Fernandez (2017), rresearchers from Indiana University, conducted a study in 2016 to determine if increasing Black police officers in a police department would reduce the shooting of unarmed Black males. The study found that, until the number of Black police officers reached 35% and 40% of the police force, adding Black officers had no effect on police-involved shootings of Black citizens. Nicholson-Crotty et al. (2017) stated in their research study, “Will more Black cops matter?” Black police officers want to be accepted by police organizations, and they may fear that they cannot advocate for the interest of Black citizens because it violates the organization’s norms (Nicholson-Crotty et al., 2017).

Pittman (2016) posited that this dual perspective is a double-consciousness, a social philosophy concept that comes from the *twoness* experienced by African Americans as a result of oppression and devaluation in a White-dominated society. According to Scott (2002), historically, the police represent the interest of the priviledged, while minority groups represent society’s problem. These competing positions create conflicts for police officers whose shared belief system appears in the form of “thinking blue,” the “blue curtain,” “a code of silence,” and a “blue wall” (Scott, 2002, p. 881).

The code of silence in the Baltimore Police Department demonstrated this double consciousness when an outspoken Black police officer was warned to “stay in your lane,” “worry about yourself,” “mind your own business!!,” and “don’t spread rumors!!!” (U.S. Department of Justice [DOJ], 2016, p. 152). Another officer, a detective, reported misconduct and excessive force by a Baltimore police sergeant and an off-duty officer who were charged and convicted. The reporting officer experienced ongoing retaliation (DOJ, 2016). He was called a “rat,” and told “you better pray to God that you are not the star witness” (p. 153) against the officers.

In a video game simulation study, Correll et al. (2005) used college student participants to examine the role of threat perception in shoot/don’t shoot decisions with armed and unarmed targets. Participants were instructed to shoot subjects who were holding a weapon in the video simulations. The participants shot the armed targets more frequently and more quickly when the subject was armed and Black rather than White. The limitation of this research is that the button-pushing did not reflect the real-life experience of police officers using deadly force (Fridell & Lim, 2015).

Community – Police Impact

Questionable shootings of unarmed Black males have led to calls for more Black police officers (Craven, 2015), better police training (Stoughton, 2014), and the implementation of community policing (Stoughton, 2014). James Fyfe (as cited in Wilgoren, 1999) found that police firearms training scores only test the officers ability to hit a target. They do not test the other factors that impact the decision to shoot or not shoot (Wilgoren, 1999).

Cox, Devine, Plant, and Schwartz (2014) stated that public safety is compromised when police officers make shooting mistakes. They also posited that if an unarmed person is mistakenly shot, his or her innocence has been damaged, and if police officers do not shoot an armed suspect, the officer and the public are exposed to harm (Cox et al., 2014).

Problem Statement

High profile shootings of minority suspects have led the public to believe that the police are racially or ethnically biased (James, 2011). In recent times, the shootings of Botham Jean, in 2018 in Dallas, TX; Stephon Clark, in 2018 in Sacramento, CA; Sean Bell, in 2006 in Queens, NY; Michael Brown, in 2015 in Ferguson, MO; and Philando Castille, in 2016 in St. Anthony, MN, showcase the fact that death at the hands of police, justified or not, has created a significant body of social psychological research to determine if a suspect's race influences the use of force in terms of shoot/don't shoot decisions (Correll et al., 2007). Akinola (2009) posited that these incidents are consistent with data from the DOJ (2007), which highlights that Blacks are nearly 4 times as likely as Whites to be subjected to force during police interactions.

According to the DOJ's Bureau of Justice Statistics (BJS), over 62.9 million U.S. residents, age 16 or older had one or more contacts with the police in 2015 (Langton & Durose, 2016). A total of 25% of persons involved in the street stops and 10% of the persons in traffic stops, did not believe that the police had acted properly (Langton & Durose, 2016). Overwhelmingly, the DOJ data reflects that Black suspects are approximately 5 times more likely than Whites to die at the hands of a police officer (Correll et al., 2007).

Fridell and Lim (2015) explained disproportionate police interventions with Black suspects as the result of there being greater Black suspects' involvement in criminal activity and resisting arrest as well as police having a bias. Recent research suggests that implicit bias may not be the basis for police use of force against Black suspects because counter bias produces less force against Black suspects when compared to White suspects (Fridell & Lim, 2015).

Black crimmythology, the historical association in the minds of the American public of blackness, maleness, criminality, and racial assumptions, which is based on pseudoscience, has impacted policing policies and practices (Williams et al., 2016). The literature indicates that race, police culture, implicit bias stereotypical exposure, the percentage of African American police officers on a police department, and excessive force impact the community and police relationships (Correll et al., 2007; Fridell, 2016; James, 2011; James et al., 2016a; Nicholson-Crotty et al., 2017; Police Executive Research Forum, 2016; Williams et al., 2016). Several studies indicate that Black males are more frequently subjected to shooter bias by police officers than are White targets (Correll et al., 2005; Plant & Peruche, 2005; Williams et al., 2016; DOJ, 2007). More and better research has been recommended by Lum (2016), Fridell (2016), and Williams et al. (2016).

James, Klinger, and Vila (2014) conducted research to overcome the limitations of previous studies that used keyboard/push buttons to shoot or not shoot at suspects. High-fidelity, deadly force judgment and decision-making simulator research suggests that subconscious associations between race and perceived threats to participants are not linked to their shooting behavior (James et al., 2016). The researchers further express that

the benefits of examining suspect race regarding shoot/don't shoot decisions in a laboratory environment removes the external validity issues identified in the push-button research of Correll et al. (2005, 2007).

Researchers have recommended that new research seek to answer the following questions: Does the simulation research of James et al. (2016a) accurately reflect real-life police situations (Fridell, 2016)? Should researchers look at administrative data on deadly force incidents (Lum, 2016)? Does the toggle/push-button research accurately reflect a police officer's reality in the field (Lum, 2016)? Cox et al. (2014) argued that moderating variables, like neighborhood, officer's race, and methodology variations, such as pictures versus video stimuli and gun apparatus versus keyboards or push buttons for shoot/don't shoot decisions, indicate that additional work in this area is needed before the research can inform public policy.

The research on racial bias and police use of force has implications for police practices (Fridell, 2016). Fridell stated there is a need for understanding over vigilance of Black individuals as a result of implicit bias versus under vigilance or counter bias, where police officers may be hesitant to shoot at Black suspects or hold their fire because of attendant consequences (Fridell, 2016).

The counter-bias or reverse-racism arguments that compete with the implicit-bias findings in the research literature of Fridell (2016), Fridell and Lim (2015), James et al. (2016b), and Lum (2016) emerged in an interview of former Minneapolis police chief Anthony Bouza where he stated that in most urban centers in the United States, when a police chief is called "at three in the morning and told, 'Chief, one of our cops just shot a kid,' the chief's first questions are: 'What color is the cop? What color is the kid?' And,

the reporter asked, “if the answer is, ‘The cop is White, the kid is Black’?” “He gets dressed,” replied Bouza (James et al., 2014, p. 337).

Plant and Peruche (2005) suggested that future research examine “the generalizability of the elimination of racial bias on the computer simulation used in current work to other types of response, e.g. FATS, Firearms Training Systems” (p. 183). Therefore, this study used the Ti Use of Force Training Simulator to examine the factors relating to police officers shooting unarmed Black males from the perspective of the police officers.

Theoretical Rationale

Broken windows theory (BWT) holds that social disorder and incivility lead to crime (Keller, 1982). This theory has been implemented in police departments across the United States for more than 35 years. BWT may provide one explanation for increased contacts between police officers and Black males in urban, suburban, and rural communities. BWT is the foundation of zero-tolerance policing; order-maintenance policing; and stop, question, and frisk policing policies. Law enforcement critics blame these strategies for frequent contacts between Black males and police officers in urban communities (Fagan & Davies, 2000). BWT addresses crime in urban communities; but the theory does not fully explain the competing perspectives of police officers and the Black males who they encounter within their communities (Fagan & Davies, 2000).

Police officers, as protectors of a community, maintain the status quo from the perspective of standpoint theory (Lum & Nagin, 2017). In 1807, German philosopher, Georg Wilhelm Friedrich Hegel, developed standpoint theory in the study of the master-slave relationship (Rolin, 2009). Standpoint theory explained the power differential

between the oppressor—the master, and the oppressed—the slave. Hegel (1807/1977) examined the relationship between the oppressor and the oppressed in the study of the master and slave using standpoint theory. Similar to Karl Marx’s social conflict theory, which examined the relationship between worker and class, standpoint theory looks at how groups acquire and use knowledge and power (Hegel, 1807/1977). Standpoint theory explores the position from which a person’s worldview is experienced (Rolin, 2009). The worldview is experienced through a lens of the oppressor or the oppressed, which is based on power and who has it (Rolin, 2009). Power is conceptualized in a way that allows individuals or groups to limit the options of other individuals or groups (Rolin, 2009). Standpoint theory explains the opposing perspectives of police encounters with unarmed Black males. Some communities of color maintain that police officers are viewed through the lens of being the oppressors or occupiers. For some Black male police officers, the struggle between being a Black male and being a Black police officer, prevents some police officers from assisting the Black community (Nicholson-Crotty et al., 2017).

Statement of Purpose

“When police officers make shooting mistakes, there are dire, immediate consequences for public safety” (Cox et al., 2014, p. 1). The decision to shoot an unarmed suspect may result in an innocent person being harmed (Cox et al., 2014). An officer’s failure to shoot an armed suspect or a fleeing felon may leave the public or the police officer vulnerable (Cox et al., 2014).

Nationally publicized, split-second police shootings of Black males, like Amadou Diallo, in 1999 in Bronx, NY; Sean Bell, in 2006 in Queens, NY; Michael Brown, in

2015 in Ferguson, MO; and Philando Castile, in 2016 in St. Anthony, MN, generated significant public responses from the community, policy analysts, social scientists, and those in law enforcement (Cox et al., 2014). Split-second, life-or-death shooting decisions of Black males made by police officers have raised the question of race being a factor in the decision to shoot or not shoot at a target. These shooting decisions have led to public outcry and charges of bias in the national discussion of police use of force (Cox et al., 2014).

Recent research suggests that even if unconscious shooter bias or implicit racial bias were present, unarmed Black males would be shot more frequently than their White male counterparts (Correll et al., 2005; Duran & Loza, 2016; Fridell, 2016; Fyfe, 1988; James, 2011). Previous shooter bias research has been criticized for methodological issues (Cox et al., 2014). For example, Correll et al. (2005) used college students as participants in the shooter bias study. The college students in the Correll et al. (2005) study were not sworn police officers (Cox et al., 2014). Therefore, this study will examine implicit bias using sworn police officers.

The purpose of this study was to find out if a police officer's race, age, years of service or place of residence impacted the decision to shoot an unarmed Black male. A purposeful selection of 30 Black, White, and Latino sworn police officers were observed using the Ti Use of Force Training Simulator. The sworn police officers were observed, one at a time, completing shooter tasks in video scenarios set in urban and suburban neighborhoods within a high-fidelity video simulator. The participants had real guns that were modified to shoot lasers to simulate firing their weapons. This study inquired into

whether a police officers' race, age, years of service, and/or place of residence had an impact on their shoot/don't shoot decisions.

Research Questions

The research questions that guided this study, were

1. Does a police officer's race impact the officer's decision to shoot an unarmed Black male?
2. Does a police officer's age impact the officer's decision to shoot an unarmed Black male?
3. Do a police officer's years of service impact the officer's decision to shoot an unarmed Black male?
4. Does a police officer's place of residence impact the officer's decision to shoot an unarmed Black male?
5. Does a police officer's race, age, place of residence, or years of service impact the officer's decision to shoot or not shoot an armed or unarmed Black male?

Significance of the Study

Building healthy community-police relationships is critical to the successful mission of any police organization (Williams et al., 2016). Understanding the factors relating to police use of force upon Black males may improve community-police relationships.

Earlier studies (Akinola, 2009; Correll et al., 2007) indicated that implicit bias was a driving factor for police officers shooting unarmed Black males.

These studies used a push button or computer keyboard to simulate officers' decision to shoot or not shoot in their use of deadly force. Several studies improved on

the methodology of previous shoot/don't shoot studies by using high-tech video simulators, with real guns, which were modified to shoot lasers to simulate a weapon being fired (Fridell & Lim, 2015; James, 2016). These studies found that implicit bias was present, but implicit bias was not a factor when a police officer decided to shoot or not shoot a suspect (Fridell & Lim, 2015; James, 2011; Lum & Nagin, 2017). This study examined police officers' race, age, years of service, and place of residence to determine if these variables impacted the police officers' decision to use deadly force on unarmed Black males. The significance of this study is to add to the understanding of this national issue (Fridell, 2016).

Definitions of Terms

Arrest – the act of depriving a person of their liberty, usually in relation to the purported investigation or prevention of a crime, and a procedure as part of the criminal justice system.

Civilian Complaint Review Board (CCRB) – an independent department in New York City (NYC) that investigates the use of force, discourtesy, offensive language (racial, ethnic, sexual orientation, or gender-based slurs), or abuse-of-authority complaints against the New York Police Department (CCRB, 2016).

Community – a social unit that shares common values and is situated in a given geographical area.

Community Policing – a philosophy that promotes organizational strategies that support the systematic use of partnerships and problem-solving techniques to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime (DOJ, 2004).

Criminal Court Summons – instrument directing an individual to appear at a future time to answer for common minor offenses, such as drinking or urinating in public. The sole function of this summons is to achieve the defendant’s court appearance in a criminal action or arraignment.

Deadly Force –

1. Deadly force is force which a law enforcement officer uses with the purpose of causing, or which the officer knows to create a substantial risk of causing, death or serious bodily harm;
2. Purposely firing a firearm in the direction of another person or at a vehicle, building or structure in which another person is believed to be constitutes deadly force;
3. A threat to cause death or serious bodily harm, by the production of a weapon or otherwise, so long as the officer’s purpose is limited to creating an apprehension that deadly force will be used if necessary, does not constitute deadly force (Office of the Attorney General, 2000, p. 3).

Education Level – the maximum number of years of formal schooling an officer has obtained. For example, a police officer’s education level could be (a) a high school diploma, (b) an associate degree, (c) some years of college not resulting in a degree, (d) a baccalaureate degree, or (e) courses or degrees beyond a baccalaureate degree (Taylor, Santos, & Egge, 2011).

Excessive Force – the application of an amount and/or frequency of force greater than that required to compel compliance from a willing or unwilling subject (International Association of Chiefs of Police, 2001).

Order-Maintenance Policing – the enforcement of a wide range of quality-of-life standards including rules against public drinking, noise pollution, public indecency, verbal harassment, aggressive panhandling, and obstruction (Thacher, 2007).

Police Brutality – the use of excessive and/or unnecessary force by an officer of the law when dealing with civilians.

Police Officer – a sworn individual who is empowered with statutory arrest authority (O’Shea & Nichols, 2003).

Police Misconduct – inappropriate or illegal actions, or inactions, taken by law enforcement officers in connection with their official duties.

Probable Cause – standard by which police authorities have reason to obtain a warrant or to arrest a suspected criminal.

Problem-Oriented Policing – a patrolling strategy using the SARA model of scan, analyze, respond, and assess:

1. Identify and prioritize recurring problems;
2. Analyze problems using a variety of data sources;
3. Design response strategies based on what was learned from analyzing the problem;
4. Implement response strategies;
5. Assess the success of response strategies.

Quality-of-Life Policing – preventing crime by stopping low-level disorder and petty crimes before they flourish and invite more serious crimes (Bratton, 2015).

Shoot/Don't Shoot – the decision to use deadly force on a suspect in a scenario by squeezing the trigger on a gun (shoot), or not using deadly force by releasing the gun trigger (don't shoot).

Simulator – an interactive use-of-force firearms computer technology with theatre-style simulation. It has over 500 pre-loaded scenarios. Life-sized images high-fidelity format are projected onto a large wall-sized screen (Ti Training, 2018).

Social Disorder – unsettling or potentially threatening, and perhaps unlawful, public behaviors (Kelling & Wilson, 1982).

Stop, Question & Frisk – based on a reasonable suspicion and without racial basis or intentional discrimination, the practice of the Terry Stop (Police Foundation, 2017).

Terry Stop – police practice of using force, if necessary, to stop, question, and frisk, under certain court-established circumstances, conduct a protective pat-down or frisk of an individual on less than probable cause (*Terry v. State of Ohio*, 1968).

Use of Force – amount of effort required by police to compel compliance by an unwilling subject (International Association of Chiefs of Police, 2001).

Years of Service – length of time a police officer has been sworn in as an officer of the law and employed by a law enforcement agency (Taylor et al., 2011).

Chapter Summary

The literature suggests that some police officers have implicit bias as it relates to Black males. Black males are believed to be more inclined toward aggression, more threatening, and more violent (James et al., 2016b). The assumptions made about Black male suspects impact the police officers' or participants' decision to shoot or not shoot a

suspect, which several studies refer to as shooter bias (Correll et al., 2005; Plant & Peruche, 2005; Williams et al., 2016).

Earlier research, including the studies of James et al. (2014) required participants to make split-second decisions to shoot or not shoot a target with a gun, by pushing a button or a key on a computer keyboard if the participant thought that the suspect was a threat to the participant or in possession of a weapon. One limitation of the implicit bias research is the modality of using a push button or a keyboard to indicate shooting a gun or holding fire (James et al., 2014).

Pushing a button is not how a police officer in the field employs deadly force with a gun or withholds fire; they squeeze the trigger of a gun to shoot, or they take no action or holster the weapon to hold fire (James et al., 2014). The limitations of this body of research has led to research designs using high-fidelity, deadly force judgment and decision-making simulators to overcome these limitations (James et al., 2014).

More Black police officers, police training, and community policing have emerged as common themes in another line of research literature addressing implicit bias relating to improving the relationship between the police and the Black community (Nicholson-Crotty et al., 2017; Williams et al., 2016; Pittman, 2016; Scott, 2002). The mindset of Black police officers impacts the officers' self-perception and their ability to advocate for the Black community (Scott, 2002). The *blue wall of silence* or the unwillingness of a police officer to break his or her silence against another police officer, creates a dual perspective or dual consciousness that reduces the effectiveness of the presence of Black police officers on a police department regarding implicit bias (Du Bois, 1903; Pittman, 2016; Scott, 2002).

