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Public Perception and Privacy Issues with DNA Regulations and Database in Alabama

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Abstract

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Thea Denean Hall

MA, Auburn Montgomery University, 2004

BS, Jacksonville State University, 2001

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

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Abstract

The Combined DNA Index System (CODIS) database is utilized in all 50 states for matching DNA evidence with criminal suspects. While each state administers CODIS, which ultimately feeds into a national database, little is understood about how citizens in states perceive the utility of such a database and how their perceptions and knowledge of DNA could impact state policy changes though voting. Research also suggests that the "CSI Effect" may impact how citizens perceive the role of a national DNA database. Grounded on Gerbner's cultivation theory, the purpose of this study was to determine if, in Alabama, there is a statistically significant relationship between the likelihood of providing DNA and the educational level and gender of study participants and perceptions concerning expanded support state participation in CODIS. Data were collected through an online survey administered to a random sample (n = 584) residents of Alabama that focused on examined the relationships between demographics variables of age, race or ethnicity, level of education and the CSI effect, and support of increased participation in in a standardized national DNA database. Findings indicate that there is not a statistically significant relationship between the CSI effect and support of participation in CODIS. However, data analysis revealed that level of education (p=.05) and gender (p=<.001) were significant predictors in supporting increased state participation in a standardized national DNA database. The implications for positive social change stemming from this study include recommendations to the state legislature to consider expanding the scope of the policy on DNA database submission and take steps to move toward standardizing the database nationally.

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Dedication

I would like to thank my wonderful husband for his tremendous support while on this journey. In loving memory of Mr. Edward Lee; Mr. Lee was the teacher who gave me the passion for Forensic Science and the confidence to continue with my education for the PhD program.

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I would like to thank my wonderful husband for his tremendous support while on this journey. I would like to thank my children for their support and sacrifice made while I have been in school for 20 years. I would like to thank the entire faculty who have helped me with my education, especially Dr. Mark Stallo and Dr. Kristie Roberts. I would like to thank Linda Lipsey, Doretha Walker, Dr. Rebecca Reeves and Courtney Walker for their help and support while writing my dissertation.

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Chapter 1: Introduction to the Study

Introduction

This study involved the deoxyribonucleic acid (DNA) database, called the Combined DNA Index System (CODIS), which is linked to city, state, and federal databases. Each state has different regulations and laws that apply to the entry of DNA into CODIS. (Saferstein, 2010). I conducted this study because of the differing regulations governing the collection and submission of an individual's DNA. The regulations and laws change depending on whether the individual is a juvenile, an adult, or a convicted felon (Honeywell, 2016). The goal was to encourage the different jurisdictions to harmonize their laws and regulations about DNA collection and use.

In the United States, both state and local court systems hold trials to prove a person's innocence or guilt (Honeywell, 2016). Forensic science laboratories provide the court system with the means of producing evidence (Saferstein, 2010). They work with municipal, county, state, and federal governments (Gaensslen, Harris, & Lee, 2008, p. 7).Workers process physical evidence, such as hair, fiber, DNA, soil, fingerprints, glass, tire and shoe impressions (Gaensslen et al., 2008). The combination of other physical evidence and the testimony of a suspect, victim, or witness can be used with DNA evidence. An enlarged and harmonized database could solve cases faster and cut expenses and manpower for law enforcement and these labs.

The DNA database is linked with all state forensic labs (DNA saves, 2007). The protocol for entering the DNA into the database is the same as set forth by quality assurances created by the American Society of Crime Laboratory Directors (ASCLD.org, 2016). The Federal Bureau of

Investigation (FBI) and all state labs follow their standards, which are designed for the collection, preservation, and analysis of DNA collected in all criminal cases (ASCLD.org, 2016).

The protocol for each stage in processing is the same from state to state, but the policies that govern whose DNA can be collected change from state to state because each state has its own laws governing the circumstances of DNA evidence collection (Hurst, 2009). If each state had the same policy on DNA collection, then forensic science cases be solved quicker and would reduce the number of criminals on the street without having their DNA in the database. Reducing the time to process a criminal would improve society safety. If a person's DNA is already in the database, the criminal justice process would be speedier and more efficient. And knowing that one's DNA is in a database could be a deterrent to continued criminal activity (DNA Saves org, 2005). A harmonized DNA database could decrease or prevent crime across the country.

In the literature review, I will discuss the Chicago and Maryland case study on preventable crime, which provides empirical evidence that the crime rate would be reduced if the DNA database were linked state-to-state with the same preventable crimes entered into the system (DNA saves.org, 2005). The CODIS is currently linked between states, but has different crimes entered into the system in each state. Researchers have used DNA profiling to both identify criminals and exonerate the innocent. Advances in DNA technology have allowed forensic scientists to solve cases with increased accuracy.

Background

In the literature review, I found no studies on DNA databases and public opinion in Alabama. The study used relating to this research was Curtis' (2009) public perception study

(Curtis, 2009). Curtis' study involved the public's opinion to decide whose DNA should be collected for the New Zealand national database.

The second study used in this research was the cultivation theory, developed by Gerbner and Gross in 1977, is based on fictional television shows that the public viewed as reality. Because Curtis (2009) used cultivation theory and the CSI effect in this study, I used the same theory to guide this study. The research question was, "what are the impacts of the CSI effect and public perception of expanding the DNA database CODIS in the state of Alabama?" Curtis' (2009) literature review did not involve the public perception of people in the United States, only New Zealand. My study pertained to the opinions of people in Alabama.

As of August 2010, the FBI reported that CODIS housed DNA profiles of more than 8.7 million offenders. Forensic scientists can upload DNA data from the crime scene for an analytical comparison to offenders. Crime labs can use CODIS for different goals: solving cold cases, missing person cases, and post-conviction testing (Laub, 2011). In this study, the questions asked during the survey included public opinion about the DNA database and prior knowledge about the database. A goal of this study was to determine if a correlation existed between being a victim of a crime and a person's willful submission of their DNA to the database. During the last 15 years, CSI shows have affected society because juror that serve on a jury demand evidence on criminal cases such as DNA (Shelton, 2008).

The public expects physical evidence in criminal cases, such as DNA, because of watching the fictional television show CSI (Dysart, 2012). A study on the CSI shows was conducted and found that more than 70 million people in the United States watched at least one

CSI program a week and 30 million people watched at least one CSI show a day (Shelton, 2008). Hayes (2012) surveyed the CSI effect and concluded that people believed they had more knowledge of forensics and investigation by watching CSI programs than people who did not watch the CSI shows. Forensic science departments have had an increase in caseloads since Alabama Law 2009-768 (Code of Alabama, 2009) went into effect. Since then, criminal will have their DNA taken upon a felony arrest. This study occurred in Alabama to gain knowledge of people's opinions of the changes in the DNA database laws. I sought to a) what criminal offenses o have their DNA taken, (b) when a person should have their DNA placed into the DNA database, and (c) if Alabamans believe that the United States will ever have a national population DNA database, similar to that in England.

The expansion of the database is important because of laws, such as Katie's law, which support the need for consistent DNA database policies across the nation. In 2013, the United States Supreme Court passed Katie's Law (DNAsaves.org, 2013). The law was passed because her rapist had committed crimes in other states, but the CODIS database did not link his crimes from state to state. The public outcry for justice in Katie's case was enough to get the laws changed in New Mexico and 28 other states. The law now requires a person detained for a felony crime to have their DNA taken upon arrest and stored in CODIS (DNA saves.org, 2013).

Statement of the Problem

The research problem is that the federal government controls CODIS, but the current protocols give each state control of which criminal activities trigger the collection and entry of

DNA data into the system. The DNA from criminal offender contained in the DNA database ranges from misdemeanors to felony convictions, because each state has different laws regarding the entry of the crime committed (NIJ.gov, 2012). Some states have juvenile DNA loaded into the database, while other states have DNA only from convicted felons. One reason the system needs to be uniform is because all states pull their resources from one database, but laws differ from state to state as to what goes into the database. The system needs to be uniform across the United States to cut recidivism rates of 90% (DNA Saves, 2007. The DNA database holds data from convicted felons, people merely arrested but not convicted, and people arrested for misdemeanors.

Due to the gap in literature, I sought to understand Alabamans' opinion on the CSI effect, and perception of the DNA database. In the United States, most of the databases are consistent from state to state. An example is the Automated Fingerprint Identification System (AFIS), which holds the 10-print fingerprint cards for people who have been arrested, including military members and teachers (Saferstein, 2010). The ten-print card is a rolled ink impression of a person's fingerprints. Once the person is arrested and booked, his or her fingerprints are taken and placed into the AFIS database (Saferstein, 2010).

The second database that links each state is the Violent Criminal Apprehension Program (VICAP, Federal Bureau of Investigation [FBI], 2012b). The VICAP system is linked to each police department and when a criminal offense has taken place, the offense is uploaded in to the system, to keep up with the rates on murders, rape, and other crimes. The VICAP system helps connect each case to help solve crimes faster, since each police departments submit their

criminal history into the VICAP system. This system is used heavily in serial killer cases (FBI, 2012b). When a serial killer travels across the United States, evidence is left behind. The system connects each police department with the evidence and facts of each crime (Peterick, 2009).

A third database is the Uniform Crime Reports, which stores statistical data on criminal activity across the United States, including murder, rape, arson, theft, and burglary (FBI, 2010).

Having a uniform CODIS system that linked all crimes would provide the same information to all officials in all states. Having a uniform DNA database would have provided valuable evidence to quickly solve the serial murders of Otis Tool (Peterick, 2009), and Henry Lee Lucas; they traveled to different states killing more than 300 people (Holmes, 2002).

Purpose of the Study

The purpose of this study was to determine if the general population of Alabama would support the expansion of the national DNA database, CODIS. In order to achieve the goals of this study and to understand the role of public opinion in supporting a standardized national DNA databank, a survey was conducted. It examined the relationships among demographics, the different concerns associated with giving a DNA sample, the CSI effect, and the likelihood of an individual to provide a DNA sample to the database. These variables influence an individual's perception of the role of CODIS in solving crimes. The study is a quantitative correlation study. The independent variable is knowledge, which corresponds with the knowledge based questions from the survey. The knowledge based questions indicate to how the participants gain their knowledge from non-fiction sources or fiction sources. The dependent variable pertains to the

perception the study participates has with the concerns of DNA being collected for the CODIS database.

Public opinion polls show that the public believes sentencing is too lenient in general (McCarthy, 2014). According to McCarthy (2014), public opinion influences which policies are enacted. The public reports crimes to the police, provides evidence, and serves as jurors (McCarthy, 2014). Public opinion about the criminal justice system is crucial to change policies and laws. Public opinion has driven many changes in the criminal justice system, such as the Brady Law (ATF, 2016), Megan's Law (Pennsylvania State Police, 2008) and Katie's Law (Katie's Law, 2013).

The laws pertaining to the CODIS database cannot change without public understanding of the value of a streamlined system. However, the DNA manager of the Arizona Justice Project, Herf, says states are concerned that the database will be flooded once the expansion is made (Herf, 2009). The expansion of the DNA database has led to checking more than 5,000 cases with biological evidence and exonerating 300 people (Russell, 2012). Oklahoma is the only state that does not have post conviction testing (Steinback, 2007). In Alabama, a person convicted of a capital crime can request DNA testing up to 1 year after being sentenced (Steinback, 2007). This testing gives the convicted person the opportunity to show that all evidence in the case has been processed. According to Herf (2009), all states should be required to process DNA evidence in all criminal cases not just limited to evidence of convicted felons.

The U.S. Bureau of Justice released the recidivism rates for 2014, the statistics revealed that data from 30 states showed that 67.8% of prisoners were re-arrested within the first 3 years

of being released, and 76.6% were re-arrested within 5 years of getting out of prison (Dickson, 2014). The National Institute of Justice (NIJ, 2014) reported that 82.1% of all property offenders in 2014 were re-arrested for a new crime once released from prison. If DNA were taken when the suspects were first arrested for any crime, then their biological information could have been stored in the DNA database (Schmalleger, 2009).

The crime show CSI has changed what a jury expects in a criminal trial, resulting in the CSI Effect (Shelton, 2008). The CSI Effect is the phenomena of society being influenced by popular television shows, which has caused a litigation explosion from social problems that arise in the United States. According to Cole and Dioso-Villa (2009), the CSI Effect has influenced policy making from litigation to sanctions. According to Ley, Jankowski, and Brewer (2012), the popular CSI show has influenced the public about the DNA database, making the public believe that testing can be completed in the time the show is on television, but in reality it takes much longer. The public's notions about forensic evidence drawn from CSI shows have contributed to the CSI effect, influenced by cultivation theory (Ley et al., 2012). According to Curtis (2014), the CSI effect refers to the supposed phenomenon whereby crime television shows DNA testing is routine, swift, useful, and reliable (p. 22). Cultivation theory is based on the public perception of the television show, and what the public believes is real. The jury expects physical evidence, such as DNA or fingerprints. I compared the dependent variable of public perception of the DNA database with the indicators: gender, ethnicity, income, and education. The independent variable of knowledge was analyzed using the survey questions: (a) have you ever been a victim of a crime, (b) do you have a family member who has been a victim of a crime, (b) who's DNA

should be in the DNA database, (d) where was knowledge gained regarding the DNA database, and (d) does the fictional CSI television show influence decisions made in the courtroom? The results of the study varied because of the influence of the CSI television shows.

Nature of Study

A sample of 600 people was asked to answer the survey questions listed in the Nature of the Study Social media was the means of sending surveys and collection of the data. .I conducted this quantitative study in Alabama to understand the perception of the public regarding the DNA database, what additional criminal cases could be solved if the DNA database were larger, and what cases have been solved with the felony arrestee law adopted. The variables included age, race, income, prior arrest, victimization of person, education, and knowledge of the subject. Perception of DNA is the dependent variable and knowledge of DNA is the independent variable. I examined the correlation between DNA knowledge and CSI shows, and the correlation between concerns of privacy issues with the public regarding the DNA database and increasing the DNA database in size. I compared the data with a public perception study completed in New Zealand (Curtis, 2009).

I used the survey random sample calculator from custominsight.com. A 1% error was tolerated for the survey. The Custom In Sight Company recommended between 3% and 6% for confidence margin error. The population used for this calculation was 4,779,000, which was the 2010 Census population for the State of Alabama (U.S. Census Bureau, 2010). I aimed to survey 425 people for a 90% confidence and 600 people for a 95% confidence interval. As the researcher, I chose to use the recommendation of 3–6% in confidence margin error, or a study

pool of 600. Survey Questions 1-11 in this study were developed by Curtis (2009); SQ12 was developed by Brewer (2010), with minimal changes to relate the questions to Alabama. The survey questions include the following.

Research Question: What are the impacts of the CSI effects, and public perception of expanding the DNA database CODIS, in the State of Alabama?

Participants were asked the following survey questions:

1. Where was the knowledge gained of the DNA database?
2. Whose data should be in the database?
3. Have you ever been a victim of a crime? If so has it changed your perception of the database?
4. Has a family member ever been a victim of a crime, if so has it change your perception of the database?
5. Can DNA be misused?
6. What crime scene shows do you watch?
7. How is DNA stored in the database?
8. Should the United States have a population DNA database, if so who when should a person be placed into the database?
9. Is it feasible to take arrestee's DNA?
10. Does it violate rights?
11. Does the CSI effect have an influence on Alabamans perceptions?

Research Questions and Hypotheses

What are the impacts of the CSI effect, and public perception of expanding the DNA database, CODIS, in Alabama?

Hypothesis 1: There is a relationship between the CSI effect and public perception of expanding the DNA database.

Null Hypothesis 1: There is not a relationship between the CSI effect and public perception of expanding of the DNA database.

The dependent variable in this study was public perception of the DNA database. The indicators used in this study were gender, ethnicity, income, education, and exposure to the CSI effect. The CSI effect variable in the study was measured by (a) the knowledge a citizen had about the DNA database, (b) where that knowledge was gained, and (c) how the CSI television show contributed to the perception of DNA evidence and the database. I measured the variables by integrating the data from the survey into SPSS software.

Conceptual Framework

According to Gray (2013), one of the key factors that shapes the criminal justice system is public opinion (p. 69). Public opinion of the criminal justice system pertains to how the courts, police, and prison system treat the public. Research has been conducted to view the importance of opinion in the policy making of the criminal justice system (Gray, 2013). Public opinions of the criminal justice system are critical to the changes in policies and laws in the United States.

