THE INFLUENCE OF POPULATION ON WRONGFUL CONVICTIONS

Kari Whittington

Thesis Prepared for the Degree of

MASTER OF SCIENCE

UNIVERSITY OF NORTH TEXAS

December 2016

APPROVED:

Adam Trahan, Major Professor
Chad Trulson, Committee Member
Eric Fritsch, Committee Member and Chair of
 the Department of Criminal Justice
Thomas Evenson, Dean of the College of Public
 Affairs and Community Service
Victor Prybutok, Vice Provost of the Toulouse
 Graduate School

Whittington , Kari. *The Influence of Population on Wrongful Convictions.* Master of Science (Criminal Justice), December 2016, 73 pp., 4 tables, references, 39 titles.

With criminal cases continuing to be exonerated across the United States, research must be done on the subject to advance current practices to reduce its occurrence in the future. This study combines county population data with the National Registry of Exonerations to analyze the contributing factors to wrongful convictions and the possible effect of population on their frequency. The objective of this study was to identify specific policy changes based on the five contributing factors to wrongful convictions that could be applied to population specific areas. The results yielded multiple patterns that are discussed thoroughly. These findings allowed the introduction of policy changes and proposals for future research.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

The Beginning of Exonerations

What would become a landmark case for exonerations in the United States began with an ordinary police report filed in 1977. Rape and kidnapping were the two offenses claimed by a victim in the police report filed in Cook County, Illinois. After claiming she had been kidnapped and raped by a van full of men, the victim was taken to a hospital per protocol for an examination to be performed and any evidence collected. A sketch drawing of the offender was then prepared with the victims' guidance that led to a photo line-up and an in person line up, in which Gary Dotson was identified each time as the assailant.

There were multiple grievances that lead to Dotson's wrongful conviction through the jury trial process. A forensic analyst testified that semen found on the victim after the alleged attack could have belonged to Dotson. The analyst testified that the semen had type B blood which was only present in 11% of the population. In reality, he failed to advise the jury that the victim was also type B and could have masked the results making it plausible that any male was involved (Garrett & Neufeld, 2009). Furthermore, this analyst provided testimony that alluded to Dotson's guilt by saying his pubic hair was similar to that found in the victims' underwear. There is no substantial empirical information on attributes in hair to allow hairs to be considered similar or dissimilar. Outside of the questionable forensic testimony, the victim's testimony was riddled with inconsistencies. Even though she was raped in the back of a vehicle, she testified that her clothes were covered in mud and dirt. She had testified that she had been bitten on her breast but later on testified the marks on her were from fingernails rather than being bitten. She gave testimony that she was very close to her attacker because the defendant repeatedly

attempted to kiss her, but she gave no description of any facial hair or a mustache after the incident allegedly happened. Nevertheless, Dotson was convicted by a jury and sentenced to 25 to 50 years for rape and aggravated kidnapping (Illinois v. Dotson, 1987). In 1981, the appellate court upheld Dotson's original conviction despite many claims of inconsistencies throughout the case.

In 1985, the victim came forward and recanted her testimony officially. Prosecutors were uninterested in revisiting the case so the victim and her attorney went forward to the media for the case to gain some traction. The victim had been riddled with guilt for the false testimony and was making every effort to correct her actions. Dotson was granted a new hearing allowing the victim to testify. However, the Judge found the victim's original testimony to be more reliable than the recantation. The bond was revoked and Dotson was arrested again. Because of the media, the public was more invested in the case and Dotson was given a televised 3-day clemency hearing. The Prison Review board determined that Dotson's trial had been fair; however, the Governor ultimately commuted the sentence to a time served finding allowing Dotson to be eligible for parole (Illinois v. Dotson, 1987). Two years later, Thomas Breen took on Dotson's case and requested DNA testing to be performed on the evidence in the case. In August of 1988, the results from testing by a professional in the field, that were later confirmed by the state's Police Crime Lab, came back positively identifying the victims' boyfriend at the time and excluding Dotson. In 1989, after the Governor's office delayed responding to new evidence, the States Attorney's office allowed a motion to vacate the conviction (University of Michigan Law School, 2014).

This case is the very first identified exoneration in the United States from DNA testing post-conviction, but it has been far from the last as it caused something of a domino effect

(Garrett & Neufeld, 2009). With that seed of doubt in the justice system planted, this case opened a door to many cases that would not have had any traction prior to Dotson. Dotson was ultimately exonerated based on DNA evidence that was introduced; however, bad forensic evidence was not the only contributing factor to Dotson's wrongful conviction. In this case specifically, the wrongful conviction was caused by a false accusation, false forensic evidence, false testimony, prosecutorial misconduct. Despite many efforts, Dotson was exonerated solely based on the DNA evidence (Garrett & Neufeld, 2009). This was the first case in the United States that DNA evidence was introduced post-conviction and although a majority of the exonerations to follow did not involve DNA evidence, this case showed the flaws that existed in the system.