Better police training through the use of high-fidelity video simulators has demonstrated promising results (James et al., 2016a). The research suggests that police officers are able to overcome their implicit bias when they are repeatedly exposed to high-quality, use-of-force judgment training (James et al., 2016a; Plant & Peruche, 2005; Williams et al., 2016). Fridell (2016) built on the previous implicit bias studies and the understanding of implicit bias through the examination of two implicit bias processes: activation and application. Fridell (2016) maintained that police professionals should receive training on implicit bias, and they should be provided with the tools to reduce and manage their bias.

According to Fridell (2016), the research for overcoming implicit bias or over vigilance, and under vigilance, which is an officer's reluctance to engage Black suspects, indicates that it can be overcome through "high-quality, scenario-based, judgment training that conditions officers to focus, not on demographics, but on indicators of threats" (p. 47). Other research studies indicate that police officers have implicit bias but are less inclined or hesitate to shoot Black suspects because of the political climate and the consequences that the police environment has on the community-police relationship (James et al., 2016a; Stoughton, 2014).

Counter-bias, reverse-racism, or the Ferguson effect studies suggest that police reform is necessary to restore the confidence that police officers are lacking as demonstrated by their hesitance to shoot at Black suspects, and that counter bias has led to under vigilance, which may result in harm to the public and/or police officers (Fridell, 2016; James et al., 2016b; Lum & Nagin, 2017). Fridell (2016) affirmed the earlier

implicit bias research of Correll et al. (2007), and Plant and Peruche (2005) by explaining the findings as implicit bias, activation, and application.

Contrary to the study of James et al. (2016a), where the participants were slower to shoot Black suspects, Fridell's (2016) research identifies the slower responses as activation of implicit bias but not application of the implicit bias. Fridell (2016) stated that implicit bias indicates the existence of stereotypes where the person holds a particular opinion about a person or a group. According to Fridell (2016), a police officer's decision not to shoot indicates that implicit bias did not impact the decision to shoot. The implications of this research and the previous studies have informed this study.

Chapter 2 gives a review of relevant empirical literature in the areas regarding police use of force. Chapter 3 describes the research design and context, the participants, and the data collection. Chapter 4 presents a detailed analysis of the results and findings, and Chapter 5 discusses the findings, implications, and recommendations for future research and practice.

Chapter 2: Review of the Literature

Introduction and Purpose

The idea that the police are given special rights and broad freedom to use coercive force, even if used improperly, (Klockkars, 1996) suggested that police practices should be examined further. Klockkars maintained that police officers have broad powers to stop, detain, and, if necessary, use force against a citizen. According to Klockkars, in most states, with few exceptions, there is no provision for a citizen to resist a police officer's use of force—even if it is illegal. Klockkars stated further that police officers' enormous range of legitimate authority to use force creates the problem of defining and controlling excessive force (Klockkars, 1996).

This literature review is organized into four categories: (a) historical perspective of policing, (b) social disorder and physical disorder, (c) threat perception, and (d) implicit/explicit bias. Based on changes in the methodologies, samples, populations, or simulations, the studies overlap the categories in some instances (Correll et al., 2005, 2013; Fridell, 2016; James, 2011).

Duran and Loza (2016), Fridell (2016), and Fyfe (1988) examined police use of force across four tenets: (a) race and explicit/implicit bias, (b) police training and community policing, (c) environment, and (d) officer experience. Some literature has suggested that police officers are implicitly biased when engaging Black male suspects (Correll et al., 2005, 2007; Durr, 2015; Scott, 2002). And, there is competing literature that maintains that police use less force against Black suspects than against White

suspects (Correll et al., 2005; James et al., 2016a; James et al., 2016b). Lum (2016) argued that the body of research in this area has mixed results and raises concerns regarding research methods, research locations, and types of data that should be analyzed (Lum & Nagin, 2017).

Historical Perspective of Policing

Scott (2002) maintained that policing in the United States has built-in tensions of intergroup conflicts between the police and Black people. The researcher expressed that disproportionate stops, questions, and frisks is older than the Republic of the United States (Scott). Policing in America was founded in 1704, as slave patrols were authorized to randomly stop, question, and search, or enter the house of, any Black person who had their lights on after 9:00 p.m. (Scott, 2002).

Durr (2015) examined the analyses of criminologists on police practices in the African American community through a comparative lens of slave patrols in the South and modern-day policing. The researcher posited that American police officers are viewed in the society as institutional protectors who are responsible for the safety and security of our persons, cities, neighborhoods, and social spaces (Durr, 2015). The examination highlights police practices that are characterized as “performances of brutality” (p. 873) that violate, for some, “‘our’ mutually understood beliefs about police and policing” (p. 873).

Durr (2015) compared police practices in the 21st century to slave patrols under the Fugitive Slave Laws of 1850, which were passed by the U.S. Congress. According to Durr (2015), “Paddy rollers” (slave patrols) (p. 875) were used to manage and control the slave population in the South. The slave patrols were used to check papers, enforce slave

codes, search slave quarters, prevent meetings organized by slaves, and keep slaves off the roads (Durr). In the early Reconstruction Period, slave patrols were disbanded, but the Ku Klux Klan, federal militia, and state militia were organized (Durr, 2015).

Scott (2002) argued that the Southern lynchings in the United States, in the early 1900s, had police officers present who often participated or tacitly approved. Police violence against Blacks in the 1960s was captured on television and fueled the civil rights movement (Scott, 2002).

According to Durr (2015), in 1837, “the Charleston Police Department had 100 officers whose primary function was to patrol slaves by regulating their movement” (p. 875). Durr pointed out that questions about policing in the African American community have been addressed by several criminal justice scholars, including Sampson (1997), who investigated the high concentrations of economically disadvantaged racial minorities in environments that do not support the promotion of social organizations.

Durr (2015) examined three hypotheses: (a) minority threat perception; (2) place hypothesis, which hold that spatially segregated communities are targets of coercive control; and (c) community accountability hypothesis, which conveys that the organizational characteristics of police departments promote the use of excessive force against minorities to explain police brutality. Durr concluded that local police have less value for an African American neighborhood, based on procedural injustice, which is related to a citizen’s race, neighborhood setting, and character.

From an historical perspective, race, power and control, and threat perception are identified as the foundations of intergroup conflicts between the police and the Black community (Durr, 2015; Scott, 2002). Kelling and Wilson (1982) made similar

connections about equity in policing in the implementation of broken windows policing. The researchers questioned how to ensure that police officers would not become agents of neighborhood bigotry (Kelling & Wilson, 1982).

Police powers to stop, question, and frisk a person are grounded in the Justice White and the Supreme Court decision in *Terry v. State of Ohio* (1968). On Thursday, October 31, 1963, Cleveland, Ohio Police Detective, Martin McFadden, observed John W. Terry, Richard Chilton, and Carl Katz in front of a downtown business acting suspiciously. According to the court decision, Detective McFadden believed that the three men were *casing a job* (*Terry v. State of Ohio*, 1968) and preparing to rob a business. Suspecting that a crime was about to be committed, the detective detained the three men. The men were frisked for weapons—revolvers and bullets were discovered on two of the men (*Terry v. State of Ohio*, 1968). Detective McFadden had been a member of the Cleveland Police Department for 39 years, with 35-years of experience as a specialist in the field observing shoplifters and pickpockets (Barrett, 2012). According to the court decision, Terry was sentenced to 3 years for carrying a concealed weapon (*Terry v. State of Ohio*, 1968).

On December 12, 1967, Terry appealed the decision of *Terry v. State of Ohio* (1968). On June 10, 1968, the U.S. Supreme Court held that “the Fourteenth Amendment right against unreasonable searches and seizures, made applicable to the States by the Fourteenth Amendment, ‘protects people, not places,’ and therefore applies much to the citizen on the streets as well as home or elsewhere” (pp. 8-9). The Court reasoned that one should not reasonably expect a police officer on the street to secure a warrant for a

search and seizure when on-the-spot observations must be made quickly (*Terry v. State of Ohio*, 1968).

The Court held that a police officer could stop and frisk a suspect, provided that the officer had reasonable suspicion that a crime had been committed or was about to be committed (*Terry v. State of Ohio*, 1968). The Court decision continued that the police officer could have a reasonable belief that the suspect may have been armed and dangerous. The Court held that a police officer may do a frisk of a suspect's outer garments for weapons for the officer's protection. In view of these types of community-police interactions, the purpose of this study is to examine the factors relating to police officers shooting unarmed Black males.

Place of Residence

Effective policing in a democratic society is based on the principles that crime should be prevented, and the public's view of the police and their actions to prevent crime should matter—independent of how effective the police may or may not be (Lum & Nagin, 2017). Williams et al. (2016) examined the expanding role that community members play to assist public organizations, like police departments, to develop and implement their public services, using the least amount of revenue or physical police personnel energy. Partnerships between the community and police organizations reduce both costs (Williams et al., 2016).

Williams et al. (2016) examined the shooting death of unarmed 17-year-old African American male, Trayvon Martin, by a George Zimmerman, a neighborhood watch coordinator in Sanford, FL. On February 26, 2012, Martin was stopped as he

walked through a gated community (Williams et al., 2016). The study illustrates the conflicts in the police services coproduction.

According to Williams et al. (2016), community policing is an effective and efficient strategy employed in partnership with community stakeholders to solve problems within a community. This police partnership strategy is an operational philosophy that reduces community/police conflict and supports democratic societal values (Williams et al., 2016). Lum and Nagin (2017) maintained that community policing partnerships as described by Williams et al. (2016), are most effective when the police interact with the public as sentinels and not as apprehension agents targeting specific people or areas.

Williams et al. (2016) examined the death of the Black male youth, Trayvon Martin, at the hands of George Zimmerman, a crime watch member, through two theoretical perspectives. The researchers analyzed the deadly encounter through the lens of the public safety coproduction between the police and members of the community, and through the lens of Black crimmythology, which historically and in the present day, associates Black maleness with crime and criminality in the minds of U.S. citizens. Coproduction is based on the cooperation of individuals, communities, institutions, and organizations that work collectively and collaboratively to identify and solve problems in a community. The researchers maintained that coproduction of the delivery of police services has been a part of local police agencies since the beginning of American policing (Williams et al., 2016).

According to Williams et al. (2016), Sir Robert Peel, who is considered the founder of modern policing expressed that the police are the public, and the public are the police. Peel's perspective has emerged as a foundational philosophy of community

policing in the United States (Williams et al., 2016). The researchers expressed that community policing is a partnership of cooperation and collaboration between the police and the public, which is a police strategy used to prevent crime and solve problems. According to Williams et al. (2016) community policing strategies emphasize “citizen engagement, public outreach, and active partnerships with civilian volunteers and community-based organizations” (p. 4).

Additionally, the researchers examined the racial past of the United States, which began as a society that held Black people as slaves (Williams et al., 2016). Accordingly, Williams et al. (2016) maintained that race mattered by way of American myths about Black criminality, and it was highlighted by the title of an 1861, Dr. J. H. Van Evrie essay entitled “*Negroes & Negro Slavery: The First, an Inferior Race; The Latter, Its Normal Condition*” (p. 8). The researchers suggested that racial profiling in policing has its roots in the historical stigma of Black maleness and criminality.

Williams et al. (2016) posited that these stigmas, stereotypes, and deadly encounters like the Martin/Zimmerman encounter can be overcome by responsible police managers—if they understand the internal organizational culture of the police department, build inclusive and diverse coalitions, and understand the context and environments that the police organizations operate in. The Martin/Zimmerman encounter was viewed as racial profiling by a citizen who viewed Martin as someone Black in a White space (Williams et al., 2016). The researchers recommended that police managers see the tragedy of this encounter as an opportunity to develop diverse management practices that include voices and for movements to develop to work collaboratively with police organizations (Williams et al. (2016).

The analysis of Williams et al. (2016) of historical and existing police practices creates a foundational perspective through which to compare some criminological perspectives, such as Kelling and Wilson's (1982) broken-window theory, which suggests there is a link between disorder and crime. Williams et al. (2016) and Durr (2015) examine police practices in the United States from its inception in slavery. Both studies examine the relationship between the police and Black males through theoretical frameworks. Durr (2015) questioned whether or not police practices would change as they relate to Black males, while Williams et al. (2016) implored police administrators to use the Martin/Zimmerman encounter as an excuse to make changes.

Race

Police officer's race. Nicholson-Crotty et al. (2017) used critical mass theory to examine data on police-involved homicides in 2014 and 2015, in 100 of the largest American cities, to determine if increasing Black police officers in a police department would reduce the shooting of unarmed Black males. The study found that, until the number of Black police officers reaches 35% and 40% of the police force, adding Black police officers had no effect on police-involved shootings of Black citizens. Nicholson-Crotty et al. (2017) stated that Black police officers want to be accepted by the police organization, and they may fear that they cannot advocate for the interest of Black citizens because it violates the organization's norms of *them versus us*.

Pittman (2016) posited that this dual perspective is a double-consciousness, a social philosophy concept that comes from the *twoness* experienced by African-Americans as a result of oppression and devaluation in a White-dominated society. According to Scott (2002), historically the police represent the interest of the privileged,

while minority groups represent society's problem. These competing positions create conflicts for police officers whose shared belief systems appear in the form of "thinking blue," the "blue curtain," "a code of silence," and a "blue wall" (Scott, 2002, p. 881).

Du Bois (1903) described the mindset of Black police officers as a double consciousness that refers to a dual consciousness—a twoness experienced by the Black man who is always looking at himself through the eyes of others. Du Bois further described this concept as an "American, a Negro; two souls, two thoughts, two unreconciled strivings; two warring ideals in one dark body" (Du Bois, 1903, p. 3).

The code of silence in the Baltimore Police Department demonstrated this double consciousness when an outspoken Black police officer was warned to "stay in your lane," "worry about yourself," "mind your own business!!" and "don't spread rumors!!!" (DOJ, 2016, p. 152). Another officer, a detective, reported misconduct and excessive force by a Baltimore police sergeant and an off-duty officer who were charged and convicted. The reporting officer experienced on-going retaliation (DOJ, 2016). He was called a "rat," and told "you better pray to God that you are not the star witness" (DOJ, 2016, p. 153) against the officers. These demonstrations of the code of silence treatment of police officers in the Baltimore Police Department is representative of the concerns expressed by Black police officers in other police departments (Nicholson-Crotty et al., 2017).

Suspect's race. In a video game simulation study, Correll et al. (2005) used college student participants to examine the role of threat perception in shoot/don't shoot decisions with armed and unarmed targets. Participants were instructed to shoot subjects who were holding a weapon in the video simulations. The participants shot the armed

targets more frequently and more quickly when the subject was armed and Black rather than armed and White.

Black crimmythology, the historical association in the minds of the American public of blackness, maleness, and criminality, and racial assumptions based on pseudoscience, has impacted policing policies and practices (Williams et al., 2016). The literature indicates that race, police culture, implicit bias, stereotypical exposure, the percentage of African American police officers on a police department, and excessive force, impact the community/police relationship (Correll et al., 2007; Fridell, 2016; James, 2011; James et al., 2016b; Nicholson-Crotty et al., 2017; Police Executive Research Forum, 2016; Williams et al., 2016). Several studies indicate that Black males are more frequently subjected to shooter bias by police officers, than are White targets (Correll et al., 2005; Plant & Peruche, 2005; Williams et al., 2016; DOJ, 2004). Fyfe (as cited in Wilgoren, 1999) found that the police firearms training scores only test the officers ability to hit a target. It does not test the other factors that impact the decision to shoot or not shoot (Wilgoren, 1999).

Public safety is compromised when police officers make shooting mistakes (Cox et al., 2014). If an unarmed person is mistakenly shot, his or her innocence has been damaged and if police officers do not shoot an armed suspect, the officer and the public are exposed to harm (Cox et al., 2014).

“When police officers make shooting mistakes, there are dire, immediate consequences for public safety” (Cox et al., 2014, p. 1). The decision to shoot an unarmed suspect may result in an innocent person being harmed (Cox et al., 2014). An

officer's failure to shoot an armed suspect or a fleeing felon may leave the public or the police officer vulnerable (Cox et al., 2014).

Research suggests that even if unconscious shooter bias or implicit bias were present, unarmed Black males would be shot more frequently than their White male counterparts (Correll et al., 2005; Duran & Loza, 2016; Fridell, 2016; Fyfe, 1988; James, 2011). Previous shooter bias research has been criticized for methodological issues (Cox et al., 2014). For example, Correll et al. (2005) used college students as participants in a shooter bias study. The college students in the Correll et al. (2005) study were not sworn police officers (Cox et al., 2014).

The shooting death of Black males at the hands of the police, justified or not, has created a significant body of social psychological research to determine if a suspect's race influences the use of force in terms of shoot/don't shoot decisions (Correll et al., 2007). Akinola (2009) posited that these incidents are consistent with data from the DOJ (2007), which highlights that Blacks are nearly four times as likely as Whites to be subjected to force during police interactions.

According to the DOJ's BJS, over 62.9 million U.S. residents, aged 16 or older, had one or more contacts with the police in 2015 (Langton & Durose, 2016). A total of 25% of persons involved in the street stops, and 10% of the persons in traffic stops, did not believe that the police had acted properly (Langton & Durose, 2016).

Overwhelmingly, the DOJ data reflects that Black suspects are approximately five times more likely than Whites to die at the hands of a police officer (Correll et al., 2007).

Fridell and Lim (2015) explained that disproportionate police interventions, as well as police having a bias with Black suspects, resulted in there being greater Black

suspects' involvement in criminal activity and resisting arrest. Recent research has challenged the premise that implicit bias is the basis for police use of force against Black suspects because counter bias produces less force against Black suspects when compared to White suspects (Fridell & Lim, 2015).

Explicit/Implicit Bias in Policing

The research on racial bias and police use of force has implications for police practices (Fridell, 2016). Fridell posited that there is a need to understand police over vigilance of Black individuals because of implicit bias versus under vigilance or counter bias, where police officers may be hesitant to shoot at Black suspects or hold their fire because of attendant consequences. The counter-bias or reverse-racism arguments, which compete with the implicit bias findings in the research literature of Fridell, (2016), Fridell & Lim, (2015), James et al. (2016b), and Lum (2016), emerged in an interview of former Minneapolis Police Chief, Anthony Bouza. He stated that in most urban centers in the United States, when a police chief is called "at three in the morning and told, 'Chief, one of our cops just shot a kid,' the chief's first questions are: 'What color is the cop? What color is the kid?'" (James et al., 2014, p. 337). And, the reporter asked, "if the answer is, 'The cop is White, the kid is Black?'" "He gets dressed," replied Bouza (James et al, 2014, p. 337). These split-second, life-or-death shooting decisions made by police officers have raised the question of race being a factor in the decision to shoot or not shoot at a target (Correll et al., 2007).