Public choices are important to the criminal justice system, since the public serves as jurors and are witnesses to crimes.

I used cultivation theory and the CSI effect to guide this study. According to McCarthy (2014), public opinion influences public policy. The cultivation theory explains public interest in fictional television show

(Gerbner & Gross, 1976). According to Gerbner et al. (1976), cultivation theory describes how people can lose the touch of reality through watching television. Gerbner (1985) hypothesized that people who watch more television lose sight of reality more than those who watch less television. Brewer and Ley (2010) conducted research on cultivation theory and the influence of crime scene investigation shows on the public. This phenomenon is known as the CSI effect. People who watch the fictional crime scene show do not understand the reality of true forensic science. In the courtroom, this can be seen when juries demand physical evidence in criminal trials. The media have a profound effect on what the public believes is reality (Brewer, 2010). According to Hayes and Levett (2013), the CSI effect is a phenomenon that affects the perception of jurors in the courtroom.

The Katie's Law that was developed in New Mexico in 2003, from the criminal case of rape and murder that involved Katie Sepich. The crimes against Katie Sepich resulted in a change to the law, of when DNA is entered into CODIS in 28 states. No laws in New Mexico existed at the time of this murder requiring an arrestee's DNA to be submitted to CODIS. Because of the need to increase the DNA database, Katie's Law was developed. Sepich's assailant had already raped in another state, but his DNA was not placed into the database

because of the laws in that state (Katie's Law, 2013). The policy in these states has changed, so when a person is arrested for a felony, his or her DNA is taken upon being booked. The law requires a person detained for a felony crime to have their DNA taken upon arrest and stored into CODIS.

Katie Sepich's murderer had been arrested in Texas and convicted of another crime prior to Katie, but because the two states had different laws on CODIS at this time. The evidence was not matched to the murderer (Garrett, 2009). A scientist could get a match on Katie Sepich's case through this evidence. In 2013, the United State Supreme Court upheld their decision on Katie's Law. The Supreme Court members stated that Katie's law does not violate the Fourth Amendment. This court case is "perhaps the most important criminal procedure case this Court has heard in decades" (Katie's law, 2013).

According to Berson (2009), crime laboratories have already dealt with backlogged DNA data. The influx of additional offenses or back logged cases has raised concerns that labs might be overwhelmed with cases. Berson (2009) expressed concern that testing DNA before conviction could violate rights privacy as guaranteed by the Fourth Amendment. The federal government has passed laws that protect against misuse of an arrestee's DNA data. A fine of up to $250,000 or imprisonment may be imposed on anyone caught misusing CODIS (Berson, 2009).

CODIS, works in two ways: (a) it can help convict the guilty, and (b) it can exonerate the innocent. According to the NIJ (2011), more than 200 people in the United States who were convicted of a felony crime have been released because of the crime-fighting tool of DNA. In

many cases, DNA was not available when these cases were tried, and the DNA database has led to these exonerations.

Operational Definitions of Special Terms

The following terms are pertinent to this study.

Admissible Evidence: Admissible evidence is evidence for criminal cases that is tangible and allowed to be processed for forensic evidence and used in a court of law (Saferstein, 2010).

Amplification: Amplification is making copies of DNA with a selected sequence of DNA called short tandem repeats (Saferstein, 2010).

ASCLD-Lab: This stands for the American Society of Crime Lab Directors. This is an accreditation process for the Forensic lab directors (DNA.gov.).

Backlogged Cases: The backlogged cases represent DNA forensic cases, "that comprise forensic evidence collected from crime scenes, victims and suspects in criminal cases, and submitted to a laboratory for processing for DNA" (Nelson, 2011, p. 1). This evidence is time-consuming and time sensitive because of the degrading of biological material. The NIJ recommends the DNA cases be worked before 30 days (Nelson, 2011).

Biological Evidence: Evidence that comes from human remains in a crime scene, including hair, bones, body fluid, and blood (Saferstein, 2010).

Chain of Custody: The record of the collection and processing of evidence before it goes into the court.

Cold Hits: When DNA evidence has been stored in the CODIS database without a match, then another piece of evidence from a different case matches the markers in the DNA evidence. This also can take place if the person has been arrested for an additional crime and is linked to other cases by DNA evidence. Cold cases are resolved by additional information placed into CODIS (Saferstein, 2010).

DNA fingerprinting: This refers to the size of the DNA molecule or the fragment. Individuals have different markers or different size fragment from the DNA. The length in size can determine this or the amount of tandem repeats in a DNA strain.

DNA Profiling: A genetic analyzer tool used to compare DNA sequences. Forensic scientists use DNA profiling to link DNA to a particular individual (Saferstein, 2010).

Familial DNA: Familial DNA entails that the family or related people have similar DNA. The United Kingdom has used this method of DNA searching, but the algorithms of the DNA database must be changed to use a close match to the suspect or victim. The United States has not adopted this method of DNA searching (Ram, 2011).

Genetic Testing: In the medical use of DNA, genetic testing can determine if a person has a predisposition for a medical disease, such as sickle-cell anemia, Duchene muscular dystrophy, or Huntington's disease (Saferstein, 2011).

Polymerase Chain Reaction (PCR): Polymerase chain reaction is the technique of amplifying DNA. A portion of the DNA or a sequence of the DNA base pairs are duplicated in an instrument call a thermal cycler (Saferstein, 2011).

Short Tandem Repeats (STR): The short tandem repeats is the sequence of DNA strains. The base pairs of DNA are repeated in a sequence, and this sequence can be amplified into millions of copies. The base pairs are adenine, cytosine, guanine, and thymine (Saferstein, 2011).

Forensic Expert: A forensic expert is a person who has education, training and certification in a particular area of expertise. The judge must declare a person an expert before testifying in a case (Saferstein, 2011).

Limitations

The limitation of the methodological design is that qualitative method was not used due to a large number of population size was needed for this study. The limitation of having a quantitative study is that the survey only allows for a set answer to be picked. This limits the voice of the population group on certain questions could not be expressed with the Likert 5 point scale. This study was limited to Alabama, and few researchers in the United States have analyzed the public perception of DNA databases. One of the researchers of public perception was Curtis (2009), in which the research was completed in New Zealand. Further data on the media use and public perception of DNA evidence comes from Brewer and Ley (2010). I used social media to gain survey responses from residents of Alabama.

Assumptions

I assume that the survey will only be taken by Alabama residence and that the population group will be honest on their current location. The assumption can be made for the survey group on their age, income, race and education levels.

Scope and Delimitations

This study was limited to Alabama. The population group will be asked on the first question if they are currently an Alabama resident, this could be considered an internal validity. The survey will excluded the population group under the age of 18, but the group must be honest about their age. The researchers in the United States have analyzed the public perception of DNA databases. One of the researchers of public perception was Curtis (2009), in which the research was completed in New Zealand. Further data on the media use and public perception of DNA evidence comes from Brewer and Ley (2010). I used social media to gain survey responses from residents of Alabama. The survey will excluded the population group under the age of 18, but the group must be honest about their age.

Significance of the Study

In this study I examined the national DNA database, CODIS, how each state collects DNA for different offenses, and the views of Alabamans about whose DNA should be stored in the databases. These offenses range from a felony to misdemeanor charges. In 2009, Alabama collects DNA from convicted felons, and then in 2011, the DNA was taken from individuals arrested for a felony (Honeywell, 2016). Increasing the size of the DNA database would contribute to convicting people who are guilty, exonerating innocent people, and reducing the time to solve a case. The reduction in time could reduce the economic burden on state labs. More cases could be solved since more people would be in the database (Honeywell, 2016).

Summary

Through this quantitative correlation study, I analyzed the relationships between the public perceptions of the DNA database, including how the public perceive privacy issues and concerns with the growing database and the new regulations that have developed with the CODIS database. Laws are changing because the database has different regulations in each state. All 50 states use the database, but the legislation in each state varies by the criminal offense (Honeywell, 2016). A new law based on Katie Speich's rape and murder has significantly influenced how DNA is collected from criminals (Garrett, 2009). As of 2011, 23 states are taking DNA from felony arrestees. The other states taking DNA samples range from a felony convicted to juvenile adjudications. The FBI developed a software system linked to the forensic science lab (FBI, 2012).

This system, CODIS, is available through local, state, and federal law enforcement agencies. The system stores the DNA profiles of criminals who have been convicted of a crime or have been arrested for a felony. The focus of this research was to understand the perception of the public and their fears of the DNA database. I sought to determine if the public felt that adding the DNA of all arrestees to the DNA database violated any rights.

I examined the gap between DNA knowledge and CSI shows, and the correlation between concerns of privacy issues with the public regarding the DNA database and increasing the DNA database in size. I analyzed the involvement of the DNA database, how the public perceive the information stored in the database, and who is willing to have their DNA stored into the database. The recruitment and data collection for this quantitative correlation study

conducted in Alabama occurred using 600 participants through social media. Survey Monkey sent out the surveys by random selection. The data from this survey were analyzed using SPSS. The software has the capabilities to perform a correlation of the variables.

The theoretical framework for the study derived from cultivation theory and the CSI effect. Public opinions in the criminal justice systems have influenced changing laws in the United States. Cultivation theory used in the study involves the CSI effect and how the public view forensic evidence.

Chapter 2 covers the following topics: the CSI effect, public perception the theoretical foundation of this study, and key variables will be cover in chapter 2. Chapter 3 discusses the study's methodology, data collection, and analyses. Chapter 4 provides the data analysis from the 600 surveys from this study. Chapter 5 discusses my interpretation of the findings.

Chapter 2: Literature Review

Introduction

The problem in this quantitative correlation study is that, while the federal government controls the DNA database, each state has different regulations about the offenses that require the offender's DNA be placed in CODIS. Eligible criminal offenses in each state range from juvenile to felony. Most scholars conclude that it would be helpful to have a uniform database and database collection procedures (Saferstein, 2010). The Automated fingerprint identification system, is a federal systems, that houses fingerprint, this database is known as AFIS. This system has the same laws or regulations from state to state (Honeywell, 2016).

The purpose of this study was to determine if the general population of Alabama would support the expansion of CODIS. In order to achieve the goals of this study and to understand the role of public opinion in supporting a standardized national DNA databank, a survey was conducted to examine the relationships between demographics, the different concerns associated with giving a DNA sample, the CSI effect, and the likelihood of an individual to provide a DNA sample to the database. The variables influence an individual's perception of the role of CODIS in solving crimes.

In this chapter, I review the literature on the public perception of DNA, the CSI effect, and cultivation theory.

Synopsis of Current Literature

The primary research that guided this study was by Curtis (2009), a preliminary study of public perception and expectations of the forensic use of DNA. The primary study involved 100 randomly selected New Zealand participants included 40 males and 60 females, all older than 16 years (Curtis, 2009). Their average household income was $50,000 to $59,000 in (Curtis, 2009). Curtis conducted a second study in 2014 on public perceptions on DNA.

The secondary research study involved the CSI effect and how this CSI shows have influenced juror and all parts of the court system (Hayes, 2013). The CSI effect was developed from Gerber study, on the involvement of individuals watching television so much that they lose touch with reality which is called the Cultivated theory (Gerber, 1977).

The CODIS Database

Federal state rules governing submission to CODIS differ (Doleac, 2011). The FBI is the link to all state and federal DNA databases. Biological information gathered in each state can be for a misdemeanor, juvenile offense, or from a felony conviction. When a person commits a crime in one state for a misdemeanor then later commits a felony in another state, the current system will not connect the two crimes. By changing the CODIS database to a unified system, the chance of solving the case will increase, saving time and money. If the CODIS system were used to its full potential, fewer criminals may exist (Doleac, 2011). This study pertained to three different areas of research: public opinion of the DNA database, privacy issues, and growth of the DNA database.

The laws addressing the state's DNA databases have started to change, encouraged by the FBI and state legislatures. According to Moore (2009), law enforcement and forensic agencies are increasing the size of the DNA database with the additional collection of DNA from felony convictions and felony arrests. The FBI DNA database in 2009 was approaching 7 million items (Moore, 2009). FBI officials stated that the increase in database size would be fifteen-fold by 2012 (Moore, 2009). The database has increased from 80,000 per year in 2009 to 1.2 million by 2012 (Moore, 2009).

New York is planning to increase its database with crimes ranging from convicted felons to misdemeanors (Eligon & Kaplan, 2012). According to Eligon (2012), the governor of New York, Andrew Cuomo, stated that his top priority in 2012 was to expand the DNA database. Hurst, a consultant for the DNA database expansion, stated that New York will be the first state to require DNA from all criminals (Eligon, 2012). The expansion of CODIS has not only convicted additional criminals but has now exonerated approximately 300 people (Honeywell, 2010). Once new laws are implemented in each state, officers will have additional DNA database resources to check cold cases (Honeywell, 2010).

Katie Sepich was a young woman who was raped and murdered. Sepich's murderer had a prior conviction, but not a felony conviction (Katie's Law, 2007). If this person had been in a state where felony arrest data were used, then the DNA database would have made a hit on the murders. Sepich's parent lobbied for a new law, now known as Katie's Law (Katie's Law, 2007). The Supreme Court upheld Katie's law in 2013 (Supreme Court: Maryland vs. King 12-207, 2013).

Literature Search Strategy

The DNA cases provide information regarding why the expansion of the DNA database is important. The DNA cases and legislation provide the data of the changes that have taken place within the DNA database, and the exoneration that has happened because of policy changes.

The following significant resource were used: DNA Initiative, DNA resources, FBI DNA resource, and NIJ resources., Journal of Technology & Society, ABA Journal, , Archives of government, Columbia Law Review, Department of Justice Reports, DNA Analysis Backlog Elimination Act, Public Law 106-546, House of Representatives, International Journal of Social Welfare, Journal of Democracy, Journal of Forensic Identification, Journal of Law, Medicine & Ethics, Laws.com, National Conference of State Legislature, Oxford University Press, Rand Corporation, Alabama DNA Database System, and The Justice Project. The following keywords were used: *public opinion, public perception, cultivation theory,* and *CSI effect*.

The key terms used were *Alabama State Legislature, DNA database, cases solved by DNA evidence, CODIS, DNA Laws, exonerated people by DNA evidence, impact of changes with DNA database, public perception, state by state regulation, laws on DNA Database,* and *the Crime Scene Investigation (CSI) effect, CSI effect, cultivation theory, public perception,*

Scope of the Literature

The scope of literature pertained to data regarding positive changes in the DNA databases that have affected the United States and other countries. The DNA cases showed how changes in the DNA database can improve outcomes, both for quicker and increased convictions and with

the exoneration of the innocent. These cases provided information to explain why the expansion of the DNA database is important. Honeywell (2010) provided data, demonstrating that the legislatures and the public are making significant changes to the laws and regulations governing the DNA databases in the United States. The literature provides information regarding the expansion of the DNA database in Alabama to include data from persons arrested for felonies as well as those convicted of felonies. In other states, the changes are more significant with the inclusion of data from misdemeanors, including juvenile offenders.

The literature review highlighted a gap in research concerning DNA databases. The literature showed that DNA does provide information to convict or exonerate a person of a crime (Honeywell, 2010). This literature review provided DNA information from a felony conviction, felony arrests, and an innocent person.

In 1989, the state of Virginia first used the DNA database (Hares, 2012). According to Saferstein (2010), in 1990, the FBI developed the CODIS system and then created the NDIS. Both NDIS and CODIS databases have the ability to corroborate with the DNA information stored in each system. Local, state, and federal governments have access the DNA database. All three levels—local, state, and federal agencies—make up the entire CODIS system of DNA (Harrison, 2007).

Federal and State Legislatures on DNA Databases

In the United States, all states mandate that a convicted sexual offender have their DNA taken and stored into CODIS. Of the 50 states, 46 require that convicted felons' DNA be stored in the database (Honeywell, 2016). Eleven states allow authorities to collect DNA from people

who committed misdemeanors and store it into the database. As of 2011, only 23 states passed laws allowing the state to collect DNA from anyone who had been arrested (Samuels, Davies, Pope and Holand, 2012).

Since 2009 Alabaman authorities have been allowed to collect data from people who have been arrested (Code of Alabama, 2009).

The Supreme Court ruled in 2013 in the case Maryland v. King that any person under arrest could be swabbed for DNA (Maryland v. King 12-207, 2013). The Supreme Court voted 5 to 4 on the decision to take a person's DNA upon arrest. The Supreme Court concluded that collecting DNA on the arrest was no different from taking a photograph or fingerprints of an arrestee (Wolf, 2013). As of 2016, 26 states have laws that allow officers to swab a person when arrested for a felony arrest (Wolf, 2013).