The National Registry of Exonerations

Because of the amount of exonerations that followed, in 2012, the University of Michigan Law School and the Center of Wrongful Convictions at North Western University of Law founded a joint project providing detailed information about every exoneration in the United States. The National Registry of Exonerations is a comprehensive compilation of these exonerations with detailed information about each individual case. For the purpose of this registry, an exoneration is defined as when a person has new evidence of innocence introduced on their case and, based on the new evidence, is legally relieved of all consequences of the conviction by a court, a prosecutor, or the Governor (University of Michigan Law School, 2014). The registry is a compilation of information that has been a collaboration of previous exoneration projects, multiple innocence foundations, and other institutions such as District Attorney's offices or public defender's offices. The research compiled is done by previous and current law students at the University of Michigan (Gross & Shaffer, 2012), and the registry is maintained by

an advisory board and a staff. Their website is constantly updated to show corrections or updates on cases, and welcomes any corrections, new information or input from anyone in an effort to remain as accurate as possible. They are relatively particular on which cases they do include in the Registry to try to maintain a standard and help with accuracy. The Registry does not include cases where the defendant may be guilty of a lesser crime, where the defendant pled guilty to a crime factually related to the original conviction, where charges were dismissed for a legal error with no new evidence of innocence was introduced, and where there was physical evidence of guilt that is unexplained (Gross and Shaffer, 2012).

For the cases that do meet the requirements to be included, the Registry breaks down each exoneration into multiple categories that can be used to filter the cases displayed but also allows for statistical categories for the reports that they release. The categories identify age when the crime occurred, race, location, offense, sentence, year of conviction, DNA involvement, and the factors that contributed to the conviction. The information provided in this registry provides a multitude of research possibilities. Exonerations are valuable in the justice system for many reasons, but one important reason is the ability to remedy wrongful convictions. Being able to identify causes of wrongful convictions and address them is critical to productively attempting to reduce the number of innocent people that end up losing years of their lives for crimes they did not commit in the future. The Registry has already identified six main causes for wrongful convictions that can be used in combination with other information to provide insight to areas that could have a positive impact if addressed (University of Michigan, 2014).

When considering the gravity of this Registry, one vital thing to remember is not what includes but the grey area that it implies. These cases are potentially the tip of a very large iceberg of cases that do not have substantial evidence or have the public interest to help build

4

momentum for a new trial. With the number of people that are incarcerated today, consider the amount that have been affected by one or all of these six contributing factors but have gone unnoticed. With most research in criminal justice, it identifies a fraction of what may be a much larger problem. And while the factors identified by the Registry may not be an exhaustive list of contributing factors to wrongful convictions, it is a starting point to evaluating the current cracks and flaws in the system that with attention could have a valuable impact.

Research Question

This Registry has created a foundation that can be slightly modified and used to identify commonalities or patterns that exist among the causes of wrongful convictions. Because the Registry includes the county where the conviction took place as the most precise level of population that is available, this research will identify if there are any patterns that appear when comparing different levels of population size. More specifically, this research will address the following research question;

With the National Registry of Exonerations outlining the six most common causes for wrongful convictions in the United States, is there a difference in presence or frequency of these causes based upon county population size?

Factors that contribute to wrongful convictions are present throughout different parts of the criminal process, from accusation through to conviction. To understand these factors on a more descriptive level could help identify ways to reduce their presence in the criminal process all together. Looking at their frequency in different population sizes gives the opportunity to identify things such as overworked police officers in a bigger county closing cases to be time efficient and causing errors from purely not having the time to be thorough. Another possibility would be smaller counties not having access to as many resources as larger counties so having

more errors in evidence because the labs that they have access to or equipment that they have access to is not as technologically advanced. Consider the fact that smaller counties also have a much smaller case load than larger counties based on their population, so smaller police departments would not have specialized units that larger counties have and therefore would have more error in collection of evidence or properly preserving evidence. When it comes to eyewitness testimony, in a smaller county there is a much higher possibility that everyone knows the entirety of the town. In terms of deliberately falsely identifying someone, this could be more likely in a town where people have more of a relationship with everyone and have prejudices or grudges against someone and could throw their name into a suspect pool. In larger counties, it would be more likely to mistakenly identify someone because the pool of suspects is much larger just purely based on more people living within a smaller area and less of a community atmosphere.

This Registry creates a concrete foundation that can be used for research questions like these with an extra variable added like county population to see if any patterns exist or anything of value comes forward. With a problem as grand as wrongful convictions in our system, research must be done with as many external facets to find ways to improve the system. This specific research question is important because wrongful convictions has given research the opportunity to find flaws that exist throughout the criminal justice process. These flaws affect not only exonerated cases but affect any suspect of a crime. To be able to look at a specific piece of data and learn about how agencies or people involved in the system have a negative effect on the reliability of the criminal justice process aides in creating policy that could eliminate these flaws all together. Being able to apply research like this will not only benefit people that have suffered from wrongful convictions, but they would also create more solid evidence for future

defendants. With a criminal justice system as multifaceted and immense as the one in the United States, anything that can be done to reduce the margin of error is beneficial.

CHAPTER 2

LITERATURE REVIEW

Introduction

As exonerations are still a relatively new occurrence, there is not a great deal of research on the topic. This literature review will define and identify previous research on the contributing factors and the impact of county population on effective justice practices, as those are the two main focal points of the research being proposed. In order to better understand the wrongful conviction phenomenon and attempt to extinguish its future, there must be a better understanding of each of the pieces individually that together manipulate the occurrence. This will open the conversation after the research has been performed by providing specific examples of each contributing factor that can help identify exactly where changes should be made if there are patterns that are present.