These shooting decisions have led to public outcry and charges of bias in the national discussion of police use of force (Cox et al., 2014). Officer-involved shootings (OISs) can have dire consequences and outcomes for police officers, suspects, and the

community (Correll et al., 2007). Correll et al. (2007) posited that there is a need to understand why African American males are disproportionately shot.

Race and bias. According to Nicholson-Crotty et al. (2017), the existing literature on the impact of a suspect's race on the outcomes of police activities has reached inconsistent conclusions. In a study of police-involved homicides of Black citizens, Nicholson-Crotty et al. (2017) questioned whether or not increasing the number of Black police officers in a police organization reduces the number of police-involved homicides.

The study examined 2014 and 2015 police-shooting data in 100 of the largest cities in the United States with populations of 100,000 residents (Nicholson-Crotty et al., 2017). The data for the first measurement was compiled from a sample created by the mapping police violence of police homicides in 2104 in the largest cities in the United States. The second measurement was from data collected by The Washington Post on police-involved homicides in the United States in 2015 (Nicholson-Crotty et al., 2017). The researchers used two different techniques to test the relationship between the percentage of Black police officers in an organization and police-involved homicides of Black citizens.

Nicholson-Crotty et al. (2017) found that Black police officers may be more likely to discriminate against Black citizens because of organizational pressures to conform. Yet, there is no relationship between an officer's race and racial disposition in policing outcomes. Further, the authors posited there may be a relationship between the number of Black police officers in an organization and decreased police violence only after a critical mass of Black police officers has been reached.

Implicit bias or Ferguson effect? In 2005, Plant and Peruche conducted a computer-simulation study to determine if police officer's racial biases in shoot/don't shoot scenarios could be reduced or eliminated through training on a computer simulator. Fifty ($N = 50$) certified sworn police officer volunteers from the State of Florida were recruited. Of the 50 officers, 83% were male, 84% were White, 10% were Black, 2% were Native American, 4% were Hispanic, the mean age of the officers was 37 years, and their law enforcement experience ranged from 2 years to 30 years. The volunteers were tested for their decision making in shoot/don't shoot scenarios on video simulations. The officers were instructed to determine whether to shoot their weapons using specific keys on a keyboard to shoot or not shoot.

Plant and Peruche (2005) used digital color photos of nine White and nine Black college-age males with a superimposed image of a gun or neutral object positioned on the screen. The pictures of the males appeared simultaneously on the computer screen with a gun or a neutral object, like a cell phone, wallet, or other object that required the participant to shoot or hold fire by pressing one of the two designated keyboard keys. The pictures remained on the screen until an error message appeared for incorrect decisions or until there was a timeout for indecision or untimely decision making (Plant & Peruche, 2005). Each participant was given 20 practice trials and 160 test trials with a 630 millisecond (ms) time limit. The researchers split the test trials in half to measure the effects on racial bias in the first half of the trials in comparison to the second half of the trials.

Plant and Peruche (2005) found that the police officers were more likely to shoot unarmed Black suspects than unarmed White suspects, which was consistent with an

earlier shoot/don't shoot study by Correll et al. (2005). In the second half of the Correll et al. studies, after extensive exposure to a computer-simulation program, Correll et al. (2007) found no correlation between suspect race and presence of a weapon. The research suggests that extended training could be a moderating variable regarding police officers overcoming racial bias.

One limitation of the Correll et al. (2005, 2007) and Plant and Peruche (2005) studies was the research design. Pressing keys on a computer keyboard to shoot or not shoot a suspect or target is not reflective of a police officer's manipulation of a weapon in a shoot/don't shoot scenario. In a real-life shooting situation, a police officer is required to squeeze the trigger on a weapon to shoot the target and then holster the weapon or release the trigger to not shoot at a target.

A limitation of the Plant and Peruche (2005) study was the generalizability of the findings. While the participants' extensive exposure to the video simulations contributed to a decrease in racial bias between test 1 and test 2, the racial bias reductions may not have been maintained by the police officers who may have returned to police a community where there was a high concentration of minorities and high crime rates.

Several shoot/don't shoot studies, such as Correll et al. (2005, 2007), have suggested that Black males are more frequently subjected to shooter bias than their White male counterparts. Correll et al. (2007) conducted three studies to compare national and local police officers to civilians to measure the speed and accuracy of the shoot/don't shoot decision-making process across three samples.

In study one, Correll et al. (2007) used three samples of participants to complete a 100-trial video game simulation. The video showed armed and unarmed Black and White

men with varying background images. The participants were primed by the instructions that the armed targets were an imminent threat who should be shot as quickly as possible; and the unarmed targets were not a threat and the don't shoot button should be pressed as quickly as possible (Correll et al., 2007).

The dependent variables in the Correll et al. (2007) study were speed and accuracy relating to the decision making of the participants. The participants' performance in the simulation was compared across three samples: officers from the Denver Police Department, civilians from the communities where the officer worked, and a group of national police officers who were attending a 2-day police training event (Correll et al., 2007).

The local law enforcement sample consisted of 124 police officers who were 85% White with nine females, 114 males (one gender designation was missing). There were 85 White, 16 Black, 19 Latina/o, three other, and one missing ethnicity for law enforcement officers, who had a mean age of 37.9 years.

The national police sample of 113 police officers (12 female, 100 male, one gender designation missing), who were voluntarily attending a patrol office seminar and were from 14 different states, consisted of 72 White, 10 Black, 15 Latina/o, 13 other, and three missing ethnicities. They had a mean age of 38.4 years (Correll et al., 2007).

The civilian sample was recruited from four Division of Motor Vehicles (DMV) offices in Denver that were located in a community with high concentrations of Spanish-speaking citizens. The civilian sample size was 127 civilians (51 female, 73 male, three gender designations missing) with 39 White, 16 Black, 63 Latina/o, and nine other

ethnicities, and their mean age was 35.5 years). Eight participants were dropped from the original total of 135 participants (Correll et al., 2007).

In the video game simulation 50 men (25 Black, 25 White) were photographed holding either a gun, a wallet, cell phone, or soda can in backgrounds that varied from countryside scenes to apartment buildings to unpopulated areas (Correll et al., 2007). The researchers used signal detection analyses (SDT) to estimate the participants' ability to distinguish between armed and unarmed targets.

In study two, Correll et al. (2007) repeated the first study with a reduction in the time allowed to make the decision to shoot or not shoot. There was a loss of 20 points as a penalty for responses that took longer than the reduced timeout time from 850 ms to 630 ms. Reduction in the timeout window increased the number of shooting errors. Participants incorrectly responded 16% of the time during the 100 trials and 17% of the participants timed out.

In study three, 58 novice college students (29 female, 22 male, seven gender designations missing) consisted of 40 White, 1 Black, 3 Asian, 3 Latina/o, 1 Native American, 2 other, 8 ethnicities) played the video game simulation twice a day for 2 days. Correll et al. (2007) had the participants perform the same shooter tasks as the participants in study one.

As in the previous two studies, the researchers used SDT to measure the threshold levels for participants' decisions to shoot the Black or White targets and the sensitivity of the participants to the targets' races. According to Correll et al. (2007), civilian participants set a lower threshold for the decision to shoot Black targets than did the police officers, which indicated greater shooter bias in the civilian participants. The

police officer participants demonstrated minimal bias in the SDT analysis. Like the civilian sample, the police officer participants demonstrated racial bias in the speed in which they made the shoot/don't shoot decisions (Correll et al., 2007).

In the third study, Correll et al. (2007) found that when the novice college students were trained on the tasks, after two rounds of simulations play, the novice college students' racial bias decreased significantly, and their sensitivity increased. By the completion of round two for the college students, their performances matched those of the police officers.

The police officers and the trained college students demonstrated racial bias in their reaction times but the bias did not affect their shoot/don't shoot decisions (Correll et al., 2007). The research suggests that that the police officers' training may have contributed to the racial bias ending at the reaction time and not continuing with shooter errors. One limitation of the studies is that the video-simulation, push buttons do not accurately reflect real-life conditions of a police officer in the field making shoot/don't shoot decisions.

Implicit bias: No activation. In a recent policy study, Fridell (2016) countered the push-button, implicit-bias research findings of Correll et al. (2005, 2007), Plant and Peruche (2005), and Sim, Correll, and Sadler (2012) with research findings that suggest that counter bias—the Ferguson effect is present in police encounters with Black males. Fridell indicated that implicit bias exists even in people who reject prejudice and stereotypes. According to Fridell (2016) the shoot/don't shoot findings of James et al. (2016b) found that police officers were slower to shoot armed Black targets and less likely to shoot unarmed Black targets. Fridell (2016) attributed the contrasting findings to

a need to better understand the processes that link implicit bias, activation, and application.

The researcher explains that earlier implicit bias findings support the possibility of over vigilance with Black targets, which indicates activation. Fridell (2016) noted that the James et al. (2016b) findings suggest that bias is present but does not affect the participant's shooting behavior. The researcher maintains that these conflicting findings suggest that better training, exposure to counter stereotypes, and the production of high-fidelity real-life training videos may reduce implicit bias or over vigilance and reduce under vigilance or the Ferguson effect where the officer hesitates or fails to shoot an armed target (Fridell, 2016).

Social Disorder

Social disorder, physical disorder, and environment provide physical and visual social cues for police officers in communities as determinants for how they will enforce the law (Kelling & Wilson, 1982; Kotabe, Kardan, & Berman, 2016). BWT emerged in a seminal research article authored by criminologists Kelling and Wilson (1982) that examined the link between neighborhood disorder and crime. The researchers posited that disorganized communities send a visual cue to regular residents and strangers that no one cares—this message is viewed through the observation of graffiti, litter, public drunkenness, panhandling, rowdy teens, addicts, prostitutes, loiterers, and the mentally disturbed.

Kelling and Wilson (1982) studied BWT by walking the streets with police department foot-patrol officers in Newark, NJ to observe how the foot-patrol officers and the community defined order, and how they maintained order formally and informally.

The authors suggested that order maintenance policing by foot-patrol officers helped to reduce the fear of crime and actual crime by the officer's presence in the neighborhood (Kelling & Wilson, 1982).

An example of the informal order of the community was that drunks and addicts were allowed to sit on porches and stoops, but they could not lie down and sleep; regulars could drink on tertiary streets, but they could not drink on the main streets; and no one could panhandle, talk to, or bother people at bus stops (Kelling & Wilson, 1982). These informal actions by a foot-patrol officer in the observed neighborhood were indicators to the residents that there was order, and they were confident that the police were helping to maintain community order and public safety (Kelling & Wilson, 1982).

From the community's perspective, the broken window theory is a metaphor for a broken window in a building. The theory holds that there is a sequential developmental link between crime and disorder (Kelling & Wilson, 1982). The belief is that if one broken window in a building is not repaired, eventually, all of the windows will be broken because it is a visual cue that no one cares about the building, and breaking more windows will not cost anyone anything because it is a victimless crime (Kelling & Wilson, 1982). The Kelling and Wilson study provided the foundation for community policing, order-maintenance policing, and problem-solving strategies in the New York City Police Department (NYPD) and other large urban agencies (Fagan & Davies, 2000; Harcourt & Ludwig, 2006).

Researchers Kotabe et al. (2016) expanded the examination of BWT policing in their research deconstructing visual disorder and its effect on rule breaking. The study explored the concept of disorder in the physical and social context and determined that

both are represented spatially in the mind. Their research suggests that BWT assumes that visual cues, like graffiti and litter, cause people to reason that they can get away with breaking rules—committing crime (Kotabe et al., 2016).

Kotabe et al. (2016) conducted five experiments to test the hypothesis that basic visual disorder cues may encourage complex rule breaking. In experiment 1, the researchers recruited 105 United States-based adult participants (51 men; 54 women; 84 White/Caucasian, 10 Black/African-American, 5 Hispanic/Latino, 4 Asian/Asian American, 2 Native Hawaiian/Pacific Islander) with a mean age of 36.15 years. The participants were instructed that they would see 50 randomly selected images of different environmental scenes where they would rate the scenes based on how orderly or disorderly they were perceived.

The disorder experiments by Kotabe et al. (2016) determined that basic visual cues, which included spatial features like crooked edges and asymmetry, were key indicators of visual disorder, which led to rule breaking without complex social reasoning, as expressed in other studies.

In experiment 4, Kotabe et al. (2016) measured the effect of visual disorder on rule breaking. United States-based adults, a total of 405 participants were 206 women, 198 men, one unreported gender; 314 White/Caucasian, 25 Black/African-American, 29 Hispanic/Latino, 22 Asian/Asian American, 3 Native American, and 12 multiple ethnicities. The participants were given a challenging test with incentives relating to achievement that they would grade themselves. The self-grading created the opportunity to cheat.

Immediately prior to the participants grading themselves, they were subjected to 5 minutes of either ordered stimuli or disordered stimuli. Kotabe et al. (2016) used the knowledge from experiments 1-3 to test symmetry versus asymmetry. The researchers used 50 most-ordered images and 50 most-disorder images with scrambled-edge stimuli from experiment 2, which they manipulated to test the effect on disorder judgement. The results confirmed that manipulation had a significant effect on disorder.

In 2009, Brunson and Weitzer (2009) conducted a mixed-methods study to explore young adolescent males' experiences and perceptions of the St. Louis, MI police in three neighborhoods: (a) predominantly Black, (b) predominantly White, and (c) a racially mixed of Black and White residents. The racially mixed neighborhood was selected from a set of census tracts with almost an equal number of Black and White residents. The neighborhoods matched on several indicators: poverty rate (26%), median household income (\$23,000-\$25,000), and unemployment rate (12-15%).

The researchers conducted in-depth interviews with 45 adolescent males from the three study locations from fall 2005 to spring 2006. The researchers purposefully had local community organizational counselors recruit the participants for the study (Brunson & Weitzer, 2009). The researchers found that community policing was limited in the city, but standard police practices, like responding to calls and proactive interventions, were the norm. Brunson and Weitzer (2009) found that the White youth had less troubled relationships with the police and viewed the police more positively than the Black youth. The police treated the residents better in the Mayfield/predominantly White neighborhood (85.6% White), than the residents in the Barksdale/predominantly Black neighborhood (97.2% Black), and in the Hazelcrest/racially mixed neighborhood (50.2%

White, 39.8% Black) the police treatment was at a level that was in between the other two neighborhoods. Brunson and Weitzer's (2009) findings support the implicit-bias studies that suggest that Black males are associated with threats even when they are unarmed (Correll et al., 2005; Plant & Peruche, 2005), and that visual cues in disadvantaged neighborhoods may explain the police encounters with the Black adolescents (Brunson & Weitzer, 2009; Kotabe et al., 2016).

Weisburd and Eck (2004) used a 30-year typology of police practices, from 1974-2004, to determine how effective police are in reducing crime, disorder, and fear. The examination reviewed standard police practices and innovative police practices from two perspectives: diversity of approaches and the level of focus. Standard police practices, which are the most frequently used approaches, included random patrol across all parts of the community, increased police department sizes, rapid response to calls for service, general investigation of crime, and intensive enforcement and arrest policies (Weisburd & Eck, 2004).

Sampson and Raudenbush (2001) investigated whether social and physical disorder, if not addressed, would lead to more serious crimes. According to Sampson and Raudenbush (2001), there remains several questions concerning what triggers one's perception of disorder. "Is disorder only a matter of the objective level of cues in the environment? Or, is disorder filtered through a reasoning based on stigmatized groups and disreputable areas?" (p. 319). In their study, Sampson and Raudenbush (2004) examined the perceptions of disorder in Chicago, IL in 1995 and 2002. The researchers hypothesized that a neighborhood's racial/ethnic and class composition could predict perceptions of neighborhood disorder.

The Sampson and Raudenbush (2001) study assessed the perception of disorder of residents and community leaders within 500 block groups within 196 Chicago census tracts. There were 3,585 people living in 478 block groups and there was a 78% response rate. The community leaders were selected from the areas of education, religion, business, politics, law enforcement, and community organizers, and they worked within the study area but resided outside of the 500 block groups.

Sampson and Raudenbush (2001) used random sampling to compare city blocks, dwelling units, and adults for interviews. They constructed a six-question survey that asked the participant how much of a problem they considered litter, trash, graffiti, vacant housings/storefronts, drinking in public, selling or using drugs, and teenagers causing a disturbance.

The study found that, at the individual level, officially reported violence in a block group contributed significantly to residents' perception of disorder; Black leaders and residents reported significantly less disorder than Whites; older residents perceived less disorder than younger residents; and that females perceived more disorder than males (Sampson & Raudenbush, 2001). At the neighborhood level, Sampson and Raudenbush (2001) posited that racial context contributed to the perceptions of disorder in that Black residents reported less disorder than Whites. Blacks were not significantly more or less likely than Whites to see highly concentrated Black neighborhoods as high in disorder. The researchers attributed this finding to the idea that Black residents were exposed to the same racial stereotypes as were other residents (Sampson & Raudenbush, 2001).

According to the researchers, these results support the implicit bias studies that are consistent with the findings from Correll et al. (2007) shoot/don't shoot decision-

making study where Black and White participants shot unarmed Black males more quickly and more accurately than White males (Sampson & Raudenbush, 2001). Sampson and Raudenbush (2001) concluded that “blacks and whites succumbed equally to larger cultural stereotypes about the dangerousness of blacks” (p. 336).

Sampson and Raudenbush (2001) used 500 block groups in Chicago, IL as a sample to investigate visual disorder and to understand its impact on crime. Similar to (Sampson & Raudenbush, 2001), Brunson and Weitzer (2009) investigated disorder by comparing neighborhoods in St. Louis, MO in which they found that race matters. The findings of Weisburd and Eck (2004) provide solutions to the problems identified by the other studies. Kotabe et al. (2016) expanded on the BWT to examine rule breaking, cheating, and visual disorder in a classroom setting.

In a historical study examining fear, crime, and neighborhood change, Skogan (1986) posited, as did Kelling and Wilson (1982), that neighborhood problems develop when there is physical and psychological deterioration in a neighborhood. Minor issues like graffiti, public drunkenness, and loitering lead to physical deterioration, social disorder, and fear of crime, and they send the visual cues that *no one cares*, and that deviance and delinquency will increase (Kelling & Wilson, 1982; Skogan, 1986; Weisburd & Eck, 2004). Skogan’s (1986) research cites disinvestment, the effect of fear on a neighborhood, group conflict, and disorder as contributing factors to community decline.

Skogan’s (1986) research supports the theoretical arguments for broken windows policing. The analysis concludes that neighborhood change occurs slowly unless there are

triggers that accelerate economic and demographic flight. These factors contribute to the conditions that some police officers see as disorder.