Backlog Elimination Act of 2000

In 2000, Congress, through the Backlog Elimination Act, provided grants to cut the DNA evidence backlog (NIJ, 2010). This act is also known as the DNA Act. Reducing backlogged DNA speeds the processing of DNA samples from suspected violent or sexual offenders (NIJ, 2010). The grants could be used for individuals in custody, people on release, parole, or probation, individuals already in CODIS, and collection procedures. Congress apportioned more than 125 million dollars to cut the backlog.

Justice for All Act of 2004

The Justice for all act was passed in 2004, known as H.R. 5107, this Act was intended to cut the amount of DNA cases that were backlogged (NIJ, 2010). One of the concerns was that

DNA was not ready when the court case was on the docket. The integrity of the evidence should be protected at point of collection from the crime scene and the individual in questioning. A high-level degree of training must be maintained at all levels of the database (NIJ, 2010).

The Innocence Protection ACT of 2004

Barry Scheck founded the Innocence Protection Project, and he has had a significant influence on policy and law changes. Changing these laws helped to cut the chance of a person being wrongfully convicted. The law increased the chance that the right person would be charged with the crime (Goeke, 2008). According to Garrett, (2008) the Innocence Protection Act of 2004 provided funding to check the DNA samples for forensic evidence of old cases. Aimee Maxwell, director of the innocence project in Georgia, said Alabama was making progress by making the necessary changes to the state policy (Taylor, 2010).

Fourth Amendment and Privacy Issues

According to Beaugh (2013), safety measures must be put in place to protect a person's Fourth Amendment rights when collecting DNA. Collection of DNA is invasive, unlike the processing of rolling fingerprints. The DNA ACT provides the assurance to the government and courts that the only reason to obtain DNA is to solve crimes (Beaugh, 2013). The DNA ACT is one of a few measures that the government has put in place to protect individual's rights.

The second safety measure of the DNA ACT ensures that DNA collected for one purpose cannot be used for any other reason (Beaugh, 2013). The violation of the rights carries a fine of $250,000, with a criminal intent penalty (Beaugh, 2013). The Violent Crime and Control and Law Enforcement Act provides the rights of quality control of the DNA and the CODIS

database. The Fourth Amendment entails that a search warrant must be used for collection of DNA or that the individual situation falls within the laws of the state concerning felony arrest (Beaugh, 2013). The laws of DNA in Alabama state that a person arrested for a felony can have their DNA take upon arrest and recorded into CODIS.

DNA Cases

In 1982, Armand Jackson was arrested in Selma, Alabama for robbery and murder (Taylor, 2010). Physical evidence was not found at the home that linked Mr. Jackson to the crime and no eyewitnesses were present (Taylor, 2010). Mr. Jackson remained behind bars for 28 years for this crime. At the time of Mr. Jackson's arrest, in 1982, DNA testing was not available for criminal cases. The evidence that was in the case was a stocking; it had been used to murder the victim. When the post-conviction law changed in Alabama, Jackson was able to ask that the evidence be tested for DNA. The DNA evidence from the stocking cleared Jackson. He had been wrongfully convicted 28 years earlier, and had to wait for the right forensic tool to be created (Taylor, 2010).

Gary Dotson was exonerated by DNA testing in 1989 (Garrett, 2008). By the year 2007, DNA post-conviction testing exonerated more than 200 people in the United States (Garrett, 2008). In another case, Kirk Bloodsworth was a man sitting on death row. The post-conviction testing proved his innocence. Bloodsworth was the first person sitting on death row whose life was saved by the post-conviction law. Governor William Donald Schaefer pardoned Kirk Bloodsworth in 1993. The forensic evidence actually led investigators to capture the actual

murderer (Rodricks, 2009). The post-conviction program is named after the inmate who sat on death row, Kirk Noble Bloodsworth (Rodricks, 2009).

As another example, Ronald Taylor was a man accused of rape. Mr. Taylor was put into a lineup without the proper counsel being present (Goeke, 2008). The lineup was videotaped and shown to the victim at home. According to Goeke (2008), Mr. Taylor was picked out of this recorded lineup. The victim's description of the suspect lacked detail until she saw the video lineup. Several days after the victim saw the lineup, the description became more detailed: a tall man with a tooth missing. The victim of the rape had reported the suspect left biological evidence by ejaculated on her belongings: clothes and sheets. There was no biological evidence in the report (Goeke, 2008). After the Innocence Project had been developed, Mr. Taylor's case was reviewed for DNA evidence since no DNA technology existed at the time of trial (Goeke, 2008). The victim's clothes and bed sheet were tested for DNA, with semen found on the evidence. The DNA evidence matched Roosevelt Carroll, not Ronald Taylor. Mr. Taylor was then a free man, because of the new DNA technology available (Goeke, 2008).

The Justice Project

The Justice Project was organized to help people who were wrongfully convicted. This organization is based out of Washington, D.C. (Rodricks, 2009). The Justice Project provides recommendations for expanding post-conviction DNA testing:

- Biological evidence remains on file during a person's sentencing;
- A DNA post-conviction request should be granted to all inmates when convicted;
- Judges should use the DNA testing for any and all evidence;

- A person who petitions the court should have the right to high quality forensic DNA sources;
- Post-testing procedures should be standardized ("The Justice Project," 2010).

Using DNA provides the truth for the just and unjust. Through testing, DNA can show innocence or guilt. By the year 2008, 43 states changed their laws and adopted the law that provided post-conviction DNA testing (Garrett, 2008). Alabama changing the policy in the legislature was an important means best using the technology. Alabama lawmakers saw the changes taking place in other states, which supported Alabama to change as well. The guilty were free and the innocent were being punished for crimes that they had not committed. Testing of DNA can show the biological identity of a person, and this powerful and accurate tool can be used in the scientific community (Garrett, 2008), specially for validating case verdicts. According to the Fourth Amendment, everyone has the right to due process (Harrison, 2007).

The DNA Fingerprint ACT of 2005

In earlier acts, the DNA database backlog did not cover federal crimes. The DNA Fingerprint Act of 2005 established an opt-out system for expungement of DNA profiles for people arrested and detained (NIJ, 2010). This Act covered misdemeanor crimes related to sexual crimes or violent crimes. Any person under federal law committing crimes on U.S. soil, including foreigners, could have their DNA taken to be stored in CODIS (NIJ, 2010).

State Legislation Alabama

Alabama has recently changed its policy of DNA database collection. Before 2009, DNA was only preserved from convicted felons, but a new law has established that DNA be taken

whenever someone is arrested for a felony. In 2009, Alabama made changes to what is now Alabama Laws Act 2009-768. The state has made several changes to Alabama Code of Law for DNA. A motion can be requested if the person has been convicted of a capital crime and needs the DNA tested for evidence (Code of Alabama, 2009). Alabama is following in the footsteps of many other states. California changed its policy in 2004 through Proposition 69 (Simoncelli & Steinhardt, 2006, p. 199).

California Proposition 69

California has received more than 43 million dollars in aid to cut the backlog of DNA samples since 2004 (Simoncelli & Steinhardt, 2006). By adding arrestees to their DNA database, more than 12,000 DNA hits have been made on the database to solve backlog cases. Attorney Bruce Harrington helped California change their DNA policy (Simoncelli & Steinhardt, 2006). A serial killer murdered Harrington's family members so he wanted to help the situation and did so by spending 1 million dollars to expand the DNA database. Harrington collected more than 300,000 signatures to help change the DNA laws in California (Simoncelli & Steinhardt, 2006). Changing DNA laws increased the DNA database by more than 600,000 people (Simoncelli & Steinhardt, 2006). Taking DNA amplifies concerns for privacy. Proposition 69 states that it is the individual's responsibility for the elimination of their DNA if the person was innocent (Simoncelli & Steinhardt, 2006).

Background of Alabama Forensic Sciences

The Alabama Department of Forensic Sciences processes the DNA evidence for the entire state. A person convicted of a felony in Alabama must have their DNA typed and stored in

the DNA database (Hicks, 2008). The state forensic lab director has the right to analyze DNA from felons for CODIS. The rules of the director and the lab are to follow protocol set by the Alabama Attorney General (Hicks, 2008).

In 1994, the Alabama Department of Corrections was required to take blood samples from any convicted felon leaving the prison system. The policy changed to allow collecting the blood sample before a person saw the parole board. Pardon and parole policy entails that a person up for parole or pardon must apply with the DNA Act (Hicks, 2008).

New Policy in Alabama

The new Alabama policy states that the collection of DNA is conducted differently based on three types of offenses: convicted felon, convicted burglary, or robbery in the 3rd degree and all other offenses. Offenders, such as those convicted of robbery in the 3rd degree, do not have their blood samples stored within the database, but on file cards (Bradford, 2012). The first two groups: convicted felons and convicted burglars do have their DNA stored in CODIS, and the third group of people have their blood samples on file. The Alabama Board of Pardons and Parole has a mandate that requires all convicted person to have their DNA on file (Alabama Board of Pardons and Parole, 2014).

Representatives from each state worked together to bring forth the changes to the DNA database. Ronald Johnson was the representative for Alabama. Mr. Johnson was instrumental in changing the law to allow the collection of DNA from individuals arrested for felonies (Code of Alabama, 2009). Significant leaders of the past including John Penn, John Hancock, Benjamin Franklin, and Benjamin Rush, established that all persons have equal rights and liberty (U.S.

National Archives & Records Administration, 2010). It took Representative Ronald Johnson two attempts to finish his task of adding the post-conviction to Alabama's law (Code of Alabama, 2005). Alabama Representative Johnson was successful when the post-conviction DNA testing law changed on July 27, 2009.

Privacy Issues

Privacy and ethical issues are important concerns when dealing with DNA. The major concern is what can or will be done with a person's DNA after it has been enter in the database. A DNA analysis can link an individual to a crime scene (Allen et al., 2008). In addition, authorities can use DNA for reasons other than evidence, such as to help identify a person by gender or ethnicity. These components can help lead to the identification of a Jane or John Doe.

Genetic testing can be viewed as an infringement of rights. As of 2008, laws had not been passed to stop genetic testing United States (Hanson, 2008). Concerns of a possible misuse of genetic information by the insurance industry suggest this is an important issue that Congress address before people lose their insurance or have legitimate claims rejected (Hanson, 2008). As of 2008, many states have placed laws into effect to protect people from the misuse of genetic information (Harris, 2008). Each person may view the DNA database differently (Harris, 2008).

Due Process

Due process provides a person with the protection of rights and property (Scheb & Scheb, 2008). The Fifth Amendment has a due-process clause imposed on the federal government to ensure everyone the equal protection of the laws. The Innocence Protection Act of 2004 provided the

monetary means to perform DNA testing on convicted persons claiming to be innocent (Garrett, 2008). Innocent people were being held in prison and were denied their liberty.

Democratic Concepts: Privacy and Rights

According to Simoncelli and Steinhardt (2006), the collection of DNA for criminal conviction or exoneration can hold the potential for violating different rights. The Fourth Amendment provides a person with protection from an unreasonable search. The Fourth Amendment protects individuals and their property. Property is not subject to search or seizure except within the law (Simoncelli & Steinhardt, 2006). In the past, the main means to identify a person was by fingerprints, but fingerprinting are different from DNA, as fingerprints are not an invasive way of identifying a person. The method of taking DNA samples for identification of a person is considered invasive, whether by cheek swab or blood sample (Kaye, 2006). The Supreme Court has upheld Katie's Law and confirmed that the law does not violate the Fourth Amendment (DNA Saves, 2013).

Organizations and policies were formed because innocent people were being imprisoned. The FBI developed first DNA database, CODIS, in 1990, and developed the NDIS in the late 1990s. The CODIS and NDIS work in conjunction, to corroborate the DNA information from each state. The three levels of government—local, state, and federal—make up the CODIS system of DNA (Harrison, 2007). The separation of the two databases between state and federal agencies shows a form of federalism with the CODIS database; whereas, other databases, such as fingerprints, are the same at both state and federal levels.

Privacy issues in Alabama, where citizens have given their DNA on a volunteer basis at roadblocks. This research has been carried out twice, one in 2007 and then in 2013. According to Mathaconis (2013), the citizens were stopped at a roadblock. The collection occurred on a volunteer basis, and the citizens received money for their part in the research. The roadblocks were also used to test for alcohol and drugs in citizens. Authorities gave the citizens 10 dollars for each buccal swab, and 50 dollars for blood. If the citizens did not want to be in the study, then they could drive away (Mathaconis, 2013). The study was conducted at 60 other sites across the United States. This review included (a) all resources that involved research on DNA databases, (b) public perceptions and views of the databases, (c) the theoretical framework of cultivation theory and CSI effect, and (d) the comparison of databases with other countries.

Cultivation Theory, U.S. DNA Databases, and CSI Effect

Gerbner first coined the term *cultivation theory* in 1977. Cultivation theory involves viewing the effects of a person watching too much television. This theory investigates the problems of fictional television shows being viewed as reality (Severin, 1997). Researchers have used cultivation theory to examine the phenomena of the CSI effect (Hayes, 2012). The CSI effect explains how people who watch television shows on crime scene investigation, especially those called to serve on a jury, expect physical evidence in the courtroom (Hayes, 2012). The fictional crime scene shows have influenced people to expect in real life the output and speed of analysis of evidence that is managed on the television shows (Hayes, 2012). Cultivation theory examines how the media has changed public perception, as fictional crime scene shows are viewed as reality in many people’s minds.

Hayes (2012) conducted a survey on community members' perception of the CSI effect. Hayes' study included 191 participants, and the researcher observed the variables of gender, education, nationality, married/single, and income. The survey asked if the citizen had ever been on a jury. In total, 59% participants had been involved in a trial and 21% concluded a verdict (Hayes, 2012). Hayes conducted the survey via Surveymonkey.com. Participates involved in this study watched an average of 4.60 hours of CSI shows a week (Hayes, 2012).

Hayes' (2012) examination of the CSI effect indicated that participants were asked if people who watched CSI shows would have different views from people who did not watch the shows; 70% who responded agreed. The participants agreed that 50% of people who watched CSI shows had more knowledge about the investigation than people who did not watch the shows (Hayes, 2012). This study provided data that indicated citizens have 57% more faith in the criminal justice system because they watched CSI shows (Hayes, 2012).

According to Dysart (2012), cultivation theory can explain the demands that jurors have in the courtroom for evidence. The CSI effect has caused a burden on the legal teams because of what the jurors expects in court cases (Dysart, 2012). The trial lawyers must be prepared to talk to the jury regarding the burden of proof and not by the fictional information provided from the crime scene shows. Dysart stated that the phenomenon of the CSI effect influenced every part of the criminal courts: the jury, prosecution, and defense.

Shelton (2008) concluded that more than 70 million people watch at least one of the CSI shows, 30 million watch one show per night, and 40 million people watch the forensic shows Cold Case or Without a Trace. The researcher used a questionnaire given to 1,000 jurors in the

state of Michigan, before serving on a trail (Shelton, 2008). The potential juror's questionnaires revealed that 46% believed that physical evidence should be in each case, 22% believed that all criminal cases should have DNA evidence, and 36% of the potential jurors believed that fingerprints should be presented in each case (Shelton, 2008).

Chicago Study on Preventable Crimes

According to the Chicago study, the DNA database helps solve crimes, reduce violent crimes, and cut costs (DNA Saves, 2005). The Chicago study examines eight criminals who were involved in more than 60 violent crimes. These crimes included 53 rapes and murders (DNA Saves, 2005). The eight criminals in this study had already had 21 arrests (DNA Saves, 2005). At this point in Chicago, the DNA database did not hold data from people arrested but not convicted of felonies. The study indicates that the DNA database cannot be fully effective until the legislature makes changes through expansion of the database (DNA Saves, 2005).

The Chicago study provided specific details of the crimes committed by the eight people discussed (DNA Saves, 2005). The first criminal, Andre Crawford, was charged with 11 murders, one attempted murder, and sexual assault (DNA Saves, 2005). Crawford's criminal history ranged from 1993 to 1999 when he was finally arrested on a felony drug possession (DNA Saves, 2005). He was linked to murders of seven women in a 1-year time frame, June 1998–June 1999. The second criminal of the study was Brandon Harris. In 2000, the state required Harris to give his DNA for the database (DNA Saves, 2005). Harris was linked to five sexual assaults and one kidnapping. The third criminal in the study was Geoffrey Griffin.