Mistaken Witness Identification

Historically, one of the most powerful pieces of evidence in the court of law has been eyewitness testimony and identification. Having a witness identify a suspect is nothing new to the criminal justice process and has commonly been faulted as the leading contribution to wrongful convictions. Gross and Schaffer (2012) create categories of the individual variables that lead to wrongful convictions. They identify that the fault in eyewitness testimony category is too broad leading them to establish a distinction to separate one large category into two. They observe that there is a clear division between mistaken identification and deliberate misidentification. Mistaken identification stems from the reliability of an individual's capacity to accurately retain details of an event after the fact. Deliberate misidentification is most commonly

referred to as snitch testimony, but is intentionally identifying the wrong person for their own interests.

Foundational Research

Pioneer research in this field dates back to 1897 when a Prague professor, Hans Gross, wrote a book focusing on testimony psychology (Whipple, 1909). Guy Whipple (1909) expanded on the concern of eyewitness testimony by identifying problems with characteristics of the witness - the gender, age, and mental ability of what they called the reporter. Other problems related to eyewitness identification are the familiarity of the witness with the situation that they are recounting and the elapsed time since the situation took place (Whipple, 1909). These early studies did not show any significant relationship between gender and accurate eyewitness testimony. However, they do qualify that children's reports are inferior to those administered by adults. There were no conclusive results regarding intelligence level relates and the accuracy of the testimony, but they did show that accuracy of the report decreased as the time between incident and testimony increased (Whipple, 1909). Another important observation to credit to this early research is the recognition that suggestive or leading questions decreased the accuracy of the report among both groups, but the effect was stronger with children (Whipple, 1909). This research was gathered and published over a century ago. However, it is essential to understand the research that created the foundation to better understand how future research has evolved in to what is understood as mistaken witness identification today.

Even though early studies date back to the beginning of the 1900's, interest in this field did not significantly progress until closer to the 1970's. The main concern with eyewitness testimony being one of the leading factors in a conviction is the weight a jury seems to attach to the witness's identification regardless of any attempt by the defense to show how unreliable the

identification is (Loh, 1981). This tendency is explored by Elizabeth Loftus in 1974 in a study featuring three different mock trials, each with a set of jurors. While they were all presented with the same case and evidence, each trial varied in eyewitness testimony. The first trial had no eyewitness, the second had one eyewitness, and the third had an eyewitness that the defense showed was compromised: he was blind and not wearing glasses at the time of the incident. With no witness, a mere 18% of the jurors voted to convict the suspect. Jurors in the second trial, with the witness, voted at 72% to convict the defendant. When it was demonstrated that there was no truth to the identification, 68% of jurors convicted the defendant (Cicchini & Easton, 2010). The findings of this research study illustrate the impact of eyewitness testimony, even when it has been proven to be flawed.

Wells and Olson (2003) have done a comprehensive review of psychological literature on eyewitness testimony and outlined the potential predictors of inaccurate testimony, otherwise called estimator variables. Of the main categories established; early research focused more on the characteristics of the event that took place and the witness to determine which characteristics were predictors of a more accurate testimony, similar to the age, gender, and intelligence that was tested in Whipple's 1909 research. Over time, the focus has not shifted completely away from those two categories but it has also grown to include the testimony itself and the jurors who ultimately make the decision (Wells & Olson, 2003). Though research has advanced considerably, there has been little impact on its use within the criminal justice system.

Current Research

Current research encompasses the credibility of eyewitness testimony and the jury's consistent disregard for the questionable nature of this form of testimony (Joffee, 2010). Steven Friedland (1990) showed that the creation of a memory is a process that goes through three main

stages during which any experience can alter the memory. In the initial stage, the event takes place that will have to be recalled. The estimator variables, or characteristics of the person or the event, determine the level of accuracy that the individual has at this stage in identifying important details. The second stage is the retention of the memory and the third stage is the recall of the memory. The second and third stages can be influenced by a wide range of external and internal processes. Simply watching the news or interacting with police can be enough to influence the memory process (Joffee, 2010). At the other end of the courtroom, the jury plays an integral role as they are the deciding factor in these wrongful convictions. Recent research shows that jurors use three categories to assess witnesses - consistency, confidence, and detailed memory. Out of these three identified categories, none of them establish any form of accuracy in the memory of the witness. Jurors have inherent trust of an eyewitness's identification and in many cases are unable to recognize a mistaken identification from an accurate one (Clements, 2007).

Eyewitness testimony is not a new concern in the field of psychology and criminal justice, but even as new research has shown unfavorable results, there has been little impact in the use of eyewitness testimony in the courtroom. With the recent release of data regarding exonerations, there has been a renewed interest in this area. Gross and Schaffer (2012) account 43% of the exonerations in the United States to mistaken eyewitness identifications. This is just one facet of research but if properly applied in the criminal justice system it could significantly impact the number of future wrongful convictions. With over a century of research showing that eyewitness testimony is ultimately unreliable and, more so, that the jury will generally lean in favor of this type of evidence without regard to its accuracy, it is troubling that it is still used every day in the court of law.