Stop, Question, and Frisk

Some researchers attempted to explain the disproportionate contacts between the police and Black males. In *Floyd et al. v. New York City* (2013), Judge Scheindlin ruled that New York City police officers systematically and unreasonably stopped, searched, and frisked New Yorkers in a manner that was racially discriminatory. Researchers Fagan and Davies (2000) maintained that BWT provided a rationale for the NYPD's strategy of stop, question, and frisk, which arguably targets poor, Black, and Latino residents. Fagan and Davies (2000) posited that communities with concentrated areas of social and physical disorder experience higher levels of police activity, which reduces cooperation from citizens, weakens the relationship between the community and the police, and undermines policing goals.

Fagan and Davies (2002) analyzed the NYPD patterns of stop and frisk activity in 1997, relating to BWT of policing to determine if the strategy was place-based or race and socioeconomically based. The findings of the study suggest that the police strategy was inconsistent with BWT policing. The researchers posited that the police were targeting places and signs of physical disorder (Fagan & Davies, 2000). Fagan and Davies (2000) suggested that policing based on the BWT is more about "policing poor people in poor places" (p. 456) and less about policing social disorder and improving of the quality of life for the residents.

According to the Center for Constitutional Rights class action lawsuit, *Floyd et al. v. City of New York* (2013), in 2009, NYPD officers stopped 576,394 people consisting of

84% Black and Latino residents, even though they only comprised about 26% and 29%, respectively, of the NYC's population. These statistics reflect NYPD's stop, question, and frisk tactic to reduce crime.

An analysis of the impact of NYC's police reforms by Kelling and Sousa (2001) found that these order-maintenance police tactics, coupled with reasonable police discretion, shifting police strategies, like community policing and police presence in neighborhoods, help to reduce crime and to "establish baseline expectation of public order through 'broken windows' policing" (p. 19). The researchers evaluated the explanations for the decreased crime in NYC from 1990 to 1998 (murder declined 70%, robbery 60%, and violent offenses 50%). Kelling and Sousa (2001) observed police interactions in the community, surveyed residents, reviewed NYPD CompStat data, and reviewed census data. The researchers found that police can have an impact on crime by shifting the crime fighting strategy to a problem-solving model.

These studies of Fagan and Davies (2000), Kelling and Sousa, (2001), Kotabe et al. (2016), and Skogan (1986) support the theoretical arguments made for broken windows policing. The themes of physical and social disorder contributed to the research of Correll et al. (2005) on implicit bias.

Deadly Force

The decision by a police officer to use force that may result in death or substantial bodily harm is considered deadly force (Office of the Attorney General, 2000).

According to the New Jersey Officer of the Attorney General (2000), this force should only be used when the officer's life or a third party's life is in jeopardy.

Impact of training in shoot/don't shoot. Sim et al. (2012) examined three experiments to determine if training increased or reduced racial bias in the shoot/don't shoot decision. In study1, the participants were undergraduate students and police officers. Experiment 1 involved a total of 75 undergraduates (43 female, 32 male; 54 White, 11 Asian, 7 Black, and 3 Latino/a) with a mean age of 20.13 years and 52 police officers (4 female, 48 male; 40 White, 7 Black, and 5 Latino/a) with a mean age of 39.75 years. The final results of the research were based on the results of the non-Black participants (Sim et al., 2012). The final sample total was 113 participants, which included 45 police officers and 68 undergraduates (41 female, 72 male; 94 White, 11 Asian, 8 Latina/o).

The researchers randomly assigned the undergraduates to novice or expert training conditions. Sim et al. (2012) created three groups that varied in skill and training. The participants were randomly assigned to read one of two false newspaper articles with either a Black criminal or a White criminal before being assigned the First Person Shooter Task (FPST). The participants were required to push a button on a keyboard with the button labeled *shoot* if the target was armed and one button labeled *don't shoot* when the target was unarmed. The participants, like several of the previous push-button studies, had to respond to the stimuli within 630 ms (Correll et al., 2005; Plant & Peruche, 2005; Ito & Urland, 2003).

Failure to respond within the time limit resulted in a loss of award points and correct-responses-received points. Expert participants were given 16 practice trials and 200 training trials. Novice participants were allowed to observe the same stimuli that was used to train the experts under the same conditions as the experts (Sim et al., 2012). The

researchers found that manipulating stereotype accessibility did not impact the experts or the police officer, but the manipulations significantly impacted the novice. The research findings suggest that training and experience can reduce the impact of accessible stereotypes, depending on the types of stimuli that are presented in the training (Sim et al., 2012).

In experiments 2a and 2b, Sim et al. (2012) were concerned about the covariation between race and threat. In experiment 2a, the researchers investigated what environmental boundary conditions must be present to support the findings in experiment 1, which found that training and expertise could improve accuracy or sensitivity to the presence of a weapon. Participants were randomly assigned to FPST. The researchers examined covariation increases from the stereotype incongruent (SI) condition (Black male armed, White male unarmed), which undermines stereotypes, to no-covariation control condition (neutral to stereotypes) to the stereotype congruent (SC) condition (Black male unarmed, White male armed) (Sim et al., 2012). The findings suggest, when exposed to counter-stereotype stimuli training, SI participants (Black male armed, White male unarmed), showed higher sensitivity to Black targets, but the sensitivity decreased when the training stimuli moved closer to cultural stereotypes of Black men.

In experiment 2b, the researchers tested 22 special unit (SU) police officer who worked in gang or street crime units that targeted and worked with violent criminals. The SU officer and patrol office/community data were collected at various times and locations, which led the researchers to suggest caution in making comparisons (Sim et al., 2012). The findings of experiments 2a and 2b suggest that the stimuli in the training or

the nature of on-the-job experiences may determine whether a participant will override any implicit bias or not.

One of the limitations of the study was the real-world translation of a computer simulation to a police experience in the field. A police officer, in the field, making a deadly force shoot/don't shoot decision generally involves a threat to the officer or another party.

In 2012, James, Vila, and Daratha (2013) used advanced methodological techniques to understand whether a suspect's race or ethnicity influenced a participant's shoot/don't shoot decisions in an experimental setting at Washington State University's Simulated Hazardous Operational Tasks Laboratory in Spokane, WA. Based on 30 years of official police shooting data in the United States, the researchers developed 60 real-life high-definition deadly force video scenarios to conduct three experiments to test police, civilians, and military personnel in computerized simulators (James et al., 2013). The mixed-methods study used shooter reaction times and shooting errors as key response variables to measure the participants' responses to White, Black, and Hispanic suspects in potential deadly force scenarios. There were 102 participants in the study.

In experiment 1, James et al. (2013) recruited 24 participants with at least 5 years of active-duty police experience or active duty military members with at least one tour of combat duty experience to test as *experts* in the deadly force encounter simulations. Civilian participants were students and staff volunteers from the Spokane campus of Washington State University, who had no police, military, or firearms experience. The purposeful sample selection was 12 experts (six police and six military) and 12 novices.

In experiment 2, the researchers recruited 48 participants to test whether or not training could improve a participant's performance in the deadly force simulator from novice to expert. In the third experiment, James et al. (2013) recruited 30 active-duty police patrol officer participants to examine how police officer respond to simulated operational tasks including deadly force use and decision making.

One week prior to the experiments, the researchers screened all participants by medical history, physical exams, and questionnaires to ensure that they were healthy physically and psychologically (James et al., 2013). Participants were

outfitted with gun belts and holsters, taught how to operate the weapon system, given an orientation regarding range procedures and the following rules of engagement: The goal of a police officer in a deadly force encounter is to accurately identify a threat and neutralize it, while minimizing harm to bystanders, officers, and suspects. (p. 200)

The study found that the participants in all three experiments took more time to shoot Black suspects than they did to shoot White or Hispanic suspects (James et al., 2013). Regarding shooting errors, the participants were more likely to shoot unarmed White suspects rather than unarmed Black or Hispanic suspects. The researchers posited that this research design was externally valid, and the findings challenged the results of less-robust experimental designs (James et al., 2013). The James et al. study was limited by the lack of diversity in the samples. All three samples were predominantly White participants. Two samples were predominantly White male participants with the other sample have 44% White females. These demographic limitations, while reflective of the local community, limited the generalizability of the study.

The findings in the push-button/keyboard studies suggest that implicit racial bias is the reason that unarmed Black males are shot more frequently than their White counterparts (Correll et al., 2005, 2007; Plant & Peruche, 2005). The results from the Plant and Peruche (2005) study support the findings in the Correll et al. (2007) study that associating Black males with guns or other stereotypes affects shooter bias. Correll et al. (2007) found that the participants shot unarmed Black males more frequently than they did White males suspects. Correll et al. (2007) found that the police officers in the study out-performed the civilian participants by demonstrating control over racial bias in their error rates.

Unlike the Plant and Peruche (2005) study, the findings in Correll et al. (2007) did not find that officers demonstrated racial bias in the SDT criteria for decision making. The police officers in the Correll et al. (2007) study outperformed the civilians in their ability to distinguish between armed and unarmed targets. The civilians in the study had a lower threshold for shooting decisions. The research suggests that the police officers' training may have impacted their stereotype processing (Correll et al., 2007).

The studies of Correll et al. (2007) and Plant and Peruche (2005) found that implicit bias in police officers and civilian participants against Black men were inconsistent with the James et al. (2013) study findings. James et al. (2013) found that participants across all three experiments were slower to shoot Black males than White males, and they were more likely to shoot unarmed White men than Black men. The study locations of Florida (Plant & Peruche, 2005), Colorado (Correll et al., 2007), and Washington State (James et al., 2013) may explain the mixed results regarding shooter bias and error rates.

The Sim et al. (2012) study focused on implicit bias in error rates as oppose to the Correll (2007) study that primarily focused on reaction times. Further, the Sim et al. (2012) study manipulated covariance between race and weapons within the same experiments to measure the impact of training on implicit bias.

One limitation of the push-button/keyboard studies is that pushing a button or key on a keyboard does not accurately reflect the shoot/don't shoot actions of a police officer in the field. A police officer is required to squeeze the trigger on a weapon to shoot the target and then holster the weapon or release the trigger to not shoot at a target. Another limitation of the push-button/keyboard studies is that the time pressure of the video game computer simulations do not accurately reflect the time pressure that a police officer may experience in the field.

The research design of the James et al. (2013) study, unlike the previous studies, was robust, used highly controlled experimental studies, and utilized research based on reports of real-life encounters. There were controlled randomized trials across all three experiments. The 60 high-definition videos were based on 30 years of police officers deadly-force encounters across the United States (James et al., 2013). The study was externally more valid than research using push buttons/keypads in shoot/don't shoot scenarios.

Analyses of deadly force incidents in the field. In collaboration with the DOJ's Office of Community Oriented Policing (COPS), researchers Fachner and Carter (2015) conducted a case study to examine the use of deadly force by Philadelphia Police Department (PPD) police officers. The researchers met with members of the police department and community stakeholders. They conducted field observations and

collected data over the course of five visits. The examination covered four areas: document review, interviews, direct observations, and data analysis.

The researchers developed a baseline understanding of the police department's handling of OISs through a series of interviews, focus groups, meetings with community members, meetings with civilian and sworn department personnel, and a review of departmental policies, manuals, training lesson plans, and strategic plans (Fachner & Carter, 2015).

The researchers observed four PPD training modules and 20 review board hearings of OIS incidents. The researchers found that between 2007 and 2013, Philadelphia police officers shot 29 unarmed suspects, which was 8% of the OSIs. Fachner and Carter (2015) concluded that the shooting of unarmed suspects was because of threat perception failures (TPFs). According to the researchers, a threat perception TPF is a mistake-of-fact shooting in which the police officer fails to accurately perceive an action or object accurately (Fachner & Carter, 2015). The researchers recommended that the PPD develop a catalog of scenarios based on real experiences of Philadelphia police officers and other police officers across the country (Fachner & Carter, 2015).

Approximately 22 years earlier, criminologist Fyfe (1988) found, during an examination of the impact of administrative policies on police department actions and operating philosophy, that the PPD was a compelling example. According to Fyfe (1988), when the PPD was under a restrictive deadly force policy, the homicide rate per 1,000 officers was 1.47 with 12 deaths; the rate increased significantly, to 2.87 with 23 deaths in 1973, and 3.52 with 29 deaths in 1974.

Fyfe (1988) examined police use of deadly force from 1975 to 1983 using the Federal Bureau of Investigation (FBI) Supplementary Homicide Reports (SHR), National Center for Health Statistics (NCHS) data on deadly force, and police-generated data cross-referenced against Matulia's (1985) study on police-involved shootings in 57 American cities with populations over 250,000. Fyfe's (1988) review concluded that the FBI data and NCHS data were incomplete. Fyfe agreed with Matulia's (1985) findings that the police departments in the 57 American cities accounted for 70% of the total police homicides during that period. Fyfe (1988) maintained that police departments that experienced reductions in police shooting frequency and patterns implemented restrictive policies on the use of deadly force.

Duran and Loza (2017) provided a comparative, qualitative, and quantitative analysis of police-involved shootings of Black, White, and Latino residents in the City and County of Denver, CO from 1983 to 2012. The researchers used district attorney summaries, police shooting reports, and police shooting video interviews to establish a baseline understanding of 213 police officer-involved shootings that resulted in 103 deaths. The researchers used suspect characteristics, such as race, age, ethnicity, substance use, mental health, and reported gang membership; police officer characteristics, such as number of officers at the scene, number of officers who shot, number of rounds fired, race of the officers, whether or not the officer was on duty or off duty, and years of service; and contextual factors, such as the general neighborhood, and the racial and ethnic distribution of the residents.

The researchers found that Black suspects who were shot by police officers were no more likely to be engaged in a serious crime, to commit a crime against another

person, or to injure a police officer than a White suspect (Duran & Loza, 2017). These studies support the idea that police officers are implicitly or explicitly biased against African Americans in shoot/don't shoot decisions.

These studies of Fachner and Carter (2015), Fyfe (1988) and Duran and Loza (2017), which reflect encounters between the police and citizens, are dependent upon police organizations accurately self-reporting data that may not be very reliable. Fachner and Carter (2015) provided a case study of a specific police agency, while Fyfe (1988) provided a policy understanding of the organizational deficits of the agency studied and the outcomes of these failure.

Chapter Summary

The literature suggests that social disorder, neighborhood context, community engagement, police culture, implicit/explicit bias, and dominant culture stereotypical exposure may or may not impact a police officer's deadly force decisions (DOJ, 2012; Fagan & Davies, 2000; Kelling & Wilson, 1982; Sampson & Cohen, 1988). Social disorder in a neighborhood may not be able to overcome implicit bias—even if there are attempts to reduce the disorder by cleaning the streets, removing graffiti, moving drug dealers and prostitutes off the streets, and removing abandoned cars (Sampson & Raudenbush, 2004).

It is important to understand the historical perspective of policing in the United States as it relates to intergroup conflicts between the police and the Black community (Scott, 2002). According to Scott (2002), narrowly examining police shootings of Black males only through a lens of race does not provide sufficient information to support an adequate understanding of the problem nor an adequate understanding of the solution.

Other studies (Kelling & Wilson, 1982; Sim et al., 2012) suggest that race, training, environment, or threat perception are factors that may impact an officer's judgement and shooting decisions.

Lum (2016) acknowledged that there is not clarity around race and policing. The research suggests that the push-button implicit bias research, the video game simulations, and the high fidelity video simulators results are not clear. Lum (2016) questioned whether or not the behavior of police participants in the studies is a real depiction of their action in the field.

Therefore, this study went beyond race to expand the research lens through which to examine the factors that may impact a police officer's shoot/don't shoot decisions. The study sought to understand if a police officer's race, age, years of service, and place of residence have an impact on the decisions in shoot/don't shoot scenarios.

Chapter 3: Research Design Methodology

Introduction

High profile shootings of Black males in the United States has led to public protests arguing that police officers are biased against unarmed Black males (James, 2011). Data from the DOJ (2007) highlights that Black people are nearly four times as likely as White people to be subjected to force during police interactions. This quantitative research sought to understand if a police officer's race, age, years of service, or place of residence impacted a police officer's shoot/don't shoot decision in deadly force situations with unarmed Black males. This study used a firearms simulator and four deadly force shoot/don't shoot scenarios to examine error rate and reaction to answer the research questions.

Previous shooter bias research has been criticized for methodological issues (Cox et al., 2014). For example, Correll et al. (2005) used college students as participants in push-button shooter bias studies. The participants were instructed to push a button to shoot at a suspect and to not push the button to prevent shooting at a suspect. When a police officer shoots at a suspect by firing a weapon, the mechanics of this function require that the weapon is removed from the holster and the finger is placed on the trigger and squeezed (Cox et al., 2014). When the weapon is drawn out of the holster and pointed at a suspect, withholding fire only requires that the police officer not squeeze the trigger. The push-button shoot/don't shoot studies have been criticized for their unrealistic button-press designs.

This study addressed the methodological criticisms by using a Ti Lab firearms simulator with a laser-modified P380 Sig Sauer handgun, and a laser modified OC spray canister for less than lethal force. Police officers' reaction times and error rates were used as measurements to answer the research questions.

Police officer volunteers were recruited for 2 weeks at a northern New Jersey police department. Prior to the study, the participants signed an Institutional Review Board (IRB) approved informed consent form (Appendix A). In addition, each participant completed a demographic questionnaire (Appendix B) survey (race, age, years of service, and place of residence).

This study was conducted over a 3-day period. Each participant spent 20-30 minutes in the study, and each participant was engaged in four high-fidelity video scenarios with primary characters in the videos consisting of a White female with a gun, a White male with a gun, a Black male with a gun, and a Black male without a gun.

The scenarios were presented in the same order for each trial. The computerized simulator recorded the participants' reaction times and error rates. The reaction times and error rates were displayed on the video screen at the end of each scenario. The error rates and reaction times were documented on a scenario score sheet by the researcher. The scenarios did not exceed 2 minutes each. After completing the trials, each police officer was debriefed and provided with several resources (Appendices C & D), should there have been any emotional or psychological discomfort as a result of his or her participation in the study.

This study examined the factors, race, age, years of service, and place of residence in relationship to police officers shooting unarmed Black males. The sample

size was 30 active-duty police officers with at least 1 year of service at that specific police department. This study adds to the body of research on police shootings by seeking to understand if deadly force decision making in shoot/don't shoot scenarios is impacted by a participant's race, age, years of service, or residency; and it adds to the body of research regarding the impact of police training that attempts to reduce unnecessary shootings.