Griffin's criminal history ranged from August 1995 to June 2000. Griffin's DNA matched to eight murders and one sexual assault (DNA Saves, 2005).

The fourth criminal in the study was Mario Villa. His criminal activity lasted five years, from 1999 to 2004 (DNA Saves, 2005). The collection of his DNA linked Villa to eight rapes in the 5 years. The fifth criminal was Bernard Middleton. Middleton's criminal activity lasted from 1987 to 2002 (DNA Saves, 2005). Middleton was arrested in 2002 for felony theft. The collection of DNA tied Middleton to one murder and three sexual assaults. Ronald Macon is the sixth person in Chicago's study (DNA Saves, 2005). His criminal history lasted from 1998 to 1999. Macon was convicted of three murders and one sexual assault from the collection of his DNA at the arrest in 1999 (DNA Saves, 2005).

The seventh portion of this study involved two criminal who were active together. Ronald Harris and Arto Jones were linked to 13 sexual assaults and 13 robberies between the years of 1994 to 2001 (DNA Saves, 2005). The last person in the Chicago study was Nolan Watson. Watson's criminal history range in dates from 1989 to 2003. Watson's was linked to five sexual assaults.

Maryland Study on Preventable Crimes

The Maryland study on preventable crimes was similar to the Chicago study. The Maryland Study was conduct by Maryland Criminal Justice information system, Baltimore County police department, and Maryland State police (DNA Saves, 2007). The Maryland study consisted of three offenders: Alphonso Hill, Leon Copeland, and Joseph McLnnis (DNA Saves,

2007). The study was conducted to check the benefit of expanding the DNA database in Maryland (DNA Saves, 2007).

Alphonso Hill was the first offender observed in this Maryland study. Hill was charged with more than 30 crimes, including assault, burglary, kidnapping, and rape (DNA Saves, 2007). The study indicated that six of this crimes would have been prevented and Hill would have been placed into the DNA database if the legislature had changed the policies. His violent offenses dated from 1978–2007 (DNA Saves, 2007). The CODIS database made a hit on Hill in 2007 and matched him to six rapes that were unsolved (DNA Saves, 2007).

Leon Copeland was the second offender observed in the Maryland study. Copeland was charged with nine crimes, including murder, rape, sexual assault, robberies, and burglaries. Copeland's crime sprees dated from 1976–2005. The DNA database made a hit in 2000 on an unsolved murder from 1986 (DNA Saves, 2007). He was charged with murder, three rapes, three robberies, and two burglaries (DNA Saves, 2007). All of these charges were derived from getting a hit on CODIS, which linked the crimes to Copeland. If the laws had been in place, 11 crimes committed by Copeland could have been prevented (DNA Saves, 2007).

The third case in the Maryland study involved Joseph Mclnnis. Mclnnis was charged with 10 violent crimes, including assault, battery, murder, rape, and robbery (DNA Saves, 2007). His crime history ranged from 1984–2007. In 2007, the database made a hit on Mclnnis and linked him to a 1987 unsolved murder, two rapes, and an armed robbery. The study indicated that if the legislation had been in place, four violent offenses could have been prevented (DNA Saves, 2007).

Other Countries: Methodology, Perception, and Ethical Views

New Zealand

An important issue in New Zealand is understanding how or what the public thinks about the collection, preservation, and storage of DNA data. The most widely recognized DNA technique was DNA fingerprinting (Curtis, 2009). The MORI survey group in the United Kingdom's Medical Research Council found this conclusion (Curtis, 2009). In a public perception study, 95% stated that DNA fingerprinting should be done and maintained on convicted sex offenders. The study group stated 79% of people charged with a sexual act should have their DNA entered into the database (Curtis, 2009).

In Curtis's (2009) New Zealand study, the data from the first question revealed that 74% of respondents learned most of their information about DNA from television news. The second question regarding how the sample of DNA was taken resulted in 60% of participants stating use of a syringe for the blood sample, and 36% stating use of a mouth swab. Question 4 was, who should be in control over the DNA database? Of the participants, 48% believed that the government owned the database (Curtis, 2009). Question 5 results indicated who should be in the DNA database; 100% said sexual offenders should be in the database, 93% stated violent offenders should have their DNA taken, 38% stated that all people arrested should have their DNA stored in the database, 28% stated all citizens should have their DNA in the database, and 27% stated newborns should have their DNA placed into the database (Curtis, 2009). The conclusion of this research was that most of the participants had gained their knowledge of DNA from the media (Curtis, 2009).

Ethical issues concerning the participants of this study were that the DNA would be used for other purposes (Curtis, 2009). Mistakes could be made with the process of DNA. The DNA could be planted, which involves privacy issues and cultural issues. The results indicated that further research would be needed to explore more knowledge-based questions (Curtis, 2009).

In 2014, Curtis (2014) completed a second study of public perception on DNA in New Zealand. In this study, the researcher used 394 in the study pool, by random selection of phone calls (Curtis, 2014). The study contained 139 males and 254 females. Curtis collected data on age, income, gender, education, and political voting. The phone interviews lasted 18 minutes. Respondents answered a general question of DNA, knowledge-based questions on DNA, and the significance of DNA.

England

One of the largest DNA database is in the United Kingdom; the database has more than 3 million samples on file (Levitt, 2007). The United Kingdom has two different DNA databases: UK Biobank and The NDNAD (National DNA Database). The UK Biobank was a pilot program developed for people with ages ranging from 40 to 69 (Levitt, 2007). This DNA database is linked to medical records. The NDNAD is altogether different from CODIS. The database stores an individual's DNA from age 10 and above without consent. The project aims to help cut criminal behavior in particular individuals because they know DNA is stored into a database (Levitt, 2007).

Comparison DNA Database Study of United States and England

According to Goulka, Matthies, Disley, and Steinberg (2010), many senior U.S. law enforcement officials believe that the English Criminal Justice System has capitalized more fully on the crime-fighting potential of deoxyribonucleic acid (DNA) evidence than the U.S. Criminal Justice System. The RAND Corporation has completed research on England and the United States, regarding the difference in DNA collection (Goulka, 2009). Several major differences exist between the U.K. and the U.S. DNA databases. England was able to finish the DNA samples faster, and the samples were cheaper, without a backlog of cases. England has a population database, an advantage the United States does not have (Goulka, 2009).

Overview process of DNA

According to Goulka (2009), the overview process of DNA was compared between the United States and England in six steps: collection, screening analysis, uploading DNA profiles, search database, and match reports.

Step 1: Collection of DNA evidence has no significant differences between England and the United States. The main part that is different in this process is that law enforcement officials in the United Kingdom have more powers than U.S. law enforcement officials do. The credentials in the United States vary different from state to state (Goulka, 2009). Each state differs by felony arrest, arrestees, and misdemeanors (Axeland, 2010).

Step 2: Screening DNA evidences to isolate valuable samples have no significant differences between England and the United States.

Step 3: Conducting DNA analysis or profiling DNA does have significant differences. The United Kingdom has their DNA analyzed in 3 days, whereas the United States analysis ranges from 3 days to several months.

Step 4: Uploading DNA profiles into the database have major differences between England and the United States. In the United States, the uploading of DNA is checked more thoroughly than in England. The United States has delays with uploading profiles to CODIS. England has private labs that can load up the DNA profiles straight to NDNAD. The United States does not allow private labs to upload DNA into CODIS.

Step 5: Searching the DNA database is automatic in England, but it is not in the United States.

Step 6: Generating matches from offenders and crime scenes are completed electronically and automatically in England. The United States has more delays because of the complex process (Goulka, 2009 p. 7).

Backlogged cases in the United States

According to Hurst and Lothridge (2010), 153 crime labs exist in the United States with a backlog of DNA cases of 841,847 in 2005. In 2007, more than 2 million new DNA samples were submitted to the 153 labs in the United States, with a backlog of 650,000 (Hurst & Lothridge, 2010). This was a reduction of more than 200,000 cases. The turn-around time ranged from 3 months to more than 9 months. The smaller labs had the longer turnaround time for DNA samples. In this research, 99% of the 153 labs completed the survey request by Hurst and Lothridge (2010).

The backlogged cases were directly linked to funding (Hurst & Lothridge, 2010). It takes training, new instrumentation, and new chemicals to finish the task of analyzing DNA (Hurst & Lothridge, 2010). The conclusion of Hurst's and Lothridge's (2010) findings were that state and local publicly-funded crime laboratories continue to face strain as demand has outpaced both available capacity and funding for DNA analysis (2010). In England, the labs do not have a backlog of cases, and the police are not awaiting evidence to be processed (Goulka, 2010). According to Doleac (2011), research conducted in the United States demonstrates that the larger the database established, the more crimes police will be able to solve. The cost effectiveness of the DNA database is significant compared to other tools used to fight crime, as the expansion of the database will cut crime rates and assist in arrests.

Crime Rate Comparison Between England and United States

The United States has more than three times the murder rate of the United Kingdom, and has 1.2 times the rape cases as England (Goulka, 2010). Goulka (2010) surveyed law enforcement regarding crime rates and DNA samples. Police officers normally do not turn in property crimes since the backlogs of cases are so large. The U.S. police officers mainly worry about violent or serious crimes being submitted to the crime labs (Goulka, 2010).

England has a database size of 5 million, whereas the United States' database is 2 million (Goulka, 2010). The NDNAD in England contains 7.4% of their total population (Goulka, 2010). The CODIS in the United States holds 2.4% of the total population (Goulka, 2010). Goulka (2010) stated, "England has seven times more crime scene matches than the United States" (p.15). The CODIS system uses more DNA markers, called loci than NDNAD. The United

States uses 13 loci for DNA typing, and England uses six loci markers for DNA typing. This gives England a higher hit rate, since fewer markers are required for comparison (Goulka, 2010).

Summary

Most of the literature reveals that other countries are fast moving ahead of the United States in crime-solving DNA databases. England has the most advanced DNA database program in the world (Schellberg, 2015). In the United States, a significant difference exists between which type offenders have their DNA collected. In Alabama, the state collects for all convicted felons, juvenile adjudications, and sex crime misdemeanors. Honeywell (2010) stated, "Alabama collects DNA when offenders are arrested for murder, sex crimes, burglary, and felony arrest" (p. 2). Each state has a different qualifying offense. For example, Idaho does not collect DNA for "all convicted felons, juvenile adjudications, sex crime misdemeanors, or for any arrestees" (Honeywell, 2010 p. 2). This is a major difference from what Alabama collects.

Privacy is one of the leading reasons that the United States does not have an equal state-to-state qualifying offense collection process (Rosen, 2003). People are afraid that their DNA will be used for medical reasons for an insurance company or for the criminal reasons of setting a person up for a crime. The legislature must pass a bill in each state to have the DNA database laws passed or to expand on the original database for the state. Each state is connected to CODIS but has different legislation that addresses the DNA database.

My goal was to collect valuable data from Alabamans to understand their perception of DNA databases and what privacy issues may exist concerning the DNA database. The second area of concern was to use the law enforcement officers' perception of a growing DNA database

and what problems need addressed, such as cost, lack of labor, and their needs to solve cases in a timely way in spite of backlogged DNA databases. The third area of concern was the forensic lab in Alabama. Since the laws have changed in the last 2 years in Alabama, the number of cold cases solved since the expansion and the cost issues involved in expanding the database include data from people arrested but not convicted. Chapter 3 provides the methodology used to conduct this study.

Chapter 3: Research Method

Introduction

The purpose of this study was to determine if the general population of Alabama would support the expansion of the national DNA database CODIS. In order to achieve the goals of this study and to understand the role of public opinion in supporting a standardized national DNA databank, a survey was conducted to examine the relationships between demographics, the different concerns associated with giving a DNA sample, the CSI effect, and the likelihood of an individual to provide a DNA sample to the database---and how these variables influence an individual's perception of the role of CODIS in solving crimes.

For this quantitative study, citizens of Alabama completed a survey concerning the DNA database and privacy issues regarding the collection and preservation of DNA. Alabama has passed laws in the last few years to enlarge the DNA database. The laws affecting the DNA collection have changed from collecting DNA only for people convicted of felonies to anyone arrested for a felony. This chapter includes the research method, population of study, instruments used for responses, and the how the data were analyzed. This chapter describes the research design that tested the hypothesis from Chapter 1.

Research Design and Rationale

The study followed a quantitative correlation to examine the relationship between variables of knowledge and public perception of the DNA database (Mis, 2011). A quantitative approach was driven by the size of the population in the study and the ability to develop research questions to distinguish variables. By measuring each of the study variables, statistical links

could be drawn between different demographic indicators, the CSI effect, and perceptions of a DNA database in terms of likelihood [of participants?] to provide DNA to such a database. The quantitative approach included a correlation of the influence of DNA on society. I sought to answer the following questions:

1. Where do people gain knowledge of DNA?
2. How does the CSI effect influence citizens?
3. Are people concerned about privacy issues?

The quantitative analysis provided insight into how citizens perceive (a) the DNA database, (b) how DNA should be handled, (c) what DNA should be stored, and (d) when DNA should be collected. I used a survey developed by Curtis (2009), with modifications for the state of Alabama.

The Pearson correlation coefficient was used for the variables in this study (Levin, 2003). According to Levin (2003), the correlation method involves comparing survey answers from men and women, along with a comparison of education, income, race, and age. Levin stated, that the Pearson r value can be used for the correlation of the samples in the study (2003). The data collection method involved randomly selected individuals from Alabama, Survey Monkey will send out the surveys to random residents in Alabama through different forms of social media.

The rationale for the quantitative method was based on the purpose (600 residents), cost (survey monkey cost per survey), time to finish this study (time duration of dissertation), and the response rate needed for a 95% confidence interval I selected a quantitative analysis to reduce the amount of data to a manageable size, and to allow the examination of statistically supported

linkages between the variables of interests. The survey was sent to 600 Alabamans. A qualitative study would have produced a large amount of data from interviews, but would not have been useful in determining statistical links between the influences of the CSI effect on perceptions of providing a DNA sample to a national DNA database.

Methodology

Target Population

The research collection occurred via of email to provide a random selection of a target population through surveymonkey.com. Allowing Survey Monkey to choose randomly participants from Alabama eliminated bias and ensured the privacy of the participants.

Sampling and Sampling Procedures

I used a Survey Random Sample Calculator from custom in sight company (custominsight.com, 2015). A 1% error was tolerated for the survey. Custom In Sight recommended between 3% and 6% for error. The population used for this calculation was 4,779,000. A sample of 425 yields a 90% confidence rate, 600 people yields a 95% confidence rate, and 1,037 yields a 99% confidence rate. I selected to use the 3–5% error, with a confidence level of 95%, since Custom In Sight recommended this 3–5% error. I intended to collect 600 surveys, but received 584 participant responses in the final sample, or 97.33% of the intended sample. According to Creswell (2003), only about a 40% rate of returns exists on survey questions. A population of 840 surveys was determined to yield enough participants.

I integrated the data from surveymonkey.com into SPSS software. I aimed to gather valuable information from this group and better understand the correlation of how public

perception, legislation, and criminal activity are correlated with expanding the DNA database known as CODIS. As well as the collection of data, my goal was to have a better understanding of the public's knowledge regarding the U.S. database compared to the knowledge of residents of other countries. It is important to maintain truth with the public, and necessary to educate them about DNA technology and how it is being used (Curtis, 2009). A pilot study was not included for this research.

As mentioned in Chapter 2, Curtis (2009) conducted quantitative research in New Zealand on public perception of DNA. According to Curtis, the results must be preliminary because of the small sample size, the results of questions that replicate findings from earlier research, together with the efforts made to ensure suitable representation of the general population (2009). In a comparison of the United States and the United Kingdom, Goulka (2010) discussed that "widening the net" (p. 1) or expanding the DNA database could capitalize the full potential of having a crime-fighting tool.

Instrumentation and Operationalization of Constructs

The two instruments that showed the relationships between the variables were the Likert scale and survey questions from Curtis (2009). The scale ranged 1 (*strongly disagree*) to 5 (*strongly agree*; (Curtis, 2009). The data collection for the quantitative research methods involved a closed-ended survey on Survey Monkey's survey host site (SurveyMonkey.com). Survey Monkey sent out a survey to random participants via email in Alabama. I analyzed data using IBM's SPSS Software, and used for the variables of gender, race, age, education, and

income (Chen, 2012). The correlational quantitative study involved use of Pearson correlation statistics (Levin, 2003).