Perjury or False Accusations

The highest contributing factors to wrongful convictions that has been established through exonerations is deliberate misidentifications or perjury. Generally categorized with mistaken eyewitness testimony, it has been separated to distinguish the different factors that encompass this category. Gross and Schaffer (2012) quantify that eyewitness lies or perjury have been identified in 51% of exonerations, knowing that there are potentially more that were missed. Snitches or informants make up the majority of the category of eyewitness lies people that have been given an incentive to lie to a court. These could include accomplices, co-defendants, jailhouse snitch, or any police informant that could receive a generous reward for providing evidence in cases (Gross & Schaffer, 2012). Depending on how desperate the police are in needing evidence to close a case, they could be more tempted to take testimony without verifying its validity.

Incentives for people to become informants have been built into the criminal justice system and for a criminal can be a very enticing encouragement for them to stretch the truth or outright lie (Taslitz, 2011). Drug offenses carry heavy mandatory minimum sentences that the courts are required to uphold. Discretion in reducing this mandatory minimum sentence can be used if the defendant in question provides considerable assistance in the prosecution or investigation of another individual. This discretion can be applied retroactively or after their sentence has already been imposed which gives the informant motivation to lie even after their conviction (Taslitz, 2011). Other incentives include monetary gain, any level of immunity, and leniency in being arrested in the future for crimes. Swanner and Beike (2010) conducted a research study of university students to determine if the offer of an incentive motivated informants to provide a false testimony and they found that their results partially supported this

hypothesis. Neuschatz, Lawson, Swanner, Meissner, and Neuschatz (2007) had college students act as jurors in two separate cases. The results of the experiment showed that a jury being notified that the informant testimony was supplemented by an incentive made no impact on the jury's final verdict. The testimony being given by an informant, however, had a strong effect on the jury's verdict (Neuschatz et al., 2007). Therefore, if an informant is motivated to testify with an incentive, the jury values the testimony regardless of the fact that an incentive may have persuaded them. Though over half of the wrongful convictions can be attributed to this age-old system, it is still considered an acceptable process.

As far as use of informants by law enforcement there are also a number of incentives that make it difficult to suggest ridding the practice all together. Informants can be used to go into places that may violate privacy if it were law enforcement, they can use electronic monitoring without violation of rights, they do not require Miranda rights prior to asking questions, and they allow police officers to function free of warrants, orders, and paperwork (Taslitz, 2011). Much of the benefit for law enforcement is the ability to progress through a case without requiring the oversight of the other branches of justice to gain the information or evidence required for prosecution to take a case. This is a positive and a negative considering that oversight is there to create a balance of powers in our system and not allow discretion to be abused. However, with the caseloads that police officers have the discretionary power is built into the system for a reason.

The heightened chance of a jury to convict an individual based on an informant's testimony is only applicable when the case actually goes through to trial. In many of these cases there is a high association of guilty pleas among those that have intentional false testimony provided. As Taslitz (2011) defines, the snitch testimony may make a case appear in the

prosecutions favor especially if the defendant has a prior criminal history. Most of these charges hold a heavy penalty range if they are convicted at trial rather than pleading guilty and accepting a deal ahead of time. The threat of maximizing the sentence in many of these cases can mean life without parole or the death penalty. In spite of innocence, that is not a risk that some will take.

Some suggestions given by the innocence project in reduction of snitch testimony show ways to control the use of snitches knowing that they are too valuable in the criminal justice system and will not be going anywhere. Rather than relying on the testimony of the snitch, the innocence project suggests a wire so that the accused suspect is recorded making incriminating statements. The snitch merely becomes a vessel for the prosecution, allowing a fly on the wall approach, rather than asking a court to believe the informant. Other suggestions were to record the informants' statements and show it to the defendant, or to inform the defendant that the informant has given testimony based on leniency or payment of some form (Warden, 2004). Taslitz (2011) shows a recommendation given by Alexandra Natapoff in reducing the use of informants for police is to be required to keep and publish information on the informants including the benefits that have been given for their cooperation. Policy recommendations given by Neuschatz et al. (2007) from the findings of their research is merely for the Judge to interview the informant to determine the reliability of the testimony, or for the jurors to be made aware of the undependable nature of informant testimony. The use of informants in the investigation or prosecution of a case may be easily identified as a negative relationship that should be prohibited, but in the reality of the criminal justice system there are necessary evils that must be taken into account. To eliminate the use of informants completely, the conviction rate would diminish substantially. Although it is a large contributor to the wrongfully convicted, the idea of complete elimination is unrealistic. Policy and policing will have to use research and information

provided to find a healthy balance that allows the use of informants while attempting to reduce that large percentage of damage that it can cause.

<div align="center">False or Misleading Forensic Evidence</div>

A relatively new field of criminal justice and an even newer field of research, forensic evidence is being used widely among crime scenes to solve crimes in ways that did not exist before. Specialists in many different areas can use science in order to identify or rule out a suspect, whether it is matching teeth marks, a hair follicle, or the skin under the nails of a victim. Exonerations have gained their momentum because of old cases that fought to have DNA evidence that had been stored over the years tested with modern technology. This new evidence has proven in multiple cases that the person convicted of the crime in fact was not guilty of the offense. As innovative as this has been, forensic evidence was presented at trial for 325 wrongful convictions of the current 1,480 exonerations detailed in the National Registry of Exonerations (University of Michigan, 2014). Although this is a fairly new area of investigation, it is important to understand the possibility for error in different forms of forensic evidence to better understand how it has become one of the contributing factors to wrongful convictions.