“When police officers make shooting mistakes, there are dire, immediate consequences for public safety” (Cox et al., 2014, p. 1). The decision to shoot an unarmed suspect may result in harm to an innocent person (Cox et al., 2014). On the other hand, an officer's failure to shoot an armed suspect or a fleeing felon may leave the public or the police officer vulnerable (Cox et. al, 2014).

Research questions. The research questions that guided this study, were

1. Does a police officer's race impact the officer's decision to shoot an unarmed Black male?
2. Does a police officer's age impact the officer's decision to shoot an unarmed Black male?
3. Do a police officer's years of service impact the officer's decision to shoot an unarmed Black male?
4. Does a police officer's place of residence impact the officer's decision to shoot an unarmed Black male?
5. Does a police officer's race, age, place of residence, or years of service impact the officer's decision to shoot or not shoot an armed or unarmed Black male?

Research Context

The study was conducted at the training facility of an urban/suburban northern New Jersey police department. At the time of this study, the police department had approximately 150 active-duty police officers. The racial/ethnic composition of the police department was 55% African American, 33% Caucasian, and 12% Latino/Hispanic.

According to the 2016 census data, there were approximately 61,327 residents in the New Jersey research city. The population of the city was 44.2% African American, 15.7% Caucasian, and 38.1% Latino. The police department is a subset of the general population of the city. According to the New Jersey Uniformed Crime Report (2016), violent crime in the research city during the same time period was nearly 10 times greater than the suburban neighboring communities. The community had shifted from being a suburban community to an urban-suburban community.

Research Participants

The convenience sample was African American, Latino, and White male and female police officers. The participants had at least six months of service in the specific police department, and they identified as residents of an urban, suburban, or rural community.

At the time of this research, the specific northern New Jersey police department had 100 to 150 police officers employed, consisting of 55% Black, 36% White, and 9% Latino. The sample size was 30 active-duty police officers who worked for the specific northern New Jersey police department. The police officers were recruited using an IRB-approved flyer (Appendix E) and roll call (Appendix F) announcements. Participants

were accepted until the maximum sample size was reached. Once 30 participants had completed the trials, recruitment was closed.

In a simulation classroom, using interactive video and instructor-led direction, the shoot/don't shoot decision of an officer can be dissected and evaluated. The intent behind this type of training is to recreate situations where officers find themselves in situations that produce high levels of stress with very little time to make decisions (Slahor, 2015).

The participants were advised that the study would examine their decision making within use-of-force scenarios. To address the concern that the participants might modify their behavior if they were aware that racial impact upon their decision making was going to be examined, the researcher limited his discussion of that independent variable information. For example, if the participants knew that race was a variable, when confronted by Black suspects, the participants might increase their reaction time and not shooting quickly enough (as they might normally do) to prevent accidentally shooting an unarmed Black suspect.

Instruments Used in Data Collection

The Ti Training Lab firearms simulator (Appendix G, simulator agreement) was used to provide realistic high-fidelity video scenarios (Appendix H) to create physiological and psychological stress for the participants. The simulator uses Bluetooth technology to connect the weapon to the training system, which provides for a wide range of motion with a weapon (Slahor, 2015). The training lab used stereoscopic, 3D technology with high-definition video quality; high-quality surround sound; a high-definition projection screen; and over 700 simulation scenarios.

The Ti Training simulator uses a modified gun with a laser to replace a gun barrel and to realistically simulate the participant firing a Sig Sauer 9-mm gun. The simulator recorded the police officers' reaction times when shooting at a suspect, and it recorded the accuracy of hitting or missing the target, which was recorded as the error rate.

The Ti Training simulator provided immediate feedback to the researcher, and the event of an officer shooting at a specific target could be recorded. The simulator tested the officer's ability to react to high-pressure shoot/don't shoot situations. The participants were able to read the suspects' body language, react to suspects' shooting back, and escalate or de-escalate a use-of-force situation (Slahor, 2015). The use-of-firearms simulators in previous studies (Fridell, 2016; James et al., 2016a, 2016b) have indicated that the instrument has face validity based on the measurements of reaction times and error rates in those studies.

Four simulation scenarios were used to record the participants' reaction times and error rates in each scenario. The Delphi method was used to establish reliability of the scenarios (Hasson, Keeney, & McKenna, 2000). Five subject-matter experts independently reviewed five scenarios, then they identified the four scenarios that a police officer would most likely to encounter during a regular tour of duty. The subject-matter experts were (a) a police director with 30 years of experience in an urban police department, (b) a retired police director with 25 years of experience in an urban police department, (c) an active-duty firearms instructor/simulator operator from a suburban police department, (d) a retired police detective with 25 years of experience in a suburban police department and a county prosecutor's office, and (e) an active duty police officer/martial artist with 25 years of experience in an urban police department.

Each expert was surveyed on his or her prioritized order of the scenarios. The information was shared with each subject-matter respondent each time until an informed consensus regarding the top-four scenarios was established (Vogt & Johnson, 2016). This was done through five rounds of surveying each subject-matter expert. The experts were only able to share their responses with this investigator.

The following scenarios (a) an African American male with a gun, (b) an African American male without a gun, (c) a Caucasian female with a gun, and (d) a Caucasian male without a gun, were presented in sequential order for each participant.

There were 1-minute breaks between each scenario. The study explored whether or not a participant's race, age, years of service, or place of residence impacted the decision to shoot or not/shoot a suspect in each scenario. The continuous-dependent variables of error rate and reaction time were measured to determine if these variables were impacted by the independent variables of the police officer's race, age, years of service, or place of residence.

The participants were primed for Scenario 4 with an *unarmed* Black male by subjecting the police officers to three consecutive scenarios with *armed* suspects. Reaction times and error rates in each scenario were analyzed to determine if the data were statistically significant. For example, in Scenarios 1-3, the correct response was to use deadly force—to shoot the suspect with the gun. Scenario 4 was a null scenario because the correct response was not to use deadly force, to do nothing physical, or to use less than lethal force, such as using the OC spray. If the police officers responded correctly or incorrectly in the scenario, the time was used as a measurement within and between each group. Shooting an unarmed suspect or failure to shoot an armed suspect

was scored as an error. The scenarios allowed for the police officers shoot/don't shoot decisions, reaction times, and error rate scores to appear on a screen at the end of each scenario. These datapoints answered the research questions.

An approved questionnaire survey to collect demographic data from the participants. The demographic data collected was gender, race, age, years of service, and place of residence.

Procedures for Data Collection and Analysis

In this quantitative, quasi-experiment, each participant responded to four scenarios. This resulted in two levels of response variables—between group and within group based on repeated observations. The independent variables were race, age, years of service, and place of residence. The dependent variables were reaction time, and error rate. Error rate was measured by using the correct response and the incorrect response as variables. Demographic data were collected using a survey questionnaire. Descriptive statistics presented the demographic data of the participants (Table 4.1).

These data were entered into SPSS statistical analysis software. In view of the four independent variables and two levels of dependent variables, parametric tests were conducted to understand the difference within and between the groups. ANOVA was used to determine whether there were statistically significant differences between the means of four independent (unrelated) groups; that is, did the simulation scores differ based on a police officer's age, race, years of service, or place of residence? One-way ANOVA is an omnibus test statistic that does not tell which specific groups were statistically significantly different from each other, only that at least two groups were

significantly different (Laerd Statistics, 2019). ANOVA was used because it reduces the chance for Type I errors.

A *t*-test for independent samples was used to compare the results of the error rates and reaction times based on age, race, years of service, and place of residence. Pearson's chi-square test was also used to analyze these data. It was used to test the independence of the relationship between categorical variables (Hagan, 2018). According to Preacher (2001), the researcher should use chi-square when there is a desire to know if the “frequency of cases possessing some quality varies among levels of a given factor or among combinations of levels of two or more factors” (p. 1). The chi-square test was used by entering the observed frequencies that corresponded to the combinations of levels of relevant groups (Preacher, 2001). The sums of the rows and columns were calculated. The chi-square test was used to answer the research questions regarding error rates in shooting unarmed Black males. Each scenario was analyzed for correct and incorrect responses across each independent variable.

The Mann-Whitney U test was “used to test the statistical significance of differences between two groups” (Vogt & Johnson, 2016, p. 247). This test was used post hoc for Scenario 4. In this study, each scenario had additional levels to the dependent variable reaction time—an incorrect or correct response. Crosstabulation was used to present the data in a matrix so that the relationship was more obvious (Vogt & Johnson, 2016).

A multivariate regression model was used to understand the effect of each independent variable on the error rate. Overall, there were no significant predictors of the correct response across the four independent variables, race, age, years of service or place

of residence. This analysis was used to address Research Question 5: *Does a police officer's race, age, place of residence, or years of service impact the officer's decision to shoot or not shoot an armed or unarmed Black male?* The variables did not predict the outcomes of the shoot/don't shoot scenarios with armed or unarmed Black males.

Summary

This quantitative study used a demographic questionnaire to identify age, race, gender, years of service, and place of residence of the sample. The study examined whether there was a difference between four independent variables: participants' race, age, years of service, and place of residence, and two continuous dependent variables of error rate and reaction time scores produced by the simulation. This study used a firearms training simulator to collect reaction times and errors, which were used to examine deadly force decisions made by police officers in a northern New Jersey police department. The study used demographic information, error rates, and reactions times to test whether or not the participants race, age, years of service or place of residence impacted their shoot/don't shoot decisions.

Data were entered into SPSS software to analyze the impact of the participants' age, race, years of service, and place of residence on error rates and reaction times. The use of a real handgun within the simulator in the study was an improvement on the methodological limitations of the push-button/toggle shoot/don't shoot studies. The results are not generalizable.

Chapter 4: Results

The purpose of this study was to examine the factors relating to police officers shooting unarmed Black males using a firearms simulator with four high-fidelity video scenarios. The survey was used to determine the independent variables based on race, age, years of service, and place of residence. The study used shoot/don't shoot video scenarios with Black, White, male, female, armed, and unarmed characters. The police officers' race, age, place of residence, and years of service were independent variables that were used to understand if there was an effect on police officers' reaction time (Appendices I, J, K, & L) and error rate in four video scenarios. The simulator software captured and projected the error rates and reactions in seconds on a screen. A demographic questionnaire was used to record each police officer's demographic data.

This study examined the factors relating to police officers shooting unarmed Black males in an effort to improve community/police relationships, to impact police policies, and to determine a path forward to reduce the tension that exists between law enforcement and Black communities.

Research Questions

The research questions that guided this study were:

1. Does a police officer's race impact the officer's decision to shoot an unarmed Black male?
2. Does a police officer's age impact the officer's decision to shoot an unarmed Black male?

3. Do a police officer's years of service impact the officer's decision to shoot an unarmed Black male?
4. Does a police officer's place of residence impact the officer's decision to shoot an unarmed Black male?
5. Does a police officer's race, age, place of residence, or years of service impact the officer's decision to shoot or not shoot an armed or unarmed Black male?

The target population for this study was 30 sworn police officers who had at least 6 months of experience at a northern New Jersey police department. The data for this study were collected using a Ti Lab firearms high-fidelity video simulator, and by using a survey questionnaire (Appendix B).

Data Analysis and Findings

All of the participants were sworn police officers ($N = 30$). The participants were assigned to various police department units. The rank of the police officers or their assigned units were not evaluated.

Demographics: Age, sex, race, place of residence, years of service, and gender. The age range of the participants varied from 24 years to 62 years. The average age of the participants was 36.7 years with $SD = 10.09$. Of all of the participants, 56.7% identified as Black/non-Hispanic; 36.7% of the participants were identified as White/Caucasian/non-Hispanic. One participant identified as Asian, and one participant identified as Black/White, 3.3% of the participants, respectively. Table 4.1 provides the breakdown of the participants who responded to the invitation (Appendix M) to participate in the study.

Table 4.1

Participant Demographics (N = 30)

Variable	<i>N</i>	% of <i>N</i> = 30	<i>SD</i>
Race			
Black	17	56.67	N/A
White	11	36.67	N/A
Asian	1	3.33	N/A
Black/White	1	3.33	N/A
Place of Residence			
Urban	17	56.67	N/A
Suburban	12	40.00	N/A
Rural	1	3.33	N/A
Experience			
Rookie	15	50.00	N/A
Experience	4	13.33	N/A
Veteran	11	36.67	N/A
Gender			
Male	27	90.00	N/A
Female	3	10.00	N/A
<i>Age, mean</i>	36.77		10.09

Research Question 1. *Does a police officer's race impact the officer's decision to shoot an unarmed Black male?* The participants identified as Black or African American, White or Caucasian, Asian, or Black-White, as opposed to *biracial*, which was an option. Police officers' race did not impact the decision to shoot an unarmed Black male. The first question sought to understand if characteristics, like an officer's race, impacted the decision for that officer to use deadly force with a Black male suspect. There were no significant predictors of correct responses. Race was not a factor. Table

4.2 provides the categorical variables for race and the percentage of correct responses for each scenario. There was no significant difference in error rates between the races for all four scenarios: Scenario 1, $p = 0.07$; Scenario 2, $p = 0.59$; Scenario 3, $p = 0.11$; and Scenario 4, $p = 0.46$. Across all scenarios, there were no significant differences between the races in reaction time: Scenario 1, $p = 0.72$; Scenario 2, $p = 0.20$; Scenario 3, $p = 0.11$; and Scenario 4, $p = 0.58$ (Table 4.3).

Table 4.2

Crosstabulation Error Rate Comparisons by Race

Scenario	Variable/Race	Correct Responses (<i>n</i>)	% of $N = 30$	<i>p</i> -value
1	Black	17	100.0	0.07
	White	4	100.0	
	Hispanic	5	71.2	
	Other	2	100.0	
2	Black	11	64.7	0.59
	White	3	75.0	
	Hispanic	6	85.7	
	Other	2	100.0	
3	Black	14	82.4	0.11
	White	4	100.0	
	Hispanic	3	42.9	
	Other	1	50.0	
4	Black	13	76.5	0.46
	White	3	75.0	
	Hispanic	7	100.0	
	Other	2	100.0	

Table 4.3

Crosstabulation Reaction Time Comparisons by Race

Scenario	Variable/Race	Reaction Time		<i>p</i> -value
		<i>M</i>	<i>SD</i>	
1	Black	7.98	2.63	0.72
	White	8.92	1.20	
	Hispanic	6.77	4.76	
	Other	7.55	1.65	
2	Black	0.23	0.22	0.20
	White	0.46	0.37	
	Hispanic	0.38	0.35	
	Other	0.59	0.04	
3	Black	0.64	0.44	0.11
	White	0.61	0.38	
	Hispanic	0.29	0.44	
	Other	0.00	0.00	
4	Black	0.88	1.92	0.58
	White	0.36	0.72	
	Hispanic	0.00	0.00	
	Other	0.00	0.00	

Research Question 2. Does a police officer's age impact the officer's decision to shoot an unarmed Black male? In Scenario 2, there was a statistically significant difference in error rates between the age groups, $p = 0.032$. The rate was much higher in the 37-41 age range. The suspect in this scenario was a White male with bolt cutters. This is the opposite result from the Correll et al. (2007) Black-crime, implicit-bias study. There was no statistical significance for Scenario 1, non-significant (NS) for ages, $p = 0.24$; Scenario 3, NS for ages, $p = 0.32$; and Scenario 4, NS for ages, $p = 0.81$

(Table 4.4).

Table 4.4

Crosstabulation Error Rate Comparisons by Age

Scenario	Variable/Age	<i>n</i>	% of <i>N</i> = 30	<i>p</i> -value
1	18-36	16	94.1	0.24
	37-41	3	75.0	
	42+	9	100.0	
2	18-36	13	88.2	0.32
	37-41	1	25.0	
	42+	6	66.0	
3	18-36	12	70.6	0.32
	37-41	2	50.0	
	42+	8	88.9	
4	18-36	14	82.4	0.81
	37-41	3	75.0	
	42+	8	88.9	

Table 4.5 demonstrates that there was no statistical significance for reaction time across all scenarios. Scenario 1, $p = 0.85$; Scenario 2, $p = 0.12$; Scenario 3, $p = 0.06$; and Scenario 4, $p = 0.22$.

Table 4.5

Crosstabulation Reaction Time Comparisons by Age

Scenario	Variable/Race	Reaction Time		<i>p</i> -value
		<i>M</i>	<i>SD</i>	
1	18-36	7.93	3.04	0.85
	37-41	6.96	4.71	
	42+	7.90	72.48	
2	18-36	0.41	0.26	0.12
	37-41	0.31	0.44	
	42+	0.17	0.20	
3	18-36	0.38	0.45	0.06
	37-41	0.43	0.51	
	42+	0.81	0.33	
4	18-36	0.46	1.11	0.22
	37-41	1.74	3.48	
	42+	0.18	0.54	

Table 4.6 shows no significant differences between groups for Scenario 1, $p = 0.79$; Scenario 3, $p = 0.22$; and Scenario 4, $p = 0.059$. There was a significant main effect for Scenario 2, $p = 0.018$. Post hoc testing was done to determine where the differences existed among the three experience groups.

There was a significant difference between rookie officers and veteran officers on reaction time in Scenario 2, $p = 0.015$ (Table 4.7). The veteran officers were much faster shooters than the rookie officers in Scenario 2. The suspect in this scenario was a White male with bolt cutters.

Table 4.6

Reaction Times Between Groups Per Scenario (ANOVA)

Scenario	Groups	Sum of Squares	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig</i>
1	Between Groups	4.745	2	2.372	0.244	0.785
	Within Groups	262.039	27	9.705		
	Total	266.784	29			
2	Between Groups	0.598	2	0.299	4.696	0.018
	Within Groups	1.718	27	0.064		
	Total	2.315	29			
3	Between Groups	0.631	2	0.316	1.597	0.221
	Within Groups	5.334	27	0.198		
	Total	5.965	29			
4	Between Groups	2.536	2	1.268	0.545	0.586
	Within Groups	62.782	27	2.325		
	Total	65.318	29			

In Table 4.8, the total means score of 7.79 seconds for the Scenario 1 reaction time shows that all participants took significantly longer to react in this scenario than the mean reaction times in the other scenarios combined. The suspect in this scenario was a White female with a gun who was holding a baby.