The questions on the survey were based in part on Curtis' (2009) questionnaire. The first part of the questionnaire included the demographic portion of the survey: gender, race, age, and education. The second portion included the research questions: (a) whose DNA should be in the database?, (b) when should DNA be preserved?, and (c) what offenses does it take for a person's DNA to be taken? I conducted the survey, and collected and analyzed data with SPSS, after Institutional Research Board (IRB) approval.

Operational Definition of Variables

The dependent variable of public perception was used in the quantitative portion of the research to assess for relationships between the indicators (attributes) of race, age, education, income, gender, and influence of the CSI effect on views of the DNA database. The dependent variable involved how likely a person from Alabama is willing to give his or her DNA. In order to examine the likelihood an individual would provide DNA as a measurable variable in the analyses, a single composite score needed to be created. To accomplish this, I took the sum of items measuring how happy participants would be to provide DNA and the level of concern associated with providing DNA.

These items were worded as (a) "I have no concerns about the use of DNA," which was reverse worded such that higher numeric responses corresponded with a lesser concern regarding the use of DNA; and (b) "I would be happy to provide a sample of DNA," which was forward worded such that higher numeric responses indicated that an individual would be happy to

provide DNA. The average of these two responses provided a single dependent variable measuring likelihood to provide DNA. Through the use of knowledge, statistical analysis showed the relationship between CSI shows and real crime scene evidence. I was interested in finding the public perception of enlarging the DNA database.

Through this quantitative correlation study, I analyzed the relationships between the independent variables and the likelihood of providing DNA to a database, providing a positively or negatively correlated strength in the relationship between the demographic variables (Levin, 2003). I analyzed this dataset using the Pearson correlation coefficient, Spearman correlation, Chi-square, t-test, and multiple regressions by viewing the effect of all variables simultaneously on the likelihood to provide DNA variable.

Age: I used a Chi-Square to analyze the perception of the questions involving different concerns of using DNA on Questions 25, 28 and 29. Spearman's correlation was used to find out the likelihood of a person giving his or her DNA (dependent variable) along with comparison of age. The age interval categories were (a) 18–25, (b) 26–35, (c) 36–45, (d) 46–55, (e) 56–65, and (f) 66 and up.

DNA Knowledge: The independent variable of the knowledge of DNA observed through Question 4, where did you get your knowledge of DNA? Question 13, how many crime scene show do you watch? I used the Pearson's correlation coefficient analysis to observe the independent variables.

Ethnicity: The demographic variable of ethnicity was observed in all questions that involved concerns of using DNA or the likelihood of providing DNA. The ethnicity interval

categories were (a) African American, (b) Asian, (c) Caucasian, (d) Hispanic, (e) American Indian, and (f) other.

Gender: I used a Chi-Square to analyze perception of the questions involving different concerns of using DNA for Questions 25, 28 and 29. A correlation helped to find out the likelihood of a person giving their DNA (dependent variable) along with comparison of gender.

Household Income: The demographic variable of household income was observed in all questions. I used a Chi-Square for analyzing the dependent variable of perception. I used Spearman's correlation to show the relationship of likelihood that a person provides DNA. The household interval categories were (a) under $20,000, (b) 20,000–29,000, (c) 30,000–39,000, (d) 40,000–49,000, (e) 50,000–59,000, (f) 60,000–69,000, (g) 70,000–79,000, (h) 80,000–89,000, (i) 90,000–99,000, (j) 100,000–109,000, (k) 110,000–119,000, (l) over 120,000, (m) don't know, and (n) refuse to share.

Level of Education: The demographic variable of education was observed in all questions. I used a Chi-Square for analyzing the dependent variable of perception. I used a Spearman's correlation to show the relationship of likelihood that a person provides DNA. The levels of education interval categories were (a) some high school, (b) high school degree or GED, (c) associate's degree, (d) bachelor's degree, (e) master's degree, and (f) doctoral degree.

Victim of Crime: The concerns of a person being a victim of a crime and the relationship of providing DNA was analyzed in Questions 9, 10, 11, and 12.

Data Analysis Plan

After data collection from all 600 participants, I ran the analysis on the collected data. The questions were asked in two ways. The first method involved using Curtis's questions from her research and the second set of questions were measured with the Likert scale method.

Research Question and Hypotheses

I sought to answer the main research question in this quantitative study: What are the impacts of the CSI effect and public perception of expanding the DNA database CODIS in Alabama? The hypothesis of this quantitative correlation study includes the following.

Hypothesis 1: There is a relationship between the CSI Effect and public perception of expanding the DNA database.

Null Hypothesis 1: There is not a relationship between the CSI Effect and public perception of expansion of the DNA database.

To answer the question, I used a quantitative correlation model. The survey questions stemmed from the research conduct and written by Curtis (2009; see Appendix B). I used these questions for the public perception portion of the research, along with additional question about Alabama; Appendix A includes written permission. The SPSS software separated the variable and attributes data: gender, age, race, education, and income. The software helped reduce any bias that could have contaminated the data at the point of collection.

Study Population

I used a Survey Random Sample Calculator to calculate the population size (n) necessary to complete this survey. I used U.S. 2010 Census Bureau data to calculate the population target

size for Alabama. Alabama had a total population of 4,779,736 as of September 13, 2011. The target population, 18 years old or older, is 3,647,277. According to the 2010 Census for Alabama, the population is 68.5% White, 26.2% Black, 3.9% Hispanic or Latino, 1.1% Asian, and less than 1% American Indian and Alaska Native. The female population for Alabama as of 2009 was 51.5%. Anonymity was ensured while conducting this survey (U.S. Census Bureau, 2010). The survey was carried out by random selection. According to Champion (2006), respondents are more likely to answer questions when anonymity is certain.

Reliability and Validity

The study had three major threats to external validity: people, place, and time (Trochim, 2006). To reduce the threat to external validity, participants were recruited by a random selection. Previous researchers confirmed the reliability of the instrument (Curtis, 2009). The second instrument was the Likert scale. The Likert scale used in this study comprised of a 1 to 5 rating with an interval level response (Trochim, 2001). The different levels of response were in the form of nominal, dichotomous, and interval on the survey.

Ethical Procedure and Considerations

The study did not endanger participants, and no harm existed to answering the survey. I maintained confidentiality in all parts of this study. No names were used, and I did not use deception in any form to gain information from participants. Champion (2006) stated, "Human subjects will be advised that their participation will be anonymous" (p. 524). The data from this research are stored on a flash drive, password-protected computer, and Google drive, where it

will be protected for 5 years. The IRB committee approved this study (approval number 02-23-16-0049861).

Data Storage Procedure

The confidential data collected from this research are stored on my personal computer. The computer and file on the computer is password protected to eliminate access to the files. The files will remain stored for 5 years. The survey questions collected from surveymonkey.com were saved along with the SPSS analysis and the final data. The confidential data will be destroyed after 5 years.

Implementation

Implementing this research will focus on having policies changed that allow the CODIS DNA database to be harmonized with the state databases. Currently, CODIS is one federal DNA database, but allows each state to have various criminal offenders' DNA uploaded into the system. Criminal offenses should be the same for each state. The states are slowly changing to have the same offenses entered into the DNA database.

Summary

I conducted a correlational quantitative research study using SPSS software to analyze data. I collected surveys from 600 people in Alabama using a survey instrument tool, surveymonkey.com. The survey questions were based on Curtis' (2009) study conducted in New Zealand. The foundation of this study involved research from Curtis (2009); the gap in the research was the correlation of public perception, CSI effect, and knowledge in Alabama regarding the DNA database. This quantitative study involved use of the variables listed in the

Operational Definition of Variables section in Chapter 3. The dependent variables of public perception include the correlation between age, gender, ethnicity, education, and income. The independent variable of knowledge was used in the correlation of the CSI effect and real forensic evidence. After IRB approval, Survey Monkey randomly sent out surveys to qualifying participants. Answering the survey questions did not cause harm to participants. To help reduce the threat to internal validity, I hired a company to conduct the survey question and collect the data. The data were completed and analyzed with SPSS. The confidential data collected from this research are securely stored on my personal computer.

Chapter 4 presents the results of the data analysis.

Chapter 4: Results

Introduction

Forensic scientists can upload DNA data from the crime scene for an analytical comparison to offenders. Though the federal government controls CODIS, the current protocols give each state control of which criminal activities trigger the collection and entry of DNA into the system. Having a uniform DNA database will make valuable evidence more available, and allow criminal cases to be solved more quickly and efficiently (Peterick, 2009). One reason the system needs to be uniform is that all the states pull their resources from one database, but laws differ from state to state as to what goes into the database. The laws regarding the CODIS database cannot change without public understanding of the value of a streamlined system. Although Herf, the DNA manager of the Arizona Justice Project, confirmed that states are concerned the database will be flooded once the expansion is made (2009), the expansion of the DNA database has led to checking more than 5,000 cases with biological evidence and exonerating 300 people (Steinback, 2007).

I focused this research on addressing the gap in the literature. I sought to show how the following three elements were correlated: the public opinion of the DNA database, the CSI effect, and Alabamans' perception of the DNA database. The purpose of this study was to determine if the general population of Alabama would support the expansion of CODIS. This quantitative study was to examine the relationships between demographics (gender, age, income level, and education level), the different concerns associated with giving a DNA sample (insufficient knowledge of the process, the fact that DNA might be accessed by other

organizations, no concerns, future convictions, and other concerns), the CSI effect, and the likelihood of an individual to provide a DNA sample to the database.

This chapter covers the following topics: a description of how I cleaned the data and removed any outliers, .a description of the participant sample, a brief summary of the findings, and a detailed description of the data analysis and results.

Pre-Analysis Data Cleaning

Composite Scores and Reliability

To examine the likelihood that an individual would provide DNA as a measurable variable concern, a single composite score needed to be created. To do so, I determined the sum of items measuring how happy participants would be to provide DNA and the level of concern associated with providing DNA. The two items were worded as follows: (a) "I have no concerns about the use of DNA," which was phrases in the reverse so that higher numeric responses corresponded with a lesser concern about the use of DNA; and (b) "I would be happy to provide a sample of DNA," which was used so that higher numeric responses indicated that an individual would be happy to provide DNA. The average of these two responses provided a single dependent variable measuring the likelihood to provide DNA.

To determine how applicable this variable may be for use in the present research, I plotted a histogram of the frequency for each response against a hypothetical perfect normal curve. As seen in Figure 1, the variable resulting from the average of the aforementioned survey responses roughly followed this ideal perfect curve. Because the assumption of normality could be met using this variable, it was deemed appropriate for use in the present research.

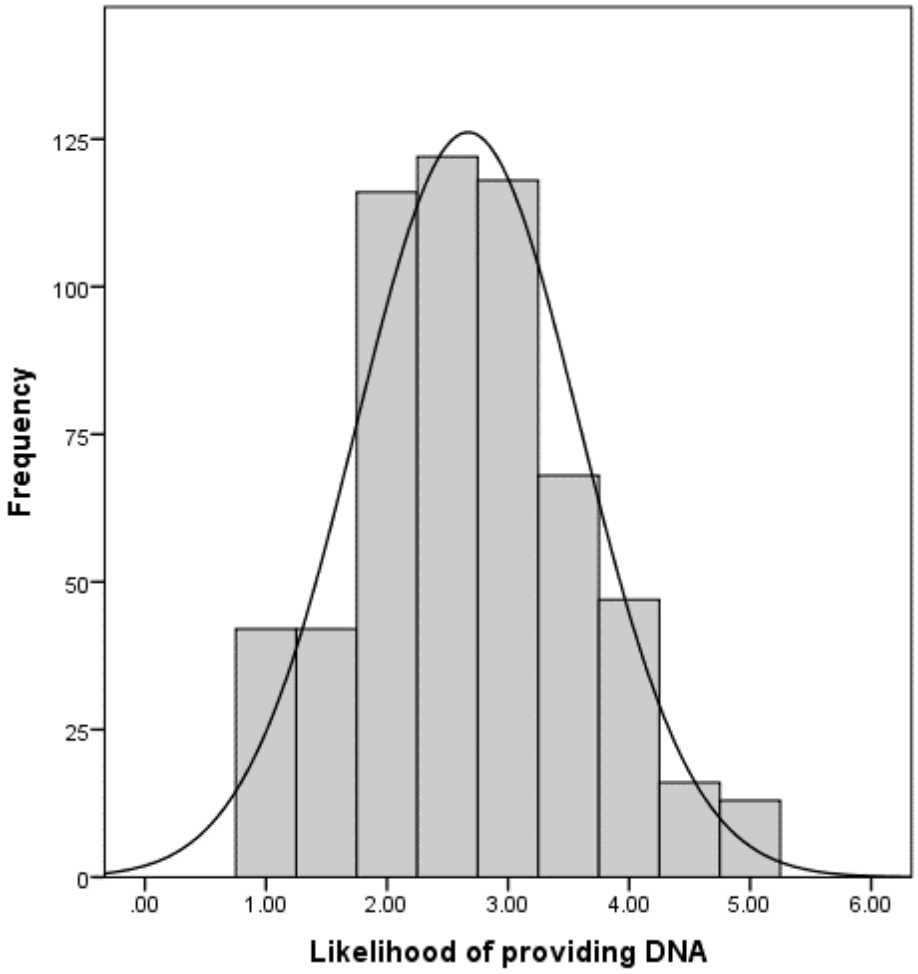

Figure 1. Histogram displaying normal curve for likelihood of providing DNA variable.

Next, I created the variable for CSI effect. The CSI effect refers to the supposed phenomenon whereby crime television shows portray DNA testing as routine, swift, useful, and reliable (Gerbner, 1985). Gerbner (1985) posited that individuals who gather information from sources, such as fictional television shows and movies, lose touch with reality. I created a variable to classify participants who have been exposed to these sources of fictional information, which indicated where participants gathered their knowledge regarding forensic processes. First, participants were grouped based on whether they received information from non-credible

sources, such as fictional television or movies. Next, participants were grouped based on the receipt of information from credible sources, such as journals or postsecondary school. Individuals who fell into the group that received information from any credible source were classified as not being influenced by the CSI effect, while those who fell into the group that received non-credible information, and were also outside of the group that received any form of credible information, were classified as being influenced by the CSI effect. This classification resulted in nearly equal groups of those who were and were not influenced by the CSI effect. Those who received at least some of their forensics information from credible sources composed 55.70% of the sample (n = 325), while those who only received forensics information from fictional television or movies composed 44.30% of the sample (n = 259).

Descriptive Statistics

The study involved 584 participants, the majority of whom were female (n = 453, 77.6%; male, n = 131, 22.4%). The most common age bracket reported was 45+ (n = 199, 34.1%), followed by 25–34 (n = 174, 29.8%). Most participants had an income between $25,000–$49,999 (n = 190, 32.5%), and the majority reported having completed some college (n = 207, 35.4%). Common concerns among those sampled included the concern that DNA might be accessed by other organizations (n = 217, 37.2%), or that they have insufficient knowledge regarding the use of DNA in forensic investigations (n = 95, 16.3%). Others had concerns that were not listed among the available response categories (n = 52, 8.9%), or did not report any concerns (n = 211, 36.1%). Table 1 presents all frequencies and percentages.

Table 1

Frequencies and Percentages for Demographic Information

Variable	*n*	%
Gender		
Female	453	77.6
Male	131	22.4
Age		
18–24	81	13.9
25–34	174	29.8
35–44	130	22.3
45+	199	34.1
Income level		
$0–$24,999	148	25.3
$25,000–$49,999	190	32.5
$50,000–74,999	114	19.5
$75,000+	132	22.6
Education level		
High school or less	154	26.4
Some college	207	35.4
Completed college	139	23.8
Any post-secondary education	84	14.4
CSI effect		
Yes	259	44.3
No	325	55.7
Categories of concern		
Insufficient knowledge of the process	95	16.3
DNA might be accessed by other organizations	217	37.2
Future convictions	9	1.5
Other concerns	52	8.9
No concerns	211	36.1

Note. Percentages may not sum to 100% due to rounding error.