Fingerprint Analysis

One off the most commonly used forensic methods is fingerprint identification (Dror & Cole, 2010). The use of fingerprints at a crime scene to identify or be used to prosecute a suspect has been accepted since 1985 and quickly became the emphasized method for use in the criminal justice system. The Federal Bureau of Investigation (1985) published that fingerprinting has been proven to be the most achievable and dependable method of identification to be used. Through popular television shows, there is the misconception that fingerprint identification is done through computer algorithms that establish where it matches. Fingerprint examiners are relied

<div align="center">15</div>

upon to identify latent prints, or fingerprints from crime scenes, which leads to concern over the reliability and validity of this form of forensic evidence (Vokey, Tangen, & Cole, 2009).

Vokey, Tangen, and Cole (2009) created three experiments to test the accuracy of fingerprint analysis. The initial experiment examined 19 males and 29 females that were psychology students at a University. They gathered 2 fingerprints from each finger of 127 members that were given to the psychology students with a back story of a break in to an office. They had to identify a match for the set of fingerprints from the database of the 127 members that sent in fingerprints. This experiment used each finger individually allowing results to identify that accuracy was higher with the thumb and index finger impressions. In the second experiment, 4 males and 24 females that were psychology students were selected and were simply given two pictures of fingerprints and were asked whether or not they believed it was from the same source. The third experiment tried to replicate a situation closer to reality. Computer algorithms provide a set of every print in the database that is adequately comparable. This database would show the actual finger print that was run and would also show the most similar match and the least similar match to the original fingerprint. The participants of the experiment were 22 males and 32 females that were undergraduate students. They were given 80 comparisons of fingerprints to identify if they matched, didn't match, or were actually the same fingerprint. The accuracy of fingerprint identification was high, although the results showed that some prints were more difficult to identify. Construct validity in this research is low as it was performed using university students of psychology to test whether there is potential for error in fingerprint specialist's identification rather than people trained in the field.

Langenburg, Champod, and Wertheim (2009) bypassed this validity flaw by studying a group of forensic identification professionals. Randomly assigned into three groups, these

professionals were divided into a control group, a low bias group, and a high bias group. Each group was given a set of six comparisons of fingerprints, the same for each group. The control group was asked to complete the packet with no information, the low bias group was given the images and a set of conclusions that they were told was given by a professional examiner and they had to decide if they agreed with the conclusions, and then the high bias group was given the same packet as the low bias group but was told by an expert that is well known and recognized in the field that they were his conclusions from a case. The findings show that a well-recognized expert had no more of an effect than an anonymous report. They further surveyed the participants to separate them into a novice and expert group and found that bias had a much stronger effect on the novice group. They concluded that their research findings were consistent with another well-known experiment that found that ridge detail is not the only basis for the decisions made by fingerprint specialists. Especially within a trial comparison, there is support that contextual bias exists in their conclusions (Langenburg et al, 2009). When presented in court, expert testimony is provided as conclusive and not normally viewed as flawed. With just looking at research among fingerprint identifications, multiple studies show that there is room for error among groups of highly trained specialists.

Ignorant Confidence of Forensic Evidence

Fingerprint analysis is just one of many forms of forensic evidence seen in criminal trials. Due to the nature of the science being established and tested, much of the information is seen as dependable in court. Penacino and Corach (2003) warn against this as they detail the process of collection and storage of DNA evidence. The concern is that when DNA evidence is mishandled it can alter strong evidence to possibly lead to a wrongful conviction. They do not discredit the

power of DNA evidence in a case, but they do not believe genetic studies should be the sole basis of these criminal sentences (Penacino & Corach, 2003).

The Committee on Identifying the Needs of the Forensic Science Community released a report in 2009 that values forensic science for the contribution it provides in the criminal justice community among prosecutions and exonerations. However, with the exonerations the attention to forensic science has not all been positive. They have revealed the use of flawed forensic evidence that has led to wrongful convictions. Because of this, the Committee identified the danger of allowing forensic evidence to have unjustifiable influence in the prosecution of individuals (NRC, 2009). Many scholars are concerned with the lack in understanding the margin for error among forensic evidence of all kinds. Outside of DNA evidence, most other forensic sciences involve a professional identifying similarities among evidence found at a crime scene and characteristics of a suspect. By using a professional rather than an established computer algorithm, as identified in the fingerprint analysis, there will always be room for error or bias that affects the results that are provided as part of an investigation or prosecution that could lead to a wrongful conviction. Other research shows that from experiments with mock jury's, there is confusion over how to interpret forensic evidence and error rates (Koehler, 2011). The hope from these results are that this confusion will lead to more research and effort among the scholars and professionals of this field to substantiate the science behind forensic testimony in a way that proves more grounding than what has been established, or to properly identify the error margin or risk among these kinds of expert identifications.