Table 4.7

Difference Between Reaction Times of Rookie and Veteran Officers in Scenario 2 Tukey

HSD

Years of Service	Years of Service	Difference
Rookie	Experienced	0.912
	Veteran	0.015
Experienced	Rookie	0.912
	Veteran	0.239
Veteran	Rookie	0.015
	Experienced	0.239

Table 4.8

Descriptive Statistics – Reaction Times

Scenario	<i>N</i>	<i>M</i>	<i>SD</i>	Skewness		Kurtosis	
1	30	7.7940	3.03306	-1.672	0.427	2.028	0.833
2	30	0.3220	0.28257	0.680	0.427	-0.155	0.833
3	30	0.5130	0.45353	0.770	0.427	-1.468	0.833
4	30	0.5457	1.50078	3.336	0.427	11.927	0.833
Valid N	30						

Table 4.9 shows the group statistics for error rates in Scenario 1. There were two incorrect responses and 28 correct responses. An independent *t*-test (Table 4.10) shows significant differences between the groups, $t(28) = -5.17, p < 0.001$.

Table 4.9

Group Statistics for Error Rates in Reaction Time in Scenario 1

Response	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SE M</i>
Incorrect	2	0.0000	0.00000	0.00000
Correct	28	8.3507	2.24939	0.42509

Table 4.10

Scenario 1 - Independent t-Test for Correct and Incorrect Reaction Times

Reaction Time Error Rate	<i>t</i> -Test for Equality of Means		
	<i>t</i>	<i>Df</i>	Sig (2-tailed)
Equal variances assumed	-5.165	28	0.000

Table 4.11

Crosstabulation Reaction Times and Means

Scenario	Variable/Experience	Reaction Time		<i>p</i> -value
		<i>M</i>	<i>SD</i>	
1	Rookie	7.74	7.74	0.790
	Experienced	6.93	6.93	
	Veteran	8.19	8.19	
2	Rookie	0.44	0.44	0.018
	Experienced	0.38	0.38	
	Veteran	0.14	0.14	
3	Rookie	0.37	0.37	0.220
	Experienced	0.65	0.65	
	Veteran	0.66	0.66	
4	Rookie	0.26	0.26	0.059
	Experienced	0.97	0.97	
	Veteran	0.78	0.78	

Research Question 3. Do a police officer's years of service impact the officer's decision to shoot an unarmed Black male? In Scenario 4, there was no statistical significance in error rate, $p = 0.84$, or reaction time, $p = 0.059$. The participants were divided into three groups, rookie (0-5 years of service), experienced (6-10 years of service), and veteran (11+ years of service). There was no statistical significance in error rates between the groups: Scenario 1, $p = 0.23$; Scenario 2, $p = 0.19$; Scenario 3, $p = 0.41$; and Scenario 4, $p = 0.84$. Reaction times across all three groups show a statistical significance between the groups for Scenario 2, $p = 0.018$ (Table 4.11). Veteran officers shot quicker than rookie officers or experienced officers.

Table 4.12

Per Scenario, Reaction Times Between Groups (ANOVA)

Scenario	Groups	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>Sig</i>
1	Between Groups	000.016	1	0.016	0.002	0.967
	Within Groups	266.768	28	9.527		
	Total	266.784	29			
2	Between Groups	000.043	1	0.043	0.532	0.472
	Within Groups	002.272	28	0.081		
	Total	002.315	29			
3	Between Groups	000.348	1	0.348	1.734	0.199
	Within Groups	005.617	28	0.201		
	Total	005.965	29			
4	Between Groups	000.003	1	0.003	0.002	0.967
	Within Groups	065.315	28	2.333		
	Total	065.318	29			

Research Question 4. Does a police officer's place of residence impact the officer's decision to shoot an unarmed Black male? The participants identified their place

of residence as urban, suburban, or rural. The participants' place of residence did not impact their error rates or reaction times in the decision to shoot an unarmed Black male (Table 4.12). There was no statistical significance for error rates across all scenarios: Scenario 1, $p = 0.84$; Scenario 2, $p = 0.70$; Scenario 3, $p = 0.22$; and Scenario 4, $p = 0.41$. Reaction times for place of residence was not statistically significant: Scenario 1, $p = 0.97$; Scenario 2, $p = 0.47$; Scenario 3, $p = 0.20$; and Scenario 4, $p = 0.97$.

Research Question 5. Does a police officer's race, age, place of residence, or years of service impact the officer's decision to shoot or not shoot an armed or unarmed Black male? A multivariate regression analysis was run to determine if the demographic variables impacted the decision to shoot an unarmed Black male (Table 4.13). There were no significant predictors of correct responses across the demographic variables. For all of the independent variables, the p value was greater than .05. These results indicate that the

Table 4.13

Multivariate Regression Analysis

		Variables in the Equation				
		B.	S.E.	Wald	<i>df</i>	<i>Sig.</i>
Step 1 ^a	Race			.515	3	.916
	Race(1)	1.246	1.737	.515	1	.473
	Race(2)	20.861	14289.200	.000	1	.999
	Race(3)	22.022	28406.627	.000	1	.999
	Place of Residence (1)	1.835	1.571	1.365	1	.243
	Years of Service	-.091	1.470	.004	1	.951
	Officer's Age	.091	.143	.404	1	.525
	Constant	-1.439	3.110	.214	1	.644

Note. ^aVariable(s) entered in Step 1: Race, Place of Residence, Years of Service, Officer's Age. decision to shoot/don't shoot an unarmed Black male was not impacted by the police officer's race, age, years of service or place of residence.

Table 4.14 demonstrates the number of police officers killed in action in each scenario. As the scenarios unfolded, the participant errors increased progressively across Scenarios 1-3. There was a total of 27 police officers killed in 120 trials. Missed shots, failure to shoot when faced with a gun, or no reaction were counted as errors.

Table 4.14

Number of Police Officers Killed in Action in Three Scenarios

Scenario	Response	Officer Killed						Total	% of Scenario
		No Reaction	% of Scenario	Shot Missed	% of Scenario	OC Spray	% of Scenario		
1	Incorrect	2	100.0	0	00.0			2	100
	Correct	0	00.0	4	100.0			4	100
Total		2		4				6	100
2	Incorrect	6	87.5	0	00.0	1	12.5	7	100
	Correct	0	00.0	2	100.0	0	00.0	2	100
Total		6	66.7	2	22.2	1	11.1	9	100
3	Incorrect	7	87.5	1	12.5			8	100
	Correct	3	75.0	1	25.0			4	100
Total		10	83.0	2	16.7			12	100

Summary of Results

Police officers ($N = 30$) from a northern New Jersey police department who participated in this study ranged in age from 24 years to 62 years. The participants had a minimum of 6 months of service and a maximum of 35 of service. The average years of service was nine. The average age of the participants was 36.7 years of service. Of the 30 police officers, 87% identified as male, and 13% identified as female. There were 26 males and four females. Of the 30 participants, 17 were Black, seven were

Hispanic/Latino, four were White/Caucasian, one participant was Asian, and one participant identified as Black and White, but not biracial.

This study suggests that some police officers had implicit bias, but there was no activation of the bias in the decision to shoot/not shoot unarmed Black males. The mean reaction time for Scenario 1 was 7.79 second ($SD = 3.03$). Scenario 2 had a mean of 0.32 ($SD = 0.28$). The mean for Scenario 3 was 0.51 seconds ($SD = 0.45$). Scenario 4 had a mean reaction time of 0.55 seconds ($SD = 1.50$). The correct reaction for Scenarios 1-3 was to shoot the suspect. The mean reaction time in Scenario 1 (7.79 seconds) with a White female suspect suggests bias in favor of the suspect compared to the mean reaction time in Scenario 3 (0.51 seconds) with a Black male suspect. The mean reaction time in Scenario 2 (32 seconds) with a White male suspect, compared to the mean reaction time in Scenario 3 (0.51) with a Black male suspect, indicates that the police officers shot the armed White male more quickly than the armed Black male.

The comparison of the police officers' reaction times across all four scenarios based on the race of the suspect indicates bias. Comparison of Scenario 1 and Scenario 3 demonstrates bias in the actions of the officers' deadly force decision making with a White female with a gun and a Black male with a gun. When reaction times in Scenario 2, a White male with a gun, are compared to reaction times in Scenario 3, a Black male with a gun, police officers' behavior suggests a bias in favor of the Black suspect with a gun.

Consistent with the prior counter-implicit studies of James (2011, 2016b), under vigilance emerged in Scenario 2 relative to speed (reaction time). The suspect in Scenario 2 was a White male with bolt cutters. The between-group analysis was statistically

significant, $p = 0.018$. Veteran officers shot more quickly than the other groups. Tukey's honestly significant difference (HSD) test indicated that the difference was between the rookie group ($p = 0.912$), and veterans, $p = 0.015$. These data do not suggest that the quicker shooting veteran group were more likely to shoot unarmed Black males. There was a statistical significance for error rates in Scenario 2. The 37-41 age group had a significant error rate in comparison to the other groups, $p = 0.32$. These results support the under-vigilance findings of James (2016).

Scenario 4 required post hoc testing. A Mann-Whitney U test was used to analyze the reaction times between the incorrect and correct response groups, $U = 000$, $p < 0.001$. Only one police officer in this scenario used deadly force. The suspect in this scenario was an unarmed Black male. Out of 30 police officers, 29 police officers responded correctly with no use of deadly force. Officer's race, age, years of service, and place of residence had no effect on error rates and reaction times in the decision to shoot/don't shoot unarmed Black males. Simply put, a police officer's race, age, years of service, or place of residence did not predict the outcome of a shoot/don't shoot encounter with an unarmed Black male.

Chapter 5: Discussion

Introduction

High-profile shootings of unarmed Black males in the United States has ignited the national debate of race and police use of force in the United States (Fridell & Lim, 2016). This chapter summarizes the results of the study in relationship to previous Black-crime, implicit-bias shoot/don't shoot research with unarmed Black male suspects. Methodological criticisms of previous shoot/don't shoot studies were addressed with the use of a firearms simulator with a real laser-modified Sig Sauer P380 handgun and OC spray canister. This chapter examines the research questions, implications of the findings, limitations of the study, recommendations, and the conclusion.

The purpose of this quantitative study was to examine the factors relating to police officers' use of deadly force against unarmed Black males. This study found that a police officer's race, age, years of service, or place of residence did not have an effect on the decision to shoot/don't shoot an unarmed Black male. As Goldkamp (1976) explained, "the power to take life exists not only at the final stage of the criminal justice process where the state may execute prisoners under the sentence of death," (p. 169), but it also exists "at the earliest stage where deadly force may be used by police" (p. 169).

This study used a firearms simulator with a modified Sig Sauer P380 laser gun, and a modified OC spray canister. The study sought to understand if a police officer's race, age, years of service, or place of residence had an effect on the officer's reaction time or error rate while engaging in four different use-of-force scenarios within the

firearms simulator. This chapter summarizes the results of the study in relationship to previous Black-crime, implicit-bias shoot/don't shoot research. For 1 year, permission (Appendix N) was given to access a northern New Jersey police department's training facility to conduct this study with 30 sworn police officers with at least 6 months of experience at this agency ($N = 30$). Each participant engaged in four deadly force scenarios. There were 120 trials.

Implications of the Findings

Officer-involved shootings have long garnered considerable controversy by the media and the public (McElvain & Kposowa, 2008). Although the use of deadly force by the police has been a contentious topic in the United States for some time, a number of recent high-profile cases (including incidents in Ferguson, MO; Cleveland, OH; and North Charleston, SC) have moved police use of deadly force to the forefront of public policy concerns (Pickering, 2016). Criminal justice researchers and policy makers are now seeking to gain a better understanding of how and why police officers make the decision to use deadly force against citizens.

The findings of this study suggest that age, race, years of experience, and place of residence did not influence the decision to shoot/don't shoot Black males and, therefore, these findings should not be used to generalize how police officers will respond in field encounters with other suspects armed or unarmed. The research questions sought to understand if the independent variables of race, age, place of residence, or years of service impacted the participants' reaction times and error rates in shoot/don't shoot scenarios with Black male suspects. This study found that race, age, years of service and place of residence did not impact the decision to shoot/don't shoot unarmed Black males.

Analysis of the reaction times in shooting an armed Black male versus an armed White female were significant. The mean reaction time for Scenario 3 was .52 seconds versus 7.35 seconds for Scenario 1. These findings are consistent with the research findings of James et al. (2013) that suggest that Black-crime, implicit bias may exist, but there was no activation of the bias against Black male suspects, armed or unarmed. The findings also suggest that police officers may have been able to control or override their responses to prevent the activation of implicit bias against Black male suspects. Consistent with earlier implicit bias studies of Correll et al. (2002) and Peruche & Plant, 2005 there was evidence that the participants in this study shot armed Black male suspects more quickly than some armed White suspects.

Scenario 1 tested police officers' shoot/don't shoot decision making in a child custody dispute outside of a car. The participants were slower to shoot the White female suspect, who was pointing a gun at her ex-husband while holding a baby in her arms. Prior firearms simulator and threat perception studies (Correll, 2014; Fachner & Carter, 2015) suggest that participants would more quickly shoot a Black suspect than a White suspect. Consistent with the findings in Correll et al. (2005), the participants were less likely to use deadly force on a White suspect—even after the gun was shown. There was no significant difference between the races. The participants of all races responded similarly. No police officer would shoot at the White female suspect until after she shot her ex-husband. In the suspect's race crosstabulation in Scenario 1, where the correct response was the use of deadly force in this shoot/don't shoot experiment, the correct response occurred 28 out of 30 times. In other words, 93.3% of the time, the participants' reaction was correct. Two participants had no reaction and it was incorrect. Four

participants had the correct reaction and missed the shot at the suspect. Six police officers were killed in action in this scenario. The suspect's race, the suspect's gender, the presence of a baby, or a combination of all three aspects may have impacted the participants' hesitance to shoot the White female. Two of the four participants that missed the shot, hit the baby. The data analysis reflects that the within-subject scenario reaction time may be indicative of bias. There was a significant difference in reaction times between the response groups in the independent *t*-test for equality of means, $t(28) = -5.17, p < 0.001$. The average reaction time in Scenario 1 for correct responses was 8.35 seconds.

Scenario 2 tested the police officers' shoot/don't shoot responses to a White male suspect holding bolt cutters. The suspect reached for a gun in his back pocket and pointed it at the officer. If the scenario progressed to the White male suspect pointing the gun at the police officer, the correct response was the use of deadly force, shooting the suspect. One participant used less than lethal deadly force, OC spray, before a gun was displayed, which stopped the suspect and ended Scenario 2. Use of less than lethal force, at this point in the scenario, was the correct response.

Another participant used OC spray after the gun was displayed, which was an incorrect response. Six police officers had no reaction, which was an incorrect response. There were two participants that had the correct response but missed the shot. The correct response occurred 22 out of 30 times; 73% of the time the participants responded appropriately in the scenario. Nine police officers were killed in action in Scenario 2. There was a significant main effect for the reaction time between the groups in Scenario 2, $p = 0.018$. Post hoc testing was done to see where the differences existed between the

rookie officers (0-5 years of experience), the experienced officers (6-10 years of experience), and the veteran officers (11+ years of experience). There was a significant difference between the rookies and the veterans on reaction time in Scenario 2, $p = 0.015$. The veteran police officers were much faster shooters.

Scenario 3, similar to Scenario 1, where there were three characters in the scenario, the police officer had to make a split-second decision to determine if there was a threat to human life, and if so, from which potential suspect. Scenario 3 tested the police officers' shoot/don't shoot responses in a motor vehicle stop with three Black male occupants. The front seat passenger opened the car door and pointed a gun at the police officer. The correct response was to use lethal deadly force on the front seat passenger. An incorrect response would have been to shoot the unarmed Black male driver of the vehicle or the unarmed Black male in the rear passenger seat. The correct response occurred 22 out of 30 times; 73.3% of the time, the police officers correctly used deadly force on the Black male suspect with the gun.

There were seven participants that had no reaction, which was an incorrect response to the Black male suspect with a gun. Under these circumstances, failure for the police officer to draw a gun in a deadly force situation was considered an incorrect response. There was one police officer who was incorrect and missed the shot. If a police officer drew the gun, but did not shoot, this was considered a correct response with no reaction. Three participants were correct but had no reaction. For example, one participant drew the gun to respond to the threat of a Black male suspect with a gun, but the participant ran out of the simulator in an effort to avoid being shot. The participant failed to engage the threat by firing the gun at the suspect. There was a significant

difference between the groups for reaction time, $t(28) = -4.73, p < 0.001$. While 22 participants reacted correctly, 12 police officers were killed in action.

Scenario 4 tested the police officers' reaction to an unarmed Black male peeking into the window of a suburban home. The verbal encounter escalated to the Black male suspect advancing toward the police officer. This scenario was a null scenario where deadly force was not expected. This scenario represented 25% of the scenarios that the participants were subjected to in 120 trials. This percentage was the result of the Delphi method that was used to have a panel of subject-matter experts select four scenarios that most reflected a police officer's routine tour of duty. In Scenarios 1-3, it was expected that deadly force would be used. In Scenario 4, the correct response occurred 25 out of 30 times; 83.3% of the time, the police officers used the correct response. One police officer incorrectly used deadly force. There was a significant difference in reaction times between the incorrect response group and the correct response group. A Mann-Whitney U statistical analysis was used to test the reaction times between the incorrect and correct response groups, $U = 0.00, p < 0.001$. Every police officer who responded correctly in the scenario had a reaction time of 0.0 seconds. The participants with the incorrect responses had a median reaction time of 2.48 seconds with an interquartile range of 3.90 seconds.

Across all four scenarios, there were two levels of errors—incorrect response error and correct response error. An example of an incorrect response error is a participant's failure to react, shooting an unarmed person, or using OC spray (less than lethal force) when the use of deadly force was the correct response. An example of a correct response error was a participant shooting at an armed suspect but missing the shot, or a participant being killed while responding to an armed suspect. Variations in

reaction time were significant between Scenario 1 with a White female suspect with a gun, and Scenario 3, with a Black male suspect with a gun. The average reaction time in Scenario 1 for correct responses was 8.35 seconds. The average reaction time in Scenario 1 for correct and incorrect responses was 7.79 seconds. In Scenario 3, the average reaction time was 0.51 seconds. In Scenario 1, six police officers were killed in action, which were counted as errors. In Scenario 3, 12 police officers were killed in action, which were counted as errors. It is important to note that the suspect's race was not a primary variable being examined in this study. The implicit bias studies of Correll et al. (2007) and Peruche and Plant (2006) suggested that Black suspects are perceived by police officers as more violent, more threatening, and more aggressive.

The research findings did not reject the null hypothesis—that a police officer's race, age, place of residence, or years of service have no effect on the reaction times and error rates in shoot/don't shoot firearms simulations with a Black male suspect. While there was a statistical significance between the groups for reaction times between rookie and veteran officers, the independent variables were not factors.