Summary of the Results

To evaluate the relationships that gender, age, income, education, and the CSI effect have with different types of concerns associated with providing DNA samples (i.e., categories of concern as seen in Table 1), I performed a series of chi-squares tests. Only education and CSI effect showed significant chi-squares, suggesting that relationships existed between these variables and the categories of concern. To assess the relationships that gender, age, income, and education have with the likelihood of providing a DNA sample, I conducted a series of Pearson's and Spearman's rho correlations. The results of these correlations showed that both gender and education have a slight positive relationship with the likelihood to provide a DNA sample, while no significant correlation was associated with the other demographic variables. To assess the extent to which the CSI effect predicted the likelihood to provide a DNA sample, I performed a multiple linear regression with gender and education as covariates. The results of this regression showed that only gender and education level are individually significant predictors of the likelihood to provide a DNA sample, and the CSI effect was not significantly predictive of the likelihood to provide DNA after controlling for the influence of the participant's gender or education level.

Detailed Analysis

To evaluate the relationships that gender, age, income, education, and the CSI effect exhibited with different types of concerns associated with providing DNA samples, I performed a series of chi-squares. This analysis was chosen for testing these variables because the concern categories and demographic variables were both categorical in nature, and were tested using non-

parametric analyses. According to Tabachnick and Fidell (2014), the chi-square analysis is the only available statistical test when comparing two variables of this measurement level. After each chi-square, a series of Pearson's or Spearman's rho correlations (depending on the level of measurement for the demographic variable) were performed to assess the relationship between each variable and the likelihood to provide a DNA sample. I performed the Pearson correlation analysis for any combination of continuous (i.e., likelihood of providing DNA) and binary (i.e., gender) variables, as Tabachnick and Fidell (2014) suggested. Performing this analysis on a combination of continuous and binary variables resulted in a point biserial correlation, which is interpreted in the same way as a Pearson correlation, though it uses the correlation coefficient of r_{pb}. I performed the Spearman correlation on any ordinal variables (i.e., income or age), based on Tabachnick and Fidell's (2014) suggestion.

Because several of the demographic variables were found to have a relationship with the likelihood of providing DNA, they may serve as important covariates in the analysis for the CSI effect. When interpreting the influence of the CSI effect on the likelihood of providing DNA, I considered a multiple linear regression so that these covariates could be entered into the analysis alongside this independent variable. Thus, to assess the likelihood to provide a DNA sample after controlling for the covariates of gender and education, a multiple linear regression was conducted.

Gender

The results for gender indicated that no significant relationship existed between gender and the concern categories at an alpha of .05, $\chi 2$ (4) = 7.18, p = .126, meaning the cross

tabulation could not be examined further for discrepancies between the expected and observed spread of responses. Table 2 presents the results of the analysis. The point biserial correlation between gender and likelihood to provide DNA was significant well beyond the .05 alpha level, r_{pb} = .16, p <.001, indicating that a slight positive relationship existed between gender and the likelihood to provide a DNA sample.

Table 2

Chi-Square Analysis for Concern Categories by Gender

Gender	Insufficient knowledge of the process	DNA might be accessed by other organizations	No concerns	Future convictions	Other concerns
Female	74.00 [73.70]	156.00 [168.30]	173.00 [163.70]	7.00 [7.00]	43.00 [40.30]
Male	21.00 [21.30]	61.00 [48.70]	38.00 [47.30]	2.00 [2.00]	9.00 [11.70]

Note. χ^2 (4) = 7.18, p = .126. Bracketed numbers are expected counts for each cell.

Age

Results of the chi-square indicated that no significant relationship existed between age and the concern categories at the alpha level of .05, $\chi 2$ (12) = 19.92, p = .069, meaning the cross tabulation could not be examined further for discrepancies between the expected and observed spread of responses. Table 3 presents the results of this analysis. The correlation between age and the likelihood to provide a DNA sample was not significant at the alpha of .05, r_s = .01, p = .820, indicating that no statistically significant relationship existed between age and the likelihood to provide DNA.

Table 3

Chi-square analysis for concern categories by age

Age	Insufficient knowledge of the process	DNA might be accessed by other organizations	No concerns	Future convictions	Other concerns
18–24	22 [13.20]	26 [30.10]	25 [29.30]	2 [1.20]	6 [7.20]
25–34	28 [28.30]	72 [64.70]	55 [62.90]	3 [2.70]	16 [15.50]
35–44	15 [21.10]	43 [48.30]	55 [47.00]	0 [2.00]	17 [11.60]
45+	30 32.4	76 73.9	76 71.9	4 3.1	13 17.7

Note. χ^2 (12) =19.92, p = .069. Bracketed numbers are expected counts for each cell.

Income

Chi-square analysis on income also showed no significant relationship to the concern categories at the alpha level of .05, $\chi 2$ (12) = 10.26, p = .593, meaning the cross tabulation could not be examined further for discrepancies between the expected and observed spread of responses. Table 4 presents the results of this analysis. The correlation between income and the likelihood to provide a DNA sample showed a nonsignificant relationship at the alpha level of .05, r_s = .05, p = .213.

Table 4

Chi-square analysis for concern categories by income

Income	Insufficient knowledge of the process	DNA might be accessed by other organizations	No concerns	Future convictions	Other concerns
$0–$24,999	27.00 [24.1]	58.00 [55.0]	52.00 [53.50]	1.00 [2.30]	10.00 [13.20]
$25,000–$49,999	29.00 [30.90]	62.00 [70.60]	78.00 [68.60]	4.00 [2.90]	17.00 [16.90]
$50,000–74,999	20.00 [18.50]	38.00 [42.40]	40.00 [41.20]	2.00 [1.80]	14.00 [10.20]
$75,000+	19.00 [95.00]	59.00 [217.00]	41.00 [211.00]	2.00 [2.00]	11.00 [11.80]

Note. $\chi^2(12) = 10.26$, $p = .593$. Bracketed numbers are expected counts for each cell.

Education Level

The results for educational level were significant, $\chi 2\ (12) = 22.66$, $p = .031$, indicating that, at the alpha level of .05, a significant relationship existed between educational level and the different concern categories. Examination of the observed versus expected values indicated that amongst those who had only a high school education or less, more than expected had concerns about an insufficient knowledge of the process while less than expected had concerns about how DNA might be accessed by other organizations. In addition, more than expected participants had other, unspecified concerns from the group with a high school education. Among those who had completed college, more than expected had concerns about how DNA might be accessed by other organizations, and less than expected had no concerns.

For the correlation between educational level and the likelihood to give a DNA sample, results showed that a slight significant relationship existed between the two at the alpha level of .05, $r_s = .08$, $p = .045$. Because the r_s indicated a positive correlation (based on the positive correlation coefficient) results suggested that as educational level increases, the likelihood to give a DNA sample increases as well.

Table 5

Chi-Square analysis for concern categories by education

Education	Insufficient knowledge of the process	DNA might be accessed by other organizations	No concerns	Future convictions	Other concerns
High school	33 [25.1]	41 [57.2]	60 [55.6]	1 [2.4]	19 [13.7]
Some college	33 [33.7]	77 [76.9]	79 [74.8]	2 [3.2]	16 [18.4]
Completed college	21 [22.6]	61 [51.6]	42 [50.2]	5 [2.1]	10 [12.4]
Any post-secondary	8 [13.7]	38 [31.2]	30 [30.3]	1 [1.3]	7 [7.5]

Note. $\chi^2(12) = 22.66$, $p = .031$. Bracketed numbers are expected counts for each cell.

CSI Effect

Following examination of the demographic features and their statistical relationships with the different categorical concerns pertaining to providing DNA, and their likelihood of providing DNA, I examined the CSI effect. This variable was binary in nature, such that it classified participants into one of two mutually exclusive groups consisting of either those who did or

those who did not receive forensics information exclusively from noncredible sources. Based on the level of measurement for this variable, it was subjected to a chi-square analysis for the different categorical concerns associated with providing DNA.

Chi-Square

The results of this chi-square indicated that a significant relationship existed between the CSI effect and the different concern categories at the alpha level of .05, $\chi 2(4) = 10.82$, $p < .01$. Examination of the expected versus the observed values indicated that among those who had received at least some information from credible sources, less than expected showed concern for insufficient knowledge of the process. Alternatively, amongst those who had only received information from fiction television or movies, more than expected showed concern for insufficient knowledge of the process. All other observed values were similar to expected values. Table 6 presents the results of the analysis.

Table 6

Chi-Square analysis for concern categories by CSI Effect

Type of knowledge	Insufficient knowledge of the process	DNA might be accessed by other organizations	No concerns	Future convictions	Other concerns
Received some information from credible sources	44.00 [52.90]	124.00 [120.80]	118.00 [117.40]	9.00 [5.00]	30.00 [28.90]
Only received information from fiction TV or movies	51.00 [42.10]	93.00 [96.20]	93.00 [93.60]	0.00 [4.00]	22.00 [23.10]

Note. $\chi^2(4) = 10.82$, $p = .029$. Bracketed numbers are expected counts for each cell.

Multiple Linear Regression

To assess the extent to which the CSI effect predicts the likelihood to provide DNA while controlling for the covariates of gender and educational level, I performed a multiple linear regression using the stepwise method of entry. Using the stepwise method, variables are entered in two or more steps, which allows the examination of a group of variables' influence on the dependent variable in relation to a separate group of variables. In this analysis, Step 1 consisted of the two demographic covariates—gender and education. Step 2 consisted of these variables as well as the CSI effect variable. By comparing the two steps, the influence of the covariates could be interpreted separately and the influence of the CSI effect variable could be assessed for any

influence on the relationship above and beyond what was initially explained by the covariates alone. The criterion variable corresponded to the likelihood to provide a DNA sample. Prior to analysis, the education variable was coded into a dichotomous variable for use in the regression. After recoding this variable, a value of 0 indicated less than college education, while a value of 1 indicated a college education or higher.

The results for Step 1 of the regression showed a significant regression model well below the alpha level of .05, $F(2, 581) = 9.32$, $p < .001$, $R^2 = .031$, suggesting that education and gender are significant predictors of the likelihood to provide DNA. The coefficient of determination (R2) value indicates that 3.1% of the variability in the likelihood to provide DNA can be explained by education and gender. Examination of the coefficients revealed that both education and gender were significant contributors to the model (i.e., education: $B = 0.15$, $p = .050$; gender: $B = 0.34$, $p < .001$). Because both of the predictors were significant to the model, I examined the beta coefficients to determine the specific relationship. Because education was dichotomous, the B should be interpreted such that those with a college education or higher had a score on the likelihood variable approximately 0.15 units higher than those with less than a college education. I examined gender similarly, where males (coded 1) tended to have a higher likelihood score (i.e., .034 units higher) than (coded 2) females.

Step 2 of the regression also showed a significant overall model, which was also well below the alpha level of .05, $F(3, 580) = 6.20$, $p < .001$, $R^2 = .031$, which suggests that the model could still be used to predict the likelihood of providing DNA after the CSI effect was entered into the model. The R2 coefficient of correlation did not change, which suggests that the CSI

effect did not further enhance the predictive capability of the regression model. Examination of the coefficients confirmed that the CSI effect was not an individually significant predictor after controlling for the covariates of education and gender ($B = 0.01$, $p = .950$). Based on these findings, insufficient evidence existed to suggest that the CSI effect had any influence on the likelihood of providing DNA. Table 7 presents the results of both Step 1 and Step 2 of the regression.

Table 7

Regression results with education, gender, and the CSI Effect predicting likelihood to provide DNA samples (Steps 1 and 2)

Model	Variable	*B*	*SE*	*β*	*t*	*p*	R^2
1	Education	0.15	0.08	.08	1.96	.050	.031
	Gender	0.34	0.09	.15	3.76	<.001	
2	Education	0.15	0.08	.08	1.96	.050	.031
	Gender	0.34	0.09	.15	3.76	<.001	
	CSI Effect	0.01	0.08	.00	0.06	.950	

Note. Step 1: $F(2, 581) = 9.32$, $p < .001$, $R^2 = .031$; Step 2: $F(3, 580) = 6.20$, $p < .001$, $R^2 = .031$.

Chapter Summary

Chapter 4 opened with the research problem and purpose, which were included so that the findings could be assessed in terms of the research framework. The chapter followed with a description of the data cleaning and treatment; this process included any calculation of variables or variable manipulations necessary. The survey question on concerns of DNA was used to in correlation with the demographic variable. Education and gender had less concerns on providing a DNA sample for the database to expand then other demographic variables. Prior to reporting the statistical findings, this chapter presented a demographic description of the final sample used

in the analyses. A data set was evaluated on the likelihood of providing DNA with the demographic variable. The chapter then presented the detailed results of the analyses, which indicated that only gender and education showed a significant relationship to the likelihood to provide DNA, while chi-square testing revealed that only education. A CSI effect variable was created by using the knowledge based questions from the survey. The CSI effect (dependent variable) was created from non credible DNA resource and a knowledge variable (independent variable) was created by credible resource being used to gain knowledge. The CSI effect showed a significant relationship to the categories of concern pertinent to providing DNA.

Chapter 5 covers the following topics: a discussion of these results, which are explained in terms of the current literature; any implications for the existing body of knowledge; the strengths or limitations of the study; and suggestions for future researchers in an effort to develop on the study's strengths and improve upon any limitations possible.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this study was to determine if the general population of Alabama would support the expansion of CODIS. In order to achieve the goals of this study and to understand the role of public opinion in supporting a standardized national DNA databank, a survey was conducted to examine the relationships between demographics, the different concerns associated with giving a DNA sample, the CSI effect, and the likelihood of an individual providing a DNA sample for the database. The variables influence an individual's perception of the role of CODIS in solving crimes.

To determine how the residents of Alabama gained their knowledge of DNA, how the CSI effect influenced that knowledge, and the how different demographics variables perceived this knowledge. Constructed the following researcher question:

RQ1: What are the impacts of the CSI effect and public perception of expanding the DNA database CODIS in Alabama?

In determining this, I developed the following hypotheses:

$H1_A$: There is a relationship between the CSI Effect and public perception of expanding the DNA database.

$H1_0$: There is not a relationship between the CSI Effect and public perception of expansion of the DNA database.

Discussion and Interpretation of the Findings

Research Question 1

What are the impacts of the CSI effect and public perception of expanding the DNA database CODIS in Alabama?

To address the research question, I performed a series of chi-squares, a series of Pearson's correlations, and a series of Spearman's rho correlations to determine if demographic variables, such as gender, age, income, and education level, as well as the CSI Effect, demonstrated a relationship with public perception of expanding CODIS in Alabama. The findings confirmed that education had a significant influence on the perception that people of Alabama had pertaining to giving their DNA, along with their concerns about DNA. According to Hayes (2012), people who watch CSI shows often have a different view than those who do not view the programs, simply because those who watched believed they had more knowledge about forensics and investigation. As such, the findings reported that educated people from Alabama were more likely to provide a DNA sample than people who watch CSI shows. This can be linked to Hayes' assertions that those who watch CSI programming are more likely to have faith in the criminal justice system, wherein DNA and forensic evidence can be used to exonerate an innocent person. In this study, I determined that the CSI effect influenced 295 participants or 44.3% of the population group, while 325 participants, or 55.7% of the population, were not influenced by the CSI effect. As such, the null hypothesis was accepted: There is not a relationship between the CSI effect and public perception of expansion of the DNA database.

According to Curtis (2009), 74% of participants gain their knowledge from the media. In this study, 456 (78%) participants gained their knowledge from television news or documents, and 311(53%) answered that their knowledge came from fictional CSI shows. An inherent link exists in that when Hayes (2012) first conducted a survey of the CSI effect, the researcher determined that those who had served on a jury watched an average of 4.60 hours of CSI on a weekly basis. In addition, shows such as CSI often instill unrealistic expectations within those who experience the CSI effect. This is because these individuals have a certain expectation regarding evidence in the courtroom, as well as towards the output, speed, and analysis of evidence, which is purely fictional and embellished on CSI (Dysart, 2012; Shelton, 2008). However, at least within Curtis' (2009) study, participants expressed concern regarding ethical issues and mistakes that could be made with DNA. In this study, 232 (36.4%) had no concerns of the use of DNA and 36.4% (232) was concerned that DNA might be accessed by other organizations.