A possible step for the future to help strengthen the reliability of forensic science is to create an agency autonomous from the Department of Justice to manage it. The National Academy of Science (2009) advised that this separation is necessary for forensic science to be

viewed as impartial (Bohan, 2010). By separating the laboratories and the oversight of forensic sciences from the Department of Justice, it would presumably reduce the bias or emotional context of the analysis of forensic evidence. But most importantly, it is important that there is a better understanding that forensic evidence is not a fault free science and should be viewed as part, not the foundation, of the evidence. As proven through the exonerations that have come about in the last few decades, relying on forensic evidence has not proven infallible and steps should be taken to avoid errors in this field from continuing to wrongfully convict individuals.

Official Misconduct

The recent exonerations have brought to light many issues among the criminal justice system and the practices that are used to pursue a conviction. Some issues are clear like forensic evidence that can be pointed back to the original case and find the flaw that lead to the false conviction, but other issues are not so black and white. Official misconduct is a category that Gross and Schafer (2012) identify as one of the main reasons for wrongful convictions that have been identified through the exonerations. Official misconduct is a category that encompasses any wrongdoing by any professional at any stage of the investigation or prosecution process, therefore it is extensive and difficult to research. The two main focal points of official misconduct that are represented in the current exonerations are police misconduct and prosecutorial misconduct.

Prosecutorial Misconduct

The misconduct that can be attributed to prosecutors on cases is difficult to define and often goes unknown. With these exonerations bringing some perspective to the vast control that prosecutors have, some studies have been performed to identify the amount of cases that have been affected by this form of misconduct. West (2010) used the 255 exonerations that had

occurred at the time of their research to identify the percentage of cases that claimed prosecutorial misconduct in their appeal process. In these appealed cases, 48% found that there was error as a result of prosecutorial misconduct. 18% of those cases found the error to be harmful enough to reverse the conviction. 29% of those cases found the prosecutorial misconduct was harmless, it was not substantial enough to damage the original conviction. While going through and qualifying the prosecutorial misconduct in these exonerations, West (2010) identified specific forms of misconduct that were present in these cases. The main form of misconduct, seen in 69% of cases, is allegations. Allegations consist of improper arguments or questioning during trial which could be anything from making inferences about evidence or inflammatory comments about things that were inadmissible in court. The other types of misconduct are withholding evidence and dismissal of jurors based on race. Other forms of misconduct not seen as frequently are the use of confidential informants, evidence destruction, the use of testimony that is perjured, and the use of malevolent prosecution tactics (West, 2010). The difficulty in identifying prosecutorial misconduct is that it is identifying evidence or facts that were excluded or actions that were improper. Unless it is so bad that it is apparent during the trial, these claims are discretionary and only determined during the appeal process. In order to decrease these circumstances, there would need to be a way to identify these issues prior to conviction.

Stevens (2008) surveyed a random sample of 444 prosecutors to collect data in order to research the discretionary power of a prosecutor. They found that a prosecutor's decision to charge an individual with a crime relied more on a credible witness than forensic evidence. This credible witness could be defined as an individual that witnessed the crime, or it could be a professional scientist that is convincing. Most importantly, this research identified that the

decision to charge a person with a crime depends less on the value of the case and evidence and more on the unrestricted authority of the prosecutor (Stevens, 2008). This level of discretion among prosecutors must be addressed in order to limit the potential for future wrongful convictions, however it is not a simple change to make. Public policy would be one of the only ways that prosecutors could be controlled but there has been little suggestion of how exactly policy would make a difference. More research in this field may help identify more specific causes to the issue that could help structure policy changes that may reduce the problem in the future.

Police Misconduct

Police misconduct, much like prosecutorial misconduct, is hard to define and even more difficult to research. Covey (2013) argues that with the recent exonerations, attention has been given more to DNA exonerations which focus mainly on sexual assault cases where DNA exists which represents a small percentage of actual felony convictions in the United States. The study performed is an attempt to understand factors that lead to exonerations in more commonly committed and convicted felony crimes, like police misconduct (Covey, 2013). The data used in this research was based off of two police scandals that created mass exonerations. Police misconduct in these exonerations can take on many forms, much like previously discussed prosecutorial misconduct. From false police reports to planting weapons, police have many avenues that can be abused in order to alter an investigation and lead to a conviction (Covey, 2013). In a majority of the exonerations, there are multiple factors that can be attributed to leading to the wrongful conviction. With these police misconduct cases, Covey (2013) found that there is a high relation of police misconduct to guilty pleas which is usually linked to a large penalty if taken to trial, little evidence to use for defense, and the presumption of an

unsympathetic court. Police have an undeniable power in that they can make a person believe consequences could be substantially worse than they can be in reality. They use this tactic to force suspects or witnesses cooperate because they fear the potential consequence if they fail to do so. This process can be beneficial, but can also cause false testimony or confessions from fear of the consquences. This tactic is similar in nature to prosecutorial misconduct because it is difficult to prevent, but exonerations have allowed a review of these practices and identified how common of a practice it is.

In both prosecutorial and police misconduct, the little research that does exist calls for policy to be introduced to reduce the ability of misconduct to be achieved. However, none of the studies gave any potential outlook at what that policy would need to include in order to prevent this kind of action from perpetuating throughout the criminal justice process. The only real move forward that can be taken at the moment is to study the information gained from these exonerations to identify specific issues that may be addressed in each of the levels of the process that the majority of misconduct is seen in. Research is, at this point, the only plausible advancement because policy will not be considered without an informed and educated opinion at the basis.