One finding in this study that was not anticipated is the error rate regarding the number of police officers killed during the 120 trials. It was anticipated that shooting errors would be made. Specifically, it was anticipated that unarmed civilians would be shot, and possibly one or two police officers. The number of police officers killed was surprising; 27 police officers were killed in action across Scenarios 1-3. This result, which was not based on age, race, years of service, or place of residence, presented concerns regarding police officer training. With the exception of one participant who ran

out of the simulator to avoid being shot, few of the participants made use of cover or concealment tactics to survive the deadly force encounter.

In Scenario 1, six police officers were killed in action. In Scenario 2, nine police officers were killed in action. In Scenario 3, 12 police officers were killed in action. All of the police officers were killed by a suspect with a gun. There were no police officers killed in action in Scenario 4. The police officers killed in action in the trials represented 23% of the participants. According to the Officer Down Memorial Page (2019), 202 police officers were killed by a gun from 2015 to 2018, or 30% of all police killings over this period. The website reports a higher number of police officers assaulted or injured over the past 10 years in citizen-police officer encounters. While the number of police officers killed in this study represents nearly one in four officers, the percentage is less than the national average of police officers subjected to violence in the United States.

This quasi-experimental study attempted to overcome the methodological challenges of previous push-button shoot/don't shoot studies by using a design that would more realistically reflect the actions of a police officer in the field, assuming that a police officer's actions in the simulator reflects an officer's actions in the field. Unlike the Klinger, Rosenfield, Isom, and Deckard (2016) study that used police administrative data on deadly force incidents to determine if race is a factor for shooting a civilian, a laboratory experiment was used to increase external validity.

The findings in this study did not conclude that there is a link between an officer's age, race, years of service, place of residence, and officer behavior regarding Black male suspects. Cautiously, this research may suggest that implicit bias in the participants did exist, but it was not activated or reflected in the police officers' behavior across the four

scenarios. Evidence of bias would appear when reaction times in Scenario 1 were compared in Scenarios 1 and 3.

Reaction times of rookie officers and veteran officers were statistically significantly different. Perhaps the difference lies in the possible fact that veteran officers with more experience have more confidence and proficiency with a gun than rookie officers. This could be one explanation for the veteran officers shooting quicker than the rookie officers. Error rates in this study revealed that the officer safety issues may suggest that training should be reviewed to reduce these types of errors.

Implicit bias based on racial or social cues (Correll et al., 2014; Kotabe et al., 2016) was not evident in this study. James' (2016b) counter bias or the Ferguson effect, in which sociopolitical influences would cause a police officer to hesitate before shooting a Black suspect, was not found. One might argue that the findings in this study support the threat hypothesis of Terrill and Mastrofski (2002) and Fachner and Carter (2015), who maintained that police officers do not respond differentially to suspects of different races. The threat hypothesis holds that police officers respond to the level of threat that they are faced with at the time of the encounter. This perspective holds true for Scenarios 2-4, where the police officers shot Black and White male suspects at similar rates and times. Better research is required to understand why 93.3% of the participants in this study took 8.35 seconds to make a shoot/don't shoot decision to eliminate the threat of a White female suspect with a gun.

Discussion of the Findings

Reiss (1980) argued that although officer-involved shootings are often conceived as the result of quick decisions, this view does not coincide with the idea that decisions

are “formulated in terms of a series of choices or related decisions” (p. 27) and each decision “is contingent upon prior choices” made by the individual (p. 27). The researcher used BWT and standpoint theory to conceptualize police encounters with Black male suspects using a firearms simulator. The scenarios used White male, White female, and Black male subjects who were armed and unarmed. Because the most-recent implicit-bias studies used either police department administrative incident reports or laboratory simulator experiments, I approached this study using a theoretical framework that embraced the historical relationship between the police departments in United States and the Black community, in general, and Black males in particular.

This study sought to create an environment closer to the realities in the field. A domestic dispute between a divorced White couple, a White man stealing a bicycle, three Black males in a motor vehicle where one was armed, and an unarmed Black male with a hoodie looking into the window of a home in a suburban community. The human reaction of fight or flight could not be recreated because the simulator did not pose a threat of true deadly force.

Theoretically, BWT frames these encounters as necessary police actions, which are the result of an incivility social disorder (Kelling & Wilson, 1982), where social and visual cues give rise to increased tension because it appears as though no one cares, so criminality moves in. Kotabe et al. (2016) expanded this perspective regarding rule breaking and suggested that visual disorder cues, like litter, graffiti, and spatial features, such as asymmetry and non-straight edges, may contribute to visual disorder that can impact social reasoning and rule breaking. This study, like previous simulator studies,

could not predict certain behaviors that occurred during the trials. Scenario 1, in relationship to the other three scenarios, provided the most revealing information.

Firearms simulator studies attempt to create in-the-field situations to predict how police officers will behave in the future. To date, the results of the studies, including this one, have had mixed results. While the suspects' race/police officers' race, high-crime areas/low-crime areas, police officer training, implicit bias/explicit bias, and zero tolerance policing have been factors in police encounters with Black males, these factors do not fully explain what happens between police officers and dead Black males who are unable to provide insight (Correll et al. 2007, 2014; Eberhardt, 2004; Klinger et al., 2016; Fridell, 2016).

Police officers of all races would not shoot a White female suspect with a gun pointed at her ex-husband before she shot and killed her ex-husband. Even after she shot the ex-husband, some officers did not survive the encounter. Six police officers were killed. Scenario 3, a motor vehicle stop with three Black male occupants had a passenger exit the vehicle with a gun. On average, the police officers fired their guns to engage the threat within 0.51 seconds; 12 police officers were killed in action in this scenario. The killed-in-action rate in this study suggests that domestic disputes and motor vehicle stops are two of the most dangerous encounters that a police officer may face.

Through July 2019, 68 police officers had been killed in action; 49 of these deaths were by gunfire or motor vehicle (Officer Down Memorial Page, 2019). Police officers are subjected to increased violence daily. In 2016, according to the FBI, 571,180 police officers were assaulted while on duty; 28.9% of the police officers across the United States were assaulted (FBI, 2017). Similarly, in this study nearly one in four police

officers was killed in action. This confirms that police officers must be vigilant, and it suggests that during these volatile situations, police officers should proceed with caution. However, this does not explain the 8.35 seconds that it took the police officers in this study to end the threat from a White female suspect with a gun.

The northern New Jersey police department that was studied made significant efforts to improve community/police relationships through training, community policing initiatives, and improved service delivery. Since 2014, the agency has made an organizational shift that may have carried over into the scenarios. Community sensitivity training, improved race relations, and respect for the community may have been drivers for the participant's behavior. The police department's investment in the community may have been a moderating factor in the impact on error rates and reaction times. If the simulation experiences are a reflection of reality in the field, perhaps the move to improve community police relationships has had a paradoxical impact because some police officers did not rely on their knowledge and law enforcement training.

Perceptions of police officers in the United States vary. High-profile shootings of Black males have led to outcries from the public that White police officers are killing Black men at a disproportionate rate. Some implicit-bias researchers suggest that greater community-level violent crime rates contribute to the use of deadly force on Black males (James et al., 2016b). Police officers are trained not to overreact and to appropriately carry out their duties using constitutional policing as the foundation of their work. Police officers' experience is expected to have an effect on their interactions with the community. This study sought to understand, theoretically, if the historical experience of policing in the United States would have an impact on police officers in this study.

The master-slave dichotomy as studied by Hegel (1977/1807) provides clarity for understanding the law enforcement environment using standpoint theory. Just as Marxist theory examines how capitalism naturalizes bourgeois and proletariat class divisions (Wieviorka, 2010), contemporary use of standpoint theory from a law enforcement perspective helps to explain and examine how police practices naturalize and normalize the divisions between the police and Black males. Standpoint theory explains how knowledge and power are acquired, utilized, and maintained by dominant and marginalized groups (Rolin, 2009). Since the 1980s, BWT has provided the foundation for zero tolerance; broken windows policing; and stop, question, and frisk police policies in urban and poor communities (Kelling & Wilson, 1982). Standpoint theory was used in this study to explain the micro-level experiences from the perspective of police officers who represent the knowledge and power of the dominant group, and Black males who represent a marginalized group (Rolin, 2009).

In this study, years of service had minimal impact on the police officers' shoot/don't shoot decisions as they related to error rate and reaction time across all four scenarios. In Scenario 2, veteran police officers shot quicker, 0.14 mean, $p = 0.018$, than rookie police officers or experienced officers. Another question was to what extent did the participant's place of residence impact the police officer's reaction time and error rate? There was no difference between urban, suburban, or rural police officers' conduct.

Whether it's an encounter in the simulator or in the field, if the participant fails in the training, does it translate to a failure in the field? Conversely, can a participant who has a failure in the field, overcome that failure in a simulator or through training? Are these experiences interchangeable? Police officers in a simulator are not at risk but, still,

made errors. Imagine the actions in the field. Do the errors in the simulator get exacerbated in the field?

Scenario 1 with an armed White female most appropriately encapsulates standpoint theory, which examines the power differential between the oppressed and the oppressor. How power and knowledge are acquired and utilized is based on the standpoint of the individual.

As a firearms instructor, it was anticipated that the police officers would neutralize the death threats in Scenarios 1-3 quickly. It was anticipated that disproportionately, police officers would erroneously shoot the unarmed Black male suspect in Scenario 4 who became visibly agitated and advanced toward the officers. Of the 20 police officers, 29 did not use deadly force. It may have been the police officer training that permitted the officers to exert self-control while being faced with a threat from a Black male suspect or it may have been the knowledge that the firearms simulator provides room for mistakes.

Limitations of the Study

One limitation of this study was that neighborhood impact on the participants was not considered. Terrill and Reisig (2003) examined the effect that neighborhoods had on a police officer's use of force. Whether or not a police officer responds differently in an urban, suburban, or rural community is important. Police officers have specific knowledge of the communities that they police. Understanding the neighborhood may drive decision making in shoot/don't shoot scenarios. The ability to interview the participant pre/post experiment could be helpful.

The small sample size was a limitation of the study. Scenario 4 could not be analyzed consistently with the other scenarios because of the subgroups that reduced the available sample. A more robust sample size would provide the opportunity to understand if other factors could be attributed to the police officers' responses in the scenario.

Recommendations

Although the racial effects captured in some past studies fault the greater number of officers being assigned to areas with higher rates of violent crime (Geller & Karales, 1981), there exists characteristics of low socioeconomic status and high percentages of minority residents in these regions of study (McElvain & Kposowa, 2008). This can seemingly create an environment in which the police begin to associate violent crime with the underclass and minority residents, causing residents to feel over policed by law enforcement and creating feelings of resistance toward the police. This, then, may lead to an increase in situations in which citizens attack officers, thus concluding in police use of deadly force (McElvain & Kposowa, 2008). Additional research is recommended. Future Black-crime, implicit-bias researchers should use a mixed-methods research design to understand the motivation and rationale for police officer behavior while scenarios are unfolding. The suspects' race and officers' race, rank and use of less-than-lethal force should be included as variables in a study. Since live fire exercises present significant concerns for participants, a robust study of police officer behavior is recommended, using a firearms simulator and body-worn cameras to cross reference the police officers' actions in a simulator with real life scenarios in the field. This novel approach would move Black-crime, implicit-bias studies toward closing the gaps in the research methodologies.

Future studies should use a mixed-methods design to better understand and explain participant behavior and rationale for each scenario. Furthermore, the participants could address whether or not it was the historical context of slave patrol policing in the United States imposing itself upon the police officers' worldview that would not permit a police officer of color to shoot a White female suspect or other factors. Understanding police officers' decision-making processes can lead to training improvements, better prepared officers, and safer situational outcomes for law enforcement officials and citizens, alike. Future studies should increase the sample size to understand if these findings are the result of a police department's increased community policing training. Future studies should also consider pairing firearms simulator data with body-worn camera data, and using a sequential explanatory design to understand the participants' reasonings in deadly force decisions.

Conclusion

According to Edwards, Lee, and Esposito (2019), Black males are two and a half times more likely to be killed by police than their White counterparts. There is a one in 1,000 chance that a Black male will die at the hands of the police. The primary role of police officers in the 1800s in the United States was to serve as slave patrols. In 1805, the first Black police officers emerged in Louisiana as the guard. They could not shoot or arrest White citizens. It is this disparity that continues to exist.

In 1967, in Newark, New Jersey, two White police officers were alleged to have beaten a Black male cab driver. The city erupted into 4 days of rebellion, fires, and looting. Dozens of residents were killed, and hundreds were injured. This scenario continues to play out in urban communities across the United States. The 2014 shooting

death of 18-year old African American, Mike Brown, in Ferguson, MO by a Caucasian police officer ignited protests, fueled the Black Lives Matter movement, and became the basis for many deadly force decision-making studies. Before Ferguson, MO, there was 21-year-old Malik Jones, in New Haven, CT, an unarmed African American male who was shot and killed by a Caucasian police officer from East Haven, CT in a motor vehicle encounter on April 14, 1997. As a firearms instructor with 20 years of law enforcement experience, I could not understand many encounters where police officers shot unarmed Black males. I studied police officers shooting Black people while walking, running, driving, sleeping, and breathing. I decided to study shoot/don't shoot decisions that police officers make every day in the United States using a simulator as my laboratory.

The goal of this study was to analyze the impact of a police officer's race, age, years of service, and place of residence on the decision to shoot/don't shoot unarmed Black males in a deadly force decision-making simulator with high-fidelity video scenarios. The volunteer participants used a Sig Sauer P380 laser-modified firearm to engage each target. This quantitative quasi-experiment tested 30 police officers in 120 trials in four shoot/don't shoot deadly force scenarios. The results of the study suggest that implicit bias was evident against Black males, but behaviorally, the police officers' actions favored Black male suspects.

I believe that, in the field, race, age, years of service, and place of residence shape the perspectives of police officers and the citizenry. Police officers have unique knowledge about the places where they reside and patrol. Race shapes how they view people and how they are viewed. Age and years of service speak to police officer experience and maturity. These two variables can create defining moments in a police

officer's career. They can determine if a police officer acts on knowledge and wisdom or bias and group think.

Police officers are sworn to protect and serve the public. The anxiety that some segments of the population express when they encounter a police officer indicates that they do not believe that police officers are there to protect and serve them. I believe that some police officers are genuinely afraid of Black males and shoot them out of fear. While rogue and corrupt police officers may shoot unarmed Black males out of malice, it is the implicitly biased police officer who creates the greatest threat to public safety.

California has passed Assembly Bill 392, which states that deadly force can only be used when the "officer reasonably believes that deadly force is necessary to defend against an imminent threat of death or serious bodily injury." For the most part, this has always been the standard for the use of deadly force against any suspect. California's implementation of this law suggests that the state is preparing to hold police officers accountable for shooting citizens who present as no threat to the police officer or the public. This systemic shift is one of the solutions to unconstitutional police practices and structural bias in law enforcement.

In New Jersey police academies, police officers are taught that a person is under arrest when the officers decide, in their minds, that the person is under arrest. Logically, I believe there are thoughts, opinions, ideas, and stereotypes that are decided in a police officer's mind that sometimes lead to unconstitutional police practices, like shooting unarmed Black males. Implicit bias findings emerged loudly in this study when police officers hesitated for nearly 8 seconds before making the decision to shoot a White female with a gun. However, they shot a Black male with a gun within 0.51 seconds and

a White male with a gun within 0.32 seconds. Clearly, the reaction times demonstrate bias against Black males when compared to the White female suspect. But, shooting the White male with a gun in 0.32 seconds indicates a bias in favor of Black males.

These results confirm the findings of previous implicit bias studies that found that police officers demonstrate that implicit bias is present but not acted upon. These results have raised more questions. Some questions are: Is a police officer's behavior in the simulator the same as in the field? Can police training effectively reduce implicit bias? Do biased messages from police chiefs override the police training when a police officer acts in the field?

Unarmed Black males being shot by police officers may change when the officers are held accountable for their actions, or inaction, in the case of police officers who observe police misconduct and take no action to protect the public. Further, greater transparency helps the public to understand the nature of police work, while shaping the policies that govern the police through community engagement, community oversight, genuine police-citizen interactions.

The following steps can lead to systemic changes in policing in the United States: (a) increased organizational transparency in the form of civilian review boards with subpoena power, (b) increased diversity in police departments with retention components, (c) witness-protection programs for police officers who want to report misconduct, and (d) greater protection for whistleblower police officers who are protected under the Conscientious Employee Protection Act (State of New Jersey, 2019).

Currently, the FBI collects data annually on police-involved shootings through Uniformed Crime Reports (UCRs). These data are self-reported by police departments.

The reports are not submitted by every police department in the United States. The fact that police departments do not find it necessary to ensure that Black males being shot by police officers is recorded and reported accurately to the FBI on UCRs is professional malpractice. The FBI and Center for Disease Control and Prevention track police shootings, but their data are incomplete. Currently, mappingpoliceviolence.org, fatalencounters.org, killedbypolice.net, Washington Post's *Fatal Force* database, and The Guardian's *The Counted: People Killed by the Police in the US* database are the most accurate records of police shootings. These external databases on police shooting citizens are examples of law enforcement's unwillingness to improve police practices using data. Until these structural changes are made, public confidence in police practices will continue to waver. The public continues to demand body-worn cameras as one tool to improve community-police confidence.

A 2017 study by Hickman focused on the attitudes of police officers toward body-worn cameras. The majority of the police officers agreed that their police department should use body-worn cameras. This perspective is important because many urban community residents are demanding body-worn cameras for their police departments. The presence of a camera significantly reduces complaints against police officers, which, intuitively, should significantly improve public confidence in the police who are on film. This point seems to be one area where the police and the public agree. This study is about stopping the bloodshed of unarmed Black males. The hope is that the findings from this study will aid in reversing the trends for a more just America where we are truly all created equal.

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Appendix A

Informed Consent Form

St. John Fisher College

INFORMED CONSENT FORM

Title of study: Police Use of Force: Factors Related to Deadly Force Decision Making

Name(s) of researcher(s): De Lacy D. Davis

Faculty Supervisor: Sr. Remigia Kushner, Phone for further information: _____

Purpose of study: To examine the factors related to police shooting specific unarmed male suspects.