According to Curtis (2009), further research is needed to explore more knowledge-based questions. Within the current study, certain questions did not elicit a response that would influence the growth of the DNA database, such as questions referring to the potential of participants becoming victims of a crime. As for some declarative statements, the responses also indicated some division. One of the statements, "I would be happy to provide a sample of DNA," received overwhelming positive responses, with only 16% of the participants rejecting the notion of providing a sample of DNA. A second declarative statement, "I completely trust those who own the DNA database," similarly received an overwhelming positive affirmation of the notion,

with only 22% indicating distrust in the use of the DNA database. Within this study, only 16% of the participants had insufficient knowledge of the DNA process, which led them to not answer a question regarding any concern for giving a DNA sample. Additionally, within the population sample, 1.4% of the participants expressed concerned about providing a sample of their DNA, believing that the sample might lead to their own conviction at a later date.

Limitations of the Study

A limitation of the population group through Survey Monkey was to eliminate any of the sample group with members who were not residents in the state of Alabama at the time of the study. In the portion of the survey, several people were unable to complete the survey, as they were not residents of the state of Alabama. This question was addressed in the survey questions, as it had not been accounted for in prior chapters. As discussed within Chapter 1, the main limitation of the study was that little research exists regarding the public perceptions, as influenced by the CSI effect, on the growth of the DNA database. The target population size was 600 people from Alabama, and the survey yielded 584 participants who answered each question. While more participants were in this group at the beginning, not every person of the 600 sample size answered each question. This occurred because of the limitation of the first question within the survey regarding the residence of the participants. If the participants were living in Alabama, then they were allowed to continue taking the survey.

Recommendations

The recommendations for this study are divided into two parts: infield practice and research. The first is the infield practice recommendations. This study provided significant data

that involved the demographic variables of education and gender. These two variables indicated that being college educated or educated about DNA was a viable indicator that the CSI effect was not a contributing factor to stop the expansion of the DNA database. I recommend the possibility of a policy change in the state of Alabama for the expansion of the DNA database, based on the likelihood of the population group providing their DNA. Alabama currently has felony arrests as the basis for entry into the CODIS DNA system, whereas other states retrieve DNA from juveniles. The recommendation for the practice side of this research is that all states in the United States should have the same regulations across the board.

The significant results from this study show that people who are educated about DNA are more willing to allow their DNA to be entered into the CODIS database. Both the Maryland study and the Chicago study proved that if criminals are not stopped with DNA evidence, then they will continue committing crime. The idea of having an expanded DNA database will allow cases to be solved faster, and reduce the crimes committed by various individuals. The general population will be the determining factor to change whose DNA is entered into the database for expansion by voting for a change of policy. The change will have to be on every level—local, state, and federal—in order for the DNA database to be same in each state.

The second set of recommendations involves the research side of this study. The recommendation for additional research is to use an open-ended question format, so that the subjects can to add viewpoints, such as which television shows they gained knowledge on DNA. I also recommend that future researchers produce a list of specific documentaries or have the participants list the shows that they watch. The next research recommendation is for each

participant to list or describe any biology or DNA course taken in college, since the significance of this study revolved around the fact that individuals who were educated in DNA were willing to provide DNA for the CODIS database. The last recommendation for research is to have the individuals who did not approve the "likelihood of giving DNA" the opportunity to answer why they would not allow their DNA to be taken or why they would not want the DNA database to expand.

Implications

The potential influence for positive social change is for the state of Alabama to increase the database in size, since a significant number of the participants would be willing to give their DNA. The positive social change is to increase the database in size to efficiently solve criminal cases, reduce monetary costs, reduce manpower, and increase potential cold cases solubility. The increase in database size could allow cases to be solved in less times, thereby reducing a criminal's ability to commit additional crimes. The expansion of the database is important because of laws, such as Katie's Law. Katie's Law is a prime example of why the DNA database policies in each state should be same across the country. Katie's Law was passed because her rapist had committed crimes in other states, but the database did not link his crimes from state to state. The public outcry for justice in Katie's case was enough to get the laws changed in New Mexico and 28 other states (Katie's Law, 2013). The expanded DNA database could reduce or limit cases like Katie's. The general population will be the determining factor for the expansion of the database. If the general population understands the significance of expanding the database,

then the move or policy change will be determined by voting for a change. The educated population group surveyed was willing to give DNA for the database.

Summary

The CSI effect did not have contributing factors affecting the expansion of the DNA database within the state of Alabama. In addition, those participants from educated backgrounds were more likely to provide DNA samples to CODIS than those who lacked a similar background. The previously established gap in the literature regarded the lack of knowledge-based expansion on the growth of the DNA database, which I addressed through this study. The null hypothesis was accepted, establishing that no significant relationship existed between the CSI effect and the growth or expansion of the DNA database in the state of Alabama. As such, I recommend that all states in the United States have the same regulations across the board to decrease the likelihood of potential criminal activities. Additionally, future researchers should study individuals who have reservations regarding the volunteering of DNA to CODIS in an effort to understand why these individuals would be hesitant to provide information that could potentially exonerate them in the case of potential future crimes.

References

Alabama Board of Pardons and Parole (2014). Annual Report. http://www.pardons.state.al.us/Annual_Reports/2013-2014_Annual_Report.pdf

Alabama Media Group. (2010). Alabama 2010 census report. Retrieved from http://www.al.com/census/

Alcohol, Tobacco and Firearms (ATF), (2016) Brady's Law. Retrieved from https://www.atf.gov/rules-and-regulations/brady-law

Allen, R. W., Pogemiller, J., Joslin, J., Gulick, M., & Pritchard, J. (2008). Identification through typing of DNA recovered from touch transfer evidence: Parameters affecting yield of recovered human DNA. *Journal of Forensic Identification, 58*(1), 33-41. Retrieved from http://search.proquest.com.ezp.waldenulibrary.org/docview/194794717?accountid=14872

ASCLD.org (2016). ASCLD Policy library. http://www.ascld.org/resource-library/ascld-position-statements/

Axeland, S. (2010). Survey of state DNA database statues. *American Society of Law, Medicine and Ethics*, 1–4. Retrieved from https://www.aslme.org/dna_04/grid/guide.pdf

Beaugh, S. (2013). How the DNA Act violates the Fourth Amendment right to privacy of mere arrestees and pre-trail detainees. *Layalo Law Review, 59*(1), 1–11. Retrieved from http://law.loyno.edu/sites/law.loyno.edu/files/Beaugh-FINAL.pdf

Berson, S. (2011). Debating DNA collection. *National Institute of Justice*, No. 264, NCJ 228383. Retrieved from http://www.nij.gov/journals/264/pages/debating-DNA.aspx

Bradford, W. (2012). Punishment: Sentences and Fines. Retrieved from http://www.bradfordladner.net/alabama-punishment-sentences-and-fines/

Brewer, P., & Ley, B. (2010). Media use and public perceptions of DNA evidence. doi:10.1177/1075547009340343

Champion, D. (2006). *Research methods for criminal justice and criminology* (3rd ed.). Upper Saddle River, NJ: Pearson.

Chen, H. X. (2012). *Approaches to quantitative research: A guide for dissertation students.* Cork, Ireland: Oak Tree Press.

Cityrating. (2010). Birmingham Alabama crime rates. Retrieved from http://www.cityrating.com/

Cityrating. (2014). Birmingham Alabama crime rates. Retrieved from http://www.cityrating.com/

Code of Alabama. (2009). *Code of Alabama* (Code of Alabama 2009-768). Retrieved from http://www.NCSTL.org/

Code of Alabama. (2005). *Code of Alabama* (Alabama Code1975 36-18-25). Retrieved from http://NCSTL.org/

Cole, S. A., & Dioso-Villa, R. (2009). Investigating the 'CSI Effect': Media and litigation crisis in criminal law. *Stanford Law Review, 61*(6), 1335–1374. Retrieved from http://lawreview.stanford.edu.

Curtis, C. (2009). Public perception and expectations of the forensic use of DNA: Results of a preliminary study. *Bulletin of Science Technology & Society*, *26*, 313–324. doi:10.1177/02704609336306

Curtis, C. (2014). Public understanding of the forensic use of DNA: Positivity, misunderstanding, and cultural concerns. *Bulletin of Science Technology & Society, 34*, 1–2. doi:10.1177/0270467614549415

Custominsight.com (2016). Survey Random Sample Calculator. Retrieved from http://www.custominsight.com/articles/random-sample-calculator.asp

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Creswell, J. W. (2006). *Five quality approaches to Inquiry*. Thousand Oaks, CA: Sage.

DNA Saves. (2005). Chicago's study on preventable crimes. City of Chicago, Chicago, IL. Retrieved from http://dnasaves.org/files/ChicagoPreventableCrimes.pdf

DNA Saves. (2007). Maryland study on preventable crimes. City of Baltimore, Maryland. Retrieved from http://www.dnasaves.org/files/ChicagoPreventableCrimes.pdf

Doleac, J. (2011). The effects of DNA databases on crime [Working paper]. Retrieved from https://www.aeaweb.org/conference/2013/retrieve.php?pdfid=129

Dysart, K. L. (2012). Managing the CSI effect in jurors. *American Bar Association*. Retrieved from http://apps.americanbar.org/

Eligon, J., & Kaplan, T. (2012). New York State set to add all convict DNA to its database. *New York Times*. Retrieved from http://www.nytimes.com/

Federal Bureau of Investigation. (2010). Uniform crime reports. Retrieved from https://archives.fbi.gov/archives/news/stories/2010/september/crime-rates/new-crime-statistics-crime-rates-continue-to-fall

Federal Bureau of Investigation. (2012a). NDIS statistics. Retrieved from https://www.fbi.gov/

Federal Bureau of Investigation. (2012b).VICAP. Retrieved from https://www.fbi.gov/

Gaensslen, R. Harris, H. & Lee, H. (2008). *Introduction to forensic science and criminalistics*. Boston, MA: McGraw-Hill.

Garrett, B. (2008). Judging innocence. *Columbia Law Review, 108*(55), 63–132. http://columbialawreview.org/

Garrett, R. (2009). DNA saves. *Law Enforcement Technology, 36*(2), 28-37. Retrieved from http://search.proquest.com.ezp.waldenulibrary.org/docview/229774994?accountid=14872

Gerbner, G. (1998). Cultivation analysis: An overview. *Mass Communication & Society,* 1 (3/4)175–194.Retreived from http://www.pwsz.krosno.pl/gfx/pwszkrosno/pl/defaultaktualnosci/675/5/1/s08a_lk_cultivation_overview_gerbner.pdf

Gerbner, G., & Gross, L. (1976). Living with television: The violence profile. *Journal of Communication, 26*(2), 172–199. Retrieved from doi:10.1111/j.1460-2466.1976.tb01397.x

Gerbner, G., Gross, L., Morgan, M., & Signorielli N. (1985). Television entertainment and viewers' conceptions of science. *National Science Foundation.* Retrieved from http://files.eric.ed.gov/fulltext/ED271096.pdf

Goeke, K. (2008). Falsely accused: The case of Ronald Gene Taylor. *Forensic Examiner, 17*(4), 86. Retrieved from http://www.theforensicexaminer.com/

Goulka, J., & Center on Quality Policing. (2010). *Toward a comparison of DNA profiling and databases in the United States and England*. Santa Monica, CA: RAND.

Goulka, J. E., Matthies, C. F., Disley, E., Steinberg, P., Rand Infrastructure, Safety, and Environment (Organization), & Rand Corporation. (2009). *Toward a comparison of DNA profiling and databases in the United States and England*. Santa Monica, CA: RAND.

Hanson, D. (2008). DNA evidence: A powerful tool. *Law & Order, 55*(4), 95–99. Retrieved from http://www.hendonpub.com/law_and_order

Harrison, S. (2007). A preliminary analysis of DNA databases in the U.S.: Legal issues, costs, and policy implications (Doctoral dissertation, California State University, Long Beach). *Dissertation Abstracts*, 1–75.

Hayes, R., & Levett, L. (2013). Community members' perceptions of the CSI effect. *Southern Criminal Justice Association*. 38: 216. doi:10.1007/s12103-012-9166-2

Herf, L. (Spring, 2009). Lindsay Herf, post-conviction project counsel at the National Association of Criminal Defense Lawyers (NACDL). *Business Insider.* Retrieved from http://www.businessinsider.com/

Hicks, J. W. (2008). *The Alabama DNA database system*. Alabama Department of Forensic Sciences. Retrieved from http://www.adfs.gov/

Holmes, M. & Holmes, S. (2002) Profiling violent crimes an investigative tool. 3rd ed. Sage Publication: Thousand Oak: CA.

Honeywell, T. (2010). *State DNA database qualifying offenses*. Retrieved from http:// www.dnaresource.com/

Honeywell, T. (2016). DNA database expansion. Retrieved from http://www.dnaresource.com/policy.html

Human Genome Project. (2012). DNA forensic. Retrieved from http://genomics.energy.gov/

Hurst, L. (2009). Current and proposed laws related to the use of DNA in the criminal justice system. Seattle, WA: Gordon Thomas Honeywell Governmental Affairs.

Hurst, L., & Lothridge, K. (2010). 2007 DNA Evidence and offender analysis measurement: DNA backlogs, capacity, and funding. *U.S. Department of Justice*, 1–16. (Retrieved from https://www.ncjrs.gov/pdffiles1/nij/grants/230328.pdf

Kaye, D. (2006). Who needs special needs? On the constitutionality of collecting DNA and other biometric data from arrestees. *Journal of Law, Medicine & Ethics*, 34.188-198. Retrieved from /doi/10.1111/j.1748-720X.2006.00026.

Katie's Law. (2007). The rape and murder of Katie Sepich. Retrieved from http://katieslaw.org/

Katie's Law. (2013). U.S. Supreme Court Case. Retrieved from http://www.dnasaves.org/

Laub, J. (2011). The road ahead: Unanalyzed evidence in sexual assault cases. *U.S. Department of Justice*. Retrieved from https://www.ncjrs.gov/

Levin, J. (2007). *Elementary statistics in social research*. Upper Saddle River, NJ: Pearson.

Levitt, M. (2007). Forensic databases: Benefits and ethical and social cost. *British Medical Bulletin, 83*, 235–248. Retrieved from http://bmb.oxfordjournals.org/

Ley, Jankowski, and Brewer (2012). Investigating CSI: portrayals of DNA testing on a forensic crime show and their potential effects. (21) 51-67. Retrieved from doi: 10.1177/0963662510367571

Mathaconis, D. (2013). Citizen gives DNA on volunteer basis. Retrieved from http://www.outsidethebeltway.com/

McCarthy, J. (2014). Most americans still see crime up over last year. Retrieved from http://www.gallup.com/poll/179546/americans-crime-last-year.aspx

Mis, B. A. (2011). *Quantitative research: An introduction* (2nd ed.). Seattle, WA: Amazon Create Space Independent.

Moore, S. (2009). F.B.I. and states vastly expand DNA databases. *New York Times*. Retrieved from http://www.nytimes.com/

National Institute for Justice. (2010a). Advancing criminal justice through DNA technology [DNA Fingerprint Act of 2005]. Retrieved from http://www.dna.gov/statutes-caselaw/federal-legislation/search.usa.gov/search?query=DNA backlog elimination act 2000&affiliate=national-institute-of-justice

National Institute for Justice. (2010b). DNA backlog elimination Act 2000. In *Advancing Criminal Justice through DNA Technology*. Retrieved from http://search.usa.gov/search?query=DNA Backlog Elimination Act 2000. In Advancing Criminal Justice through DNA Technology&affiliate=national-institute-of-justice

National Institute for Justice (2010c). Justice for All Act of 2004. In *Advancing Criminal Justice through DNA Technology*. Retrieved from http://www.dna.gov/statutes-caselaw/federal-legislation

National Institute of Justice. (2011). Understanding DNA evidence: A guide for victim service providers. Retrieved from http://ojp.gov/ovc/publications/bulletins/dna_4_2001/welcome.html

National Institute for Justice. (2012). Advancing criminal justice through DNA technology. http://www.dna.gov/glossary

Nelson, M. (2011). *Making sense of DNA backlogs, 2010: Myths vs. reality*. U.S. Department of Justice. National Institute of Justice Special Report. Retrieved from https://www.ncjrs.gov/pdffiles1/nij/232197.pdf

Pennsylvania State Police (2008) Megan's Law Website. Retrieved from https://www.pameganslaw.state.pa.us/History.aspx?dt=http://www.ojp.usdoj.gov.nij/

Ram, N. (2011). Fortuity and forensic familial identification. *Stanford Law Review. 63*(751), 751–812. Retrieved from https://www.stanfordlawreview.org/

Riege, A. (2003). Validity and reliability test in case study research: A literature review with "hands-on" applications for each research phase. *Qualitative Market Research, 6*(2), 75–86. Retrieved from http://www.emeraldinsight.com/journal/qmr

Rodricks, D. (2009, December 7). Bloodsworth, prosecutor moves to new things. *Baltimore Sun.* Retrieved form http://www.baltimoresun.com/

Rosen, C. (2003). Liberty, privacy, and DNA databases. *New Atlantis: A Journal of Technology & Society*, 37–52. Retrieved from http://www.thenewatlantis.com/

Russell, S. (2012). Post-conviction DNA testing: Is it a right or a privilege? Retrieved from https://psmag.com/the-right-and-privilege-of-post-conviction-dna-testing-56c74a778631?gi=669bc11d9ed3

Saferstein, R. (2010). *Criminalistics: An introduction to forensic science* (9th ed.). Upper Saddle River: NJ: Pearson Prentice Hall.