<center>False Confessions</center>

The one contributor to wrongful convictions that is the most difficult to understand is the category of false confessions. Found more commonly in homicide cases than any of the other crimes identified in exonerated cases, false confessions can be attributed to one of multiple actions. A false confession is defined by the National Registry of Exonerations as originating from a statement made falsely by the exoneree that was treated by the authorities as a confession, a statement made by the exoneree that is interpreted as an admission of guilt but was not

<center>22</center>

intended to be, or a statement that the exoneree denies making altogether that would have been an admission of guilt (University of Michigan, 2014). When a confession is included in a trial, the likelihood of conviction increases for obvious reasons. Therefore, the amount of wrongful convictions that have been identified with false confessions as a factor is a disturbing amount knowing that a reasonable person would not generally walk into a police department and confess to a homicide that they did not commit knowing the penalty that follows. Interrogations are an integral part of the criminal justice system and are the step in which false confessions are produced.

Creation of a False Confession

The process of an interrogation is something that has been used as far back as history can go, but what is considered acceptable has certainly shifted through time. In the early history of interrogation, it resembled more of current day torture methods rather than a police interrogation using techniques like physical violence or threats of violence to motivate a confession (Drizin & Leo, 2004). With legal reform and guidelines being put in place, interrogations have shifted to a more psychological approach that is thought to be more effective. Garrett (2013) illustrates the power of the confession in a court case as uncontestable due to the defendant waiving Miranda rights and voluntarily admitting guilt. This transformation of the process would seemingly help reduce the amount of false confessions with safeguards in the system like Miranda, but with the percentage of exonerations that have come to the surface that involve wrongful confessions it is clear that more effort is needed. Drizin and Leo (2004) state that the main cause for false confessions within a psychological interrogation would be the interrogators misuse of coercive or improper techniques.

In the United States, police officers commonly use an interrogation technique called the Reid technique. This multistep process begins with rapport being established and general information is gathered in order to build trust and the interrogators are given the opportunity to determine if they believe the suspect is lying about the crime. In an interview that ends in a false confession the first stage would establish that the suspect was lying about involvement in the crime, the interrogator then leads into an interrogation that is a nine-step approach (Gudjonsson & Pearse, 2011). Kassin and Gudjonsson (2004) summarize this process down into isolation, confrontation, and minimization. The suspect is isolated from contact from the outside which increases anxiety levels and makes the suspect more vulnerable. The interrogators then confront the suspect and may threaten evidence that does not exist or exaggerate details, and then finally the interrogator rationalizes or neutralizes the crime that was committed. This is the process that has been proven to be efficient. It is also the main flaw that seems to create the environment that innocent suspects take ownership of crimes along with the heavy penalties.

Interrogations can become a lengthy process for everyone involved. Most interrogations take less than 2 hours and it is suggested a maximum of 4 hours would be sufficient. The data from the false confession cases shows the interrogations in these cases averaged at 16.3 hours (Drizin & Leo, 2004). As much as it may become draining for the suspect in question, the same is true for the law enforcement conducting the interview. If an officer has determined that a suspect is potentially a danger to society, there is the possibility that they unintentionally contaminate the confession by disclosing facts that are key details to the case through the questioning process (Garrett, 2013). Kassin and Gudjonsson (2004) also show that in this interrogation process, it is permissible for the interrogators to present evidence that does not necessarily exist in order to question the alibi or denial of the suspect. This takes the suspect into

a stage of acceptance that there is an inevitable outcome and leads the suspect to a sense of hopelessness in fighting the charge. Once the suspect has been broken down and this sense of hopelessness has come over them, the minimization portion of the process takes hold. The interrogators make comments that make the actions of the crime seem unavoidable, spontaneous, or provoked so that the suspect moves into a false sense of comfort. Many of the suspects that confessed after this process expected a reduction in sentencing or lenience upon confession and results show that confessions where higher among suspects that minimization techniques were used against along with promise of leniency (Kassin & Gudjonsson, 2004).

When a confession has been provided through these tactics there are some ways that have been given to identify that it is false. Garrett (2013) shows that through the exoneration cases, 75% of the confessions that were volunteered contained inconsistent details with the case. Prosecution or the court would deny any claim the defense could make about the confession being false by showing that details that were given in the confession are those only the person guilty of committing the crime would know. Unfortunately, once these details and confessions have been provided by a suspect, Drizin and Leo (2004) qualify that the chances of conviction are much higher even in comparison to any kind of flawed or inaccurate evidence. This would be expected considering the suspect is admitting guilt, it would seem somewhat contradictory for a court to find someone that has confessed to a crime innocent. Kassin and Gudjonsson (2004) identify that current research shows that the distinction of a confession being voluntary or coerced seems to have little impact on a jury. Once the confession has been presented to the court the fate is sealed and that is a difficult fate to unravel.