Place of study: (research city), N. J. Police Department, Length of participation: 15-20 minutes

Method(s) of data collection: Ti Lab firearms training simulator with software and survey questionnaire

Risks and benefits: The expected risks and benefits of participation in this study are explained below:

The specific benefits to you might be in knowing that your participation in this study may add to the body of research on this topic. There is the possibility that a participant may experience emotional or psychological discomfort as a result of participating in the deadly force video scenarios. The study may benefit law enforcement and social science communities. It may inform law enforcement agencies, policy makers, community leaders and community organizations of the factors that impact a police officer's decision to shoot armed or unarmed suspects.

Method for protecting confidentiality/privacy of subjects: Participation in this study is not confidential. Names will not be collected. The participant will be identified by an ID number. Data will be kept in password-protected computer files.

Your information may be shared with appropriate governmental authorities ONLY if you or someone else is in danger, or if we are required to do so by law.

Method for protecting confidentiality/privacy of data collected: Data that will be collected are for research and educational purposes. Participant data will be identified by an ID number (not name) and will be kept in password-protected computer files. Data will be destroyed after three years.

Your rights: As a research participant, you have the right to:

1. Have the purpose of the study, and the expected risks and benefits fully explained to you before you choose to participate.
2. Withdraw from participation at any time without penalty.
3. Refuse to answer a particular question without penalty.
4. Be informed of the results of the study.

I have read the above, received a copy of this form, and I agree to participate in the above-named study.

Print name (Participant)

Signature

Date

Print name (Investigator)

Signature

Date

If you have any further questions regarding this study, please contact the researcher(s) listed above.

The Institutional Review Board of St. John Fisher College has reviewed this project. For any concerns regarding this study/or if you feel that your rights as a participant (or the rights of another participant) have been violated or caused you undue distress (physical or emotional distress), please contact Jill Rathbun by phone during normal business hours at (585) _____ or irb@sjfc.edu. She will contact a supervisory IRB official to assist you.

There is no connection between choosing to participate (or not) in this study and your employment.

Appendix B

Demographic Questionnaire

1. What is your age?
2. How long have you served at this police department?
3. What is your race?
 - American Indian or Alaska Native
 - Asian
 - Black or African-American
 - Native Hawaiian or other Pacific Islander
 - White
 - More than one race
 - Unknown or prefer not to answer
4. What is your ethnicity? (**ONLY circle one with which you MOST CLOSELY identify**):
 - Hispanic or Latino
 - Not Hispanic or Latino
 - Unknown or prefer not to answer
5. What type of neighborhood do you live in? (please circle one).
 - a. Urban
 - b. Suburban
 - c. Rural

Appendix C

Debriefing Form

Study title: Police Use of Force: Examining the Factors Related to Police Officers

Shooting Unarmed Black Males.

Primary Investigator: De Lacy D. Davis, St. John Fisher College, Rochester, New York

Contact Information: _____@sjfc.edu, _____

I thank you for your participation in this study. The Ti Lab firearms simulator scenarios that you participated in were used to investigate how police officers make shoot/don't shoot decisions in deadly force situations. The use of deadly force by a police officer is one of the most difficult decisions that is made by a law enforcement official in the criminal justice system. The results of this study may have potential value for professionals in the law enforcement and social science communities.

The purpose for this debriefing is to provide you with information that was not shared with you before or during your participation in the study. The focus of the study was to investigate whether or not implicit or explicit bias could have an effect on a person when they are making shoot/don't shoot decisions. The actual title of my dissertation is: Police Use of Force: Examining the Factors Related to Police Officers Shooting Unarmed Black Males.

Several important findings in previous research suggest that:

- Unarmed Black males are shot less frequently than White males.
- Unarmed Black males are shot more frequently than White males.

- Black and White police officers shoot unarmed Black males at a similar rate.

There is a reason why the racial component of my research topic was not revealed.

Research suggests that prior knowledge of the racial component of the study by a volunteer participant may impact their performance in the scenarios. For example, instead of unholstering the weapon and squeezing the trigger as quickly as possible at a perceived threat, the volunteer participant may have taken extra time by waiting to identify the race of the suspect before shooting.

If you experience any emotional or physical discomfort as a result of participation in this study, you may contact Mobile Response (a crisis center) at (877) 652-7624, Union County, New Jersey.

If you have any questions or comments in response to this Debriefing Statement, please contact me.

Appendix D

Participant Debriefing Resource



Our COP2COP Program
<http://ubhc.rutgers.edu/cop2cop/>

COP2COP is the first program of its kind in the nation, legislated into law to focus on suicide prevention and mental health support for law enforcement officers.

After a series of police suicides from 1996 to 1998, community leaders in New Jersey believed that law enforcement professionals needed a confidential, safe outlet where they could talk to peers who could understand and provide support without judgment.

In 1998, the Department of Personnel, mandated by P.L. 1998, c. 149, established a statewide "law enforcement officer crisis intervention services" hotline. In 2000, the Department of Personnel contracted with **Rutgers University Behavioral Health Care (UBHC)** to provide crisis intervention services to the law enforcement community. As a result, RBHS developed the COP2COP program, which is the first program of its kind in the nation to focus on suicide prevention and mental health support for law enforcement officers. The program is supported by the Body Armor Replacement Fund."

This New Jersey law has helped COP2COP become an essential program for law enforcement officers, helping to avert more than 187 suicides in its 10 years of existence. Though statistics have not been compiled nationally, most law enforcement experts believe the police suicide rate is higher than those of the general population, but because suicides among police officers are often reported as accidents or met with official silence, definitive numbers are hard to come by.

COP2COP - Answering the Call for Help

Our hotline is answered by retired cops and cop clinicians who have a deep understanding of officers' concerns, problems and family issues. COP2COP team

members are trained in CISM (Critical Incident Stress Management) and will respond to and will conduct debriefings and defusing that are the result of a critical incident.

Remember if you're feeling stressed, anxious or just need help or someone to talk to, call 1-866-COP-2-COP.

For more information, please visit our COP2COP Website.

Adapted from Rutgers University Behavioral Health Care website

Mobile Response Crisis Screening Center - Union County

Hotline Number: (908) 351-6684

Provider/Agency

Trinitas Regional Medical Center - New Point Campus

Description

Designated county Crisis Screening Center for anyone experiencing an urgent mental health problem. There is a mobile response team available to provide services to clients at home or at the site of the crisis. Short-term intervention, de-escalation and stabilization, psychiatric evaluation, nurse assessment, and then information and referral to community-based services and access to inpatient hospitalization.

Eligibility

Open to anyone experiencing an urgent mental health problem, or someone calling on behalf of anyone experiencing an urgent mental health problem. Please call the hotline (908) 351-6684 for more information and/or to access services.

LOCATION

655 E Jersey St
Elizabeth, NJ 07206

AREA SERVED

Union County, New Jersey
Number: (908) 351-6684

BUSINESS HOURS: 24/7

Retrieved from <https://www.nj211.org/resource>

Appendix E

Recruitment Flyer

Police Use of Force: The Factors Related to Making Deadly Force Decisions

Participants Needed for A Research Study

- Are you a (Research city) Police Officer with at least 6 months experience on the job?
- Are you a resident of a suburban, urban or rural community?
- Do you have experience with the firearms simulator?



Your participation in this study may help make a change in your local community.

If you are a (research city) Police Officer with at least 6 months experience, living in New Jersey and willing to take 15-20 minutes to complete four simulations, and a demographic questionnaire, you are eligible to participate in this study which examines police officers' use of force decision-making in deadly force simulator scenarios.

If you are interested in participating in this study, please come prepared to participate at the police department training room on the next regularly scheduled (Research city) Police Department firearms training day on _____. (this date to be determined by the agency)

For any questions please contact:

De Lacy D. Davis, doctoral candidate, (cohort 9 on Iona's Campus) at St. John Fisher College, Rochester, New York, _____@sjfc.edu, _____.

Research Adviser, Sr. Remigia Kushner, Ph.D., at St. John Fisher College, _____@sjfc.edu, _____.

There is no connection between choosing to participate (or not) in this study and your employment.

Appendix F

Police Department Roll Call Study Announcement Script

A researcher from St. John Fisher College who used to be a police officer has provided flyers for a study he is doing. If you are interested, Mr. Davis has asked that you take a flyer and advise him that you are interested in participating in the study.

Innovative police practices included community policing with and without a problem-oriented policing model, hot-spot policing, and focusing on repeat offenders (Weisburd & Eck, 2004). The researchers compared standard police practices to innovative police practices. The findings suggest that hotspot policing, community policing with a problem-oriented policing model, reduced crime, disorder and fear of crime. Weisburd and Eck (2004) highlight that community policing without the problem-solving component was ineffective. According to Weisburd and Eck (2004) there are limited studies on the effectiveness of standard police practice, but the evidence in their study supports the conclusion that innovative police practices such as community policing with a problem-oriented policing model is effective and promising.

Sampson and Cohen (1988), examined the effects of proactive policing and disorder control as it relates to crime reduction by replicating the research study of Wilson and Boland (1978). The researchers hypothesized that aggressive policing strategies would indirectly reduce robbery rates. The researchers used data from 171 American cities with a population greater than 100,000 in 1980 (Sampson & Cohen,

1988). The study measured aggressive policing across several cities, several different categories of crime and arrest rate.

The research finding suggests that there is an indirect significant effect of proactive police activities and reduction in some crimes such as robberies but not on other crimes. Kelling and Coles (1998) revisit the broken windows policing using a community crime control model that relies on order maintenance policing, good citizenship and criminal justice accountability to the communities that the police serve.

The study examined aggressive begging through surveys of residents in San Francisco, California in 1991. The study revealed that in 1991, 90% of residents had been approached by a beggar, thirty-nine percent of residents had personal safety concerns, thirty-three percent gave money because of perceived pressure to give, and one third of the residents avoided specific locations, stores, and restaurants because of the presence of beggars (Kelling & Coles, 1988).

Appendix G

Simulator Administrator Agreement

You have agreed to administer the Ti Firearms simulator for De Lacy D. Davis on the research project *Use of Force: Factors Related to Deadly Force Decision-Making: Shooting Unarmed Black Males*. The ethical guidelines of this study require that you read and sign this form, signifying that you are willing to enter into a confidentiality agreement with respect to the data collected in this study.

The reaction times and error rates that you will observe will be of participants who are colleagues, and/or acquaintances. In order to protect data confidentiality, you will not share, record or reveal any data.

By signing below, you agree not to reveal any information about what is contained in this study. Furthermore, you agree not to discuss anything regarding the participants, or the data collected in this study with anyone other than the principal investigator.

By signing below, you are indicating that you have read and understand the above agreement and that you will follow all of the specified conditions.

Name: _____

Contact Telephone: _____

Contact E-mail: _____

Signature: _____

Date: _____

Appendix H

Four Video Simulated Scenarios

Scenario 1

Location: Church parking lot

Issue(s): Child custody exchange

Video Simulation Scenario Summary: Ex-husband and ex-wife are outside of their vehicle arguing while their baby is in a car seat in back of the ex-wife's vehicle. She enters the backseat area of the vehicle to pick up the baby. While standing with the baby in her arms and refusing to give the baby to the father, the mother pulls a gun from her back pocket and points it at the police officer.

Primary Characters in video:

- White Male without a gun
- White female with gun

Scenario 2

Location: Outside of a business at a portable bicycle stand.

Issue(s): Man attempting to steal a bicycle chained to a bicycle stand.

Video Simulation Scenario Summary: A White male is attempting to stealing a bicycle using bolt cutters when a police officer confronts him. He places the bolt cutter under arm. While arguing with the police officer he pulls a gun out of his pocket and points it at the police officer.

Primary Characters in video:

- White Male with a gun

Scenario 3

Location: Traffic stop of suspected gang members

Issue(s): Suspicious vehicle stop on the street

Video Simulation Scenario Summary: A motor vehicle with three Black male occupants is stopped for suspicious activities. The driver exits the vehicle. The passengers are moving around in the car. As the driver walks toward the police officer, the front seat passenger exits the car and points a gun at the police officer.

Primary Characters in video:

- Black male driver without gun
- Front seat Black male passenger with gun
- Rear seat Black male passenger without gun.

Scenario 4

Location: Suburban community houses

Issue(s): Suspicious Black male is looking into the window of a house in a suburban neighborhood.

Video Simulation Scenario Summary:

A Black male with a hooded sweatshirt appears to be looking to the windows on a house.

He is confronted by a police officer. The officer proceeds to question the suspect who becomes angry and charges toward the officer.

Primary Characters in video:

- Black male without gun
- White Male with a gun

Appendix I

Table A1

Descriptives for Reaction Times by Race – Means and Standard Deviations

	Race	<i>N</i>	<i>Mean</i>	<i>SD</i>
SC1 Reaction Time				
	Black	17	7.98	2.63
	White	4	8.92	1.20
	Hispanic/Latino	7	6.77	4.76
	Other	2	7.55	1.65
	Total	30	7.79	3.03
SC2 Reaction Time				
	Black	17	.23	.22
	White	4	.46	.37
	Hispanic/Latino	7	.38	.35
	Other	2	.59	.04
	Total	30	.32	.28
SC3 Reaction Time				
	Black	17	.64	.44
	White	4	.61	.38
	Hispanic/Latino	7	.29	.44
	Other	2	.00	.00
	Total	30	.51	.45
SC4 Reaction Time				
	Black	17	.88	1.92
	White	4	.36	.72
	Hispanic/Latino	7	.00	.00
	Other	2	.00	.00
	Total	30	.55	1.50

Appendix J

Table A2

Descriptives for Reaction Times by Age – Means and Standard Deviations

	Age	<i>N</i>	<i>Mean</i>	<i>SD</i>
SC1 Reaction Time				
	18-36	17	7.93	3.04
	37-41	4	6.96	4.71
	42+	9	7.90	2.48
	Total	30	7.79	3.03
SC2 Reaction Time				
	18-36	17	.41	.26
	37-41	4	.31	.44
	42+	9	.17	.20
	Total	30	.32	.28
SC3 Reaction Time				
	18-36	17	.38	.45
	37-41	4	.43	.51
	42+	9	.81	.33
	Total	30	.51	.45
SC4 Reaction Time				
	Black	17	.46	1.11
	White	4	1.74	3.48
	Hispanic/Latino	9	.18	.54
	Total	30	.55	1.50

Appendix K

Table A3

Descriptives for Reaction Times by Years of Experience – Means and Standard

Deviations

	Years of Experience	<i>N</i>	<i>Mean</i>	<i>SD</i>
SC1 Reaction Time				
	Rookie	15	7.74	3.17
	Experienced	4	6.93	4.71
	Veteran	11	8.19	2.35
	Total	30	7.79	3.03
SC2 Reaction Time				
	Rookie	15	.44	.25
	Experienced	4	.38	.39
	Veteran	11	.14	.19
	Total	30	.32	.28
SC3 Reaction Time				
	Rookie	15	.37	.45
	Experienced	4	.65	.40
	Veteran	11	.66	.44
	Total	30	.51	.45
SC4 Reaction Time				
	Rookie	15	.26	.72
	Experienced	4	.97	1.95
	Veteran	11	.78	2.10
	Total	30	.55	1.50

Appendix L

Table A4

Descriptives for Reaction Times by Place of Residence – Means and Standard Deviations

	Place of Residence	<i>N</i>	<i>Mean</i>	<i>SD</i>
SC1 Reaction Time				
	Urban	15	7.77	3.43
	Suburban/Rural	13	7.82	2.56
	Total	30	7.79	3.03
SC2 Reaction Time				
	Urban	15	.29	.29
	Suburban/Rural	13	.37	.27
	Total	30	.32	.28
SC3 Reaction Time				
	Urban	15	.42	.45
	Suburban/Rural	13	.64	.44
	Total	30	.51	.45
SC4 Reaction Time				
	Urban	15	.55	1.75
	Suburban/Rural	13	.53	1.16
	Total	30	.55	1.50

Appendix M

Invitation to Participate in the Study

Hello, my name is De Lacy D. Davis.

I am a doctoral candidate (Ed. D. in Executive Leadership) at St. John Fisher College (Cohort 9, Iona Campus, New Rochelle, New York). My dissertation is on police officers use of force in a firearms simulator.

My interest in this topic is based on 20 years of law enforcement experience, including 7 years as a supervisor in the East Orange, New Jersey Police Department, and 16 years of professional experience as a firearms instructor in the Essex County New Jersey Police Academy. I am currently retired.

While there have been other studies done on this topic, few have examined police use of force from the police officer's perspective. I believe that this research is important and may provide a greater understanding of the decision points for police officers when making shoot/don't shoot decisions. It is my expectation in conducting this research that the results may inform the public, police administrators and public officials about the various factors that impact the shoot/don't shoot decision. The study consists of completing a four-question demographic questionnaire survey and participation in four two-minute deadly force shoot/don't shoot scenarios.

I am respectfully inviting you to participate in this study by carefully reading the attached "Informed Consent to Participate in Research" form signifying your rights as well as your willingness to participate in this study. You will not be identified by name or badge number as a participant in this study. Data will only be shared in the aggregate.

There is no connection between choosing to participate (or not) in this study and your employment. Participation in this study is voluntary. You can decline this invitation or opt out of the study at any time, even after the study has begun. Prior police-involved shooting experience does not exclude you from the study.

The data will be analyzed and reported on in the completed dissertation. Once the dissertation has been successfully defended and approved by St. John Fisher College (on or about July 2019).

I would like to thank you in advance for considering my request and I am hopeful that you will participate in this study so that your shoot/don't shoot decision making in a

simulator as an individual and as a police officer can be observed. If you have further questions regarding this study, please feel free to contact me at _____ or by e-mail at _____@sjfc.edu.

Very truly yours,

De Lacy D. Davis
Doctoral Candidate
St. John Fisher College

Research Adviser, Sr. Remigia Kushner, Ph.D., at St. John Fisher College,
_____.@sjfc.edu, _____.

Appendix N

Director of Police Permission to Use Police Department Facilities

February 27, 2019

St. John Fisher College
3690 East Avenue
Rochester, NY 14618

Re: De Lacy D. Davis Research Project

Dear Sir/Madam;

Please accept this letter as approval for candidate De Lacy D. Davis to use our facilities for the purpose of conducting research. The research is for the Ed.D. Program in Executive Leadership and he has permission to use the facilities from December 2018 to June 2019.

The Police Department is dedicated to community relations and to the safety of our residents and officers. Therefore, we want to be certain that our officers have access to the best training and information available.

We consistently train on a routine basis to include, but not limited to officers training on a state-of-the-art simulator that has over 700 varied scenarios that officers can face every day in terms of split-second decision-making.

Additionally, Mr. Davis will have complete access to monitor this simulator training and engage the officers involved in this study to conduct and document his research accordingly.

Should you need any other information, please let me know.

Sincerely,

Director of Police and Public Safety