Saferstein, R. (2011). *Criminalistics: An introduction to forensic science* (10th ed.). Upper Saddle River: NJ: Pearson Prentice Hall.

Samuels, J., Davies E., Pope, D. and Holand, A. (2012). Collecting DNA from arrestees. Retrieved from http://www.forensicmag.com/news/2012/06/collecting-dna-arrestees

Severin, W. J., & Tankard, J. W. (1997). Communication theory. Retrieved from http://communicationtheory.org/

Scheb, J., & Scheb, M. (2008). *Criminal law and procedure* (7th ed.). Belmont, CA: Wadsworth, D.

Schellberg, T. (2015). Global expansion of offender DNA database [Review of the DNA *Resource Report*]. *Gordon Thomas Honeywell Governmental Affairs*. Retrieved from http://www.wsp.wa.gov/forensics/docs/crimelab/manuals/training/dna/presentations/Global_Expansion_Of_Offender_DNA_Databases_By_Schellberg_Part_1.pdf

Schmalleger, F. (2009). *Criminology today: An integrative introduction* (5th ed.). Upper Saddle River, NJ: Pearson.

Shelton, D. E. (2008). The ‘CSI effect’: Does it really exist? *National Institute of Justice*. Retrieved from http://www.nij.gov/

Simoncelli, T. (2006). Dangerous excursion: The case against expanding forensic DN databases to innocent person. *Journal of Law, Medicine & Ethics*, *34*(2), 390.

Simoncelli, T., & Steinhardt, B. (2006). California's Proposition 69: A dangerous precedent for criminal DNA databases. *Journal of Law, Medicine & Ethics*. Retrieved from DOI:10.1111/j.1748-720X.2006.00027.x

Steinback, R. (2007). The fight for post-conviction DNA testing is not yet over: an analysis of the eight remaining “Holdout States” and suggestions for strategies to bring vital relief to the wrongfully convicted. *Journal of Criminal Law & Criminology*, *98*(1), 329-361. Retrieved from http://search.proquest.com.ezp.waldenulibrary.org/docview/218397285?accountid=14872

Supreme Court. (2013). Maryland vs. King, No. 12-207. Retrieved from https://supreme.justia.com/cases/federal/us/569/12-207/

Tabachnick, B. G., & Fidell, L. S. (2014). *Using multivariate statistics* (6th ed.). Boston, MA: Pearson.

Taylor, S. (August 1, 2010). Flurry of appeals linked to DNA law. *The Tuscaloosa News*, p. 1. Retrieved from http://www.tuscaloosanews.com/article/20100801/NEWS/100739945

The Justice Project. (2010). Working to increase fairness and accuracy in the criminal justice system [Kirk Bloodsworth]. Retrieved from http://www.thejusticeproject.org/

Trochim, W. M. (2001). *The research methods knowledge base* (2nd ed.). Mason, OH: Cengage.

Trochim, W. M. (2006). *The research methods knowledge base.* Retrieved from http://www.socialresearchmethods.net/kb/external.php

U.S. Census Bureau. (2010). Alabama census. Retrieved from http://www.census.gov/quickfacts/table/PST045215/01

U.S. National Archives. (2010, July 6). The Declaration of Independence: A transcription [Review of the In *Congress, July 4, 1776*]. *The U.S. National Archives & Records Administration*, 1–4. Retrieved from http://www/archives.gov/

Wolf, R. (2013, June 2). Supreme Court OKs DNA swab of people under arrest. *USA Today.* Retrieved from http://www.usatoday.com/

Appendix A: Letter from Cate Curtis

From: Cate Curtis [ccurtis@waikato.ac.nz]
Sent: Friday, September 30, 2011 12:36 AM
To: Thea Hall
Subject: RE: Thea Hall/Public Perception of DNA Research

Dear Thea

Thank you for your message and interest in my work.

I am happy for you to use the questionnaire. Unfortunately, I don't have it in a readily accessible format as it was created using specialist survey software. I have been meaning to recreate it in a Microsoft Word document but this is a very busy time here as it is almost the end of the semester, with final examinations starting shortly – and therefore a heavy marking load. I would be happy for you to attempt a recreation from the published article, though you would not be able to recreate it exactly. Perhaps you could make a start, then send it to me and I could fill in any gaps?

Kind regards

Cate
Dr. Cate Curtis
School of Psychology
University of Waikato

From: Thea Hall [mailto:thea.hall@wallacestate.edu]
Sent: Wednesday, 28 September 2011 5:49 a.m.
To: ccurtis@waikato.ac.nz
Subject: Thea Hall/Public Perception of DNA Research

Dr. Curtis,
Hello, my name is Thea Hall. I live in Alabama, United States. I am currently working on my Ph.D. from Walden University. My dissertation topic is Sentiment of the National DNA Database and Personal Privacy. Research Question: What are the impact and public perception of expanding the DNA database, CODIS in the state of Alabama? Sub-questions: Is it feasible to take arrestee DNA? Does it violate rights? How much does it cost forensic labs and law enforcement departments? Have additional criminal cases been solved from this new law?

I am citing you as a reference, but I would love to use your survey for my data collection.

Can I please use your survey (questionnaire)? And may I have a copy of the survey. What tool was used for compiling the data?

I must have written permission to give to Walden University for using your survey. I will have to make a modification since it will be used in Alabama.

I really do appreciate your work and would be honored if you would allow me to do the research in my area. I teach forensic science at a Community College full time and teach part-time at a University. I have been in the field for 14 years.
Sincerely,

Thea Hall
PhD. Student Walden University
Thea.hall@waldenu.edu (school email)

Thea.hall@wallacestate.edu (work email)

Cell phone: 256-572-5102

Work phone: 256-352-8279

Appendix B: Survey

Question 1:

What is your Ethnicity?

a. African American

b. Asian

c. Caucasian

d. Hispanic

e. American Indian

Question 2:

What is your household income?

a. under 20,000

b. 20,000-29,000

c. 30,000-39,000

d. 40,000-49,000

e. 50,000-59,000

f.60,000-69,000

g.70,000-79,000

h.80,000-89,000

i.90,000-99,000

j. 100,000-109,000

k.110,000-119,000

l. over 120,000

m. don't know

n. Refuse to share

Question 3:

What is your level of education?

a. some high school

b. high school degree or GED

c. Associate Degree

d. Bachelor Degree

e. Master Degree

f. Doctoral Degree

Question 4:

"Thinking about what you know about DNA Use for Solving Crimes, Where did you get this information from?

a. Television new or documentaries

b. Newspapers

c. Television fiction programs

d. Magazines

e. Radio news

f. Movies

g. Scientific/Academic journals

h. Secondary Education

i. Discussion with friends and family

j. Novels

k. Other

Question 5:

"When the Police Want to Take a DNA Sample From Someone Suspected of a Crime, or for Elimination." How is the DNA Sample Taken?

a. blood sample (taken by syringe)

b. Mouth swab (buccal mouth swab)

c. Hair

d. Other

Question 6:

How is DNA Stored in a Databank?

a. as an electronic signature

b. a frozen blood sample

c. blood sample

d. other storage methods

e. don’t know

Question 7:

Who owns the DNA database?

a. Government

b. State labs

c. The police

d. other owners

e. don’t know

Question 8:

Who should own the DNA database?

a. Government

b. Federal labs

c. State labs

d. The police

e. other own

f. don’t know

Question 9:

Who should be included in a DNA Database?

a. Convicted Sexual Offender

b. Convicted Violent Offender

c. arrested for Sexual Offense

d. arrested for a violent offense

e. All convicted offender

f. arrested for any crime

g. everyone in U.S.

h. Newborns

i. Others

(strongly agree, agree, neither agree or disagree, disagree strongly disagree)

Question 10-24

Question 10: Which DNA samples should be kept in the Databank?

a. keep all samples

b. keep convicted offenders

c. keep convicted over 18

d. keep convicted under 18

e. returned the sample to individuals

Question 11:

I am fully confident in the use of DNA for crime solving.

Question 12:

I think there are unfair patterns of conviction

Question 13:

I am concerned a mistake could be made with DNA

Question 14:

DNA might be used for another purpose

Question 15:

I completely trust the DNA will be used appropriately

Question 16:

I think the use of DNA for fighting crime is a great step forward

Question 17:

I completely trust those who own the DNA databank

Question 18:

I am concerned about the ethical issues of DNA use

Question 19:

People should not be made to give samples against their will under any circumstances

Question 20:

I am concerned about the cultural issues

Question 21:

I have no concerns about the use of DNA

Question 22:

I am concerned about DNA being planted

Question 23:

I am concerned a mistake could be made

Question 24:

I would be happy to provide a sample

Question 25:

What would be your Concern Regarding Giving a DNA Sample?

a. insufficient knowledge of the process

b. DNA might be accessed by other organization

c. No concerns

d. Future conviction

e. other concerns

Question 26:

Do you think some groups are more likely than the average to be involved in Crime?

a. African American

b. Asian

c. Caucasian

d. Hispanic

e. young men

f. young people

g. gangs

h. women

i. men

j. others

Appendix C: Permission to Use Survey

Title: Public Understandings of the Forensic Use of DNA:Positivity, Misunderstandings, and Cultural Concerns

Author: Cate Curtis

Publication: Bulletin of Science, Technology & Society

Publisher: SAGE Publications

Date: 09/16/2014

Gratis

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Appendix D: Survey To be Used in this Research

The survey questions that was asked of each participate will be:

CONSENT FORM

You are invited to take part in a research study about DNA databases " who's DNA should be stored in the DNA database" The researcher is inviting residents of Alabama, 18 and older to be in the study. When not recruiting face-to-face, add: I obtained your name/contact info via email/social media. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Thea Hall, who is a doctoral student at Walden University.

Background Information:

The purpose of this study is to define a basic understanding on the public's perception on the establishment of a DNA database in Alabama. Public opinion is important so that policies can expand the DNA database.

Procedures:

If you agree to be in this study, you will be asked to:
• Answer 30 question about DNA databases.
You are invited to participate in this research study.
• You will be asked to answer the questions only 1 time.
• Estimated time of survey will be less than 30 minutes
Here are some sample questions:

1. Who should be included in a DNA Database?

2. Who should own the DNA database?

Voluntary Nature of the Study:

This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at Walden University will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time. The survey will be conducted by surveymonkey.com and will be on a volunteers bases.

Risks and Benefits of Being in the Study:

Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as becoming upset. Being in this study would not pose risk to your safety or wellbeing.

The study's potential benefits to the community would be: One reason the system needs to be uniform is that all the states pull their resources from one database, but laws differ from state to state as to what goes into the database. The DNA database holds data from convicted felons, people merely arrested but not convicted, and people arrested for misdemeanors.

Participants:

There is no compensation for participating in this survey. I would like to thank you for taking part in this study. I really appreciate your time and opinion. Thank you so very much for completing this survey.

Privacy:

Any information you provide will be kept 5 years and all data will remain anonymous. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. Data will be kept secure by password protection on a personal computer. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:

You may ask any questions you have now. Or if you have questions later, you may contact the researcher via thea.hall@waldenu.edu If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 612-312-1210. Walden University's approval number for this study is 02-23-16-0049861 and it expires on February 22, 2017.

Please keep this consent form for your records. The results of this study will be posted using social media. The result will be on facebook under Thea Hall, or at https://www.facebook.com/#!/Sentiment-Of-The-National-DNA-Database-and-Personal-Privacy-960154194039396/ Please allow approximately 3 months for the findings to be published on facebook.

Obtaining Your Consent

In order to protect your privacy, Thea Hall
Do you Consent
a. Yes

b. No

1.Do you currently live in the state of Alabama?

a. Yes

b. No

2.What is your age?

3.What is your gender?

a. Male

b. Female

4.What is your ethnicity? (Please select all that apply.)

a. American Indian or Alaskan Native

b. Asian or Pacific Islander

c. Black or African American

d. Hispanic or Latino

e. White / Caucasian

f. Prefer not to answer

g. Other (please specify)

5.What is your approximate average household income?

a. $0-$24,999

b. $25,000-$49,999

c. $50,000-$74,999

d. $75,000-$99,999

e. $100,000-$124,999

f. $125,000-$149,999

g. $150,000-$174,999

h. $175,000-$199,999

i. $200,000 and up

6.What is the highest level of education you have completed?

7.What is your ethnicity? (Please select all that apply.)

a. American Indian or Alaskan Native

b. Asian or Pacific Islander

c. Black or African American

d. Hispanic or Latino

e. White / Caucasian

f. Prefer not to answer

g. Other (please specify)

8.What is your approximate average household income?

a. $0-$24,999

b. $25,000-$49,999

c. $50,000-$74,999

d. $75,000-$99,999

f. $100,000-$124,999

g. $125,000-$149,999

h. $150,000-$174,999

i. $175,000-$199,999

j. $200,000 and up

9.Thinking about what you know about DNA use for solving crimes, where did you get this information from?

a. Television new or documents

b. Newspapers

c. Television fiction programs

d. Magazines

e. Radio

f. Movies

g. Scientific/Academic journals

h. Secondary Education

i. Discussion with friends and family

10.When the Police want to take a DNA sample from someone suspected of a crime, or for elimination.

a. blood sample (taken by syringe)

b. mouth swab (buccal mouth swab)

c. Hair

d. Other

11.How is DNA stored in a databank?

a. as an electronic signature

b. a frozen blood sample

c. blood sample

d. other storage methods

e. don't know

12.Who owns the DNA database?

a. Government

b. State Labs

c. The Police

d. other owners

e. don't know

13.Who should be included in a DNA database?

a. Convicted Sexual Offenders

b. Convicted Violent Offenders

c. Arrested for Sexual Offenses

d. Arrested for a violent Offense

e. All convicted offender

f. Arrested for any crime

g. Everyone in the United States

14.Have you ever been a victim of a crime?

a. Yes

b. No

c. Does not apply

15.If yes to question 14, does this change your views of the DNA database?

a. Yes

b. No

c. Does not Apply

16.Has a family member been a victim of a crime?

a. Yes

b. No

c. Does not apply

17.If yes to #16, does this change your views of the DNA database?

a. Yes

b. No

c. Does not apply

18.How many crime shows do you watch?

a. 1

b. 2

c. 3

d. 4

f. 5

g. more than 5

19.Which DNA samples should be kept in the DNA database?

a. Keep all samples

b. Keep convicted offenders

c. Keep convicted over 18

d. return the samples to the individuals

20. I am fully confident in the use of DNA for crime solving

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

21.I think there are unfair patterns in convictions.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

22.I am concerned a mistake could be made with DNA.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

23.DNA might be used for another purpose.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

24.I completely trust the DNA will be used appropriately.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

25.I think the use of DNA for fighting crime is a great step forward.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

26.I completely trust those who own the DNA database.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

27.I am concerned about ethical issues of DNA use.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

28 .People should not be made to give samples of DNA against their will under any circumstances.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

29 .I am concerned about the cultural issues of DNA.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

30 .I have no concerns about the use of DNA.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

31 .I am concerned about DNA being planted.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

32 .I am concerned a mistake could be made with DNA.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

33.I would be happy to provide a sample of DNA.

a. Strongly Agree

b. Agree

c. Neither

d. Disagree

e. Strongly Disagree

33.What would be your concern regarding giving a DNA sample?

a. insufficient knowledge of the process

b. DNA might be accessed by other organizations

c. No Concerns

d. Future Convictions

e. Other Concerns

35.Do you think some groups are more likely than the average to be involved in Crime?

a. African American

b. Asian

c. Caucasian

d. Hispanic

e. Young Men

f. Young People

g. Gangs

h. Women

i. Men

j. Others