Detection of a False Confession

Kassin, Meissner, and Norwick (2005) studied the ability for a professional to distinguish a false confession from a true confession. With a sample of 17 prison inmates, they received a true confession and a false confession on video tape from each inmate. The sample of people that were to judge the confessions and determine the authenticity in the first group contained 61 psychology students, for the second group they used 57 investigators from different levels of government. In the second group, 58% of the investigators had gone through training in detection of deception, interrogation, and interviewing. The results of the study found that the investigators were not more likely to sense deception, but they were more likely to infer guilt, they had higher rates of confidence with claiming guilt on the false confession. In comparison to the psychology students, the investigators were no more accurate in determining which confessions where true. In fact, the students were about 10% more accurate in distinguishing a false confession from a true one in both audio and video confessions used in the study. It is important to recognize that although there was little difference between a trained investigator and a psychology student in terms of accuracy, confidence levels where highly different. Because the investigators had substantially higher confidence levels, the interrogations were much more likely to be psychologically damaging and leading to a false confession. One of the limitations that they warn of is the population that they used for their study - the prisoners. Of course this was beneficial in the sense that they all had crimes that they could confess to that would provide a true confession, however it created a limitation in the sense that some of the details for their false confession crime may have been based on actual events making the detection of the lie more difficult (Kassin et al., 2005). In reality, although this is a limitation, it may provide a more realistic situation for the research as opposed to an entirely false story. Suspects may very likely

have personal experiences to base a false confession off of making the detection more difficult than an outright lie would be. Another limitation of this research is that the confessions were an average of 4 minutes and 40 seconds in which the student or investigator had to base the accuracy off of (Kassin et al., 2005). Generally, the interrogator would have much longer with the person in order to establish truth in their statement as there would have been questioning and dialog before reaching the confession stage. However, some criticism in false confessions is towards the judge and jury for not being able to determine the accuracy of a confession presented in a case in which the presentation would solely be the confession. Again, this limitation may actually show a more real scenario that causes the discrepancy in these cases.

Future of False Confessions

Garrett (2013) worries that merely recording interrogations would not be sufficient to protect against false confessions or the coercion that causes them. It is suggested that a Judge be required to review it in order to determine the reliability of the confession. An interesting finding of the research from Kassin et al. (2005) is that both the students and the investigators yielded higher accuracy from the audio confessions compared to the video confessions. The reliance on verbal cues rather than body language yielded higher favorable results. With future policy, research results similar to these are important in order to determine the best method of reducing false confessions that result in convictions. Kassin and Gudjonsson (2004) do list some benefits of a policy mandating the entirety of the interrogation being recorded. The possible deterrence of prolonged interrogations, protection of the interrogator to accusations of police coercion, and a record of all events to prevent argument over what was said based on memory, are the main benefits that they show in support of this policy change.

Although they are one of a group of flaws that have been brought to the surface through the exoneration process, false confessions hold a certain level of concern due to the nature of them. People lying for their own benefit is one thing, but to tell a lie that a person knows will cost them a decade of their life to prison is a whole separate issue. There are different layers of contributing factors that could individually or in combination with the others lead to a false confession, like a long interrogation with a police officer that has presumed guilt and is now subconsciously planting details after wearing the person down. But depending on the person, it may just take one of those factors to get them to a point of confession. One of the main benefits of research is that when a problem like this one is identified, research can be used to better grasp the different pieces of the problem in order to find the best way to reduce or eliminate it altogether. With exonerations really still being in the primary stages of identification and research, the best way to move forward is to establish elements to test and grasp a better understanding of what is causing people to confess to crimes that they did not commit.

Inadequate Legal Defense

Blacks Law Dictionary has defined the word negligence as an action that falls below the standard created to shield others against legal harm in a situation that a reasonably sensible person would have done differently (Black, 1991). When considering the factors that cause wrongful convictions, negligence comes into consideration through determining if the defense attorney was inadequate. Unfortunately, like many things in our legal system, inadequate legal defense is a discretionary standard. There is no clear cut line that once a specific action takes place the attorney has proven they are inadequate. In the 2012 report issued by the National Registry of Exonerations, they quantified at least 104 exonerations that had a very clear case of negligence on behalf of the defense attorney that lead to the wrongful conviction, but their belief

is that the problem is much more widespread than what can be measured due to the difficulty to define inadequacy (Gross & Shaffer, 2012). Though it is difficult to measure, case law and research over many years have created parameters to better structure how negligence is defined and has helped better understand how extensive this specific factor is.

Legal Foundation

The Sixth Amendment clearly declares, among other things, the right to an attorney to assist with the legal defense (Cloud, 2013). This created the ability for a Judge to appoint an attorney in cases that could result in imprisonment for defendants that are eligible. The right to counsel has evolved from the Sixth Amendment over time, as every amendment has evolved, through cases that have been taken before the Supreme Court and the decisions rendered changing the expectations and policy's that are upheld in the lower courts. The right to counsel has grown to include not only trial settings, but also certain non-trial scenarios such as custodial interrogation or lineups. In any of these scenarios, if an attorney is present there is an opportunity for their inadequacy to interfere which could lead to a wrongful conviction. But through the trial process, there are many actions or lack of actions that could inevitably lead to a courts determination that the lawyer was inadequate. The determination is fully discretionary when brought to a Judge's attention, what some may think is negligence others may not see the same way.

With a majority of defendants being represented by an attorney through their legal process, eventually there was a realization that negligence was occurring and needed some parameters to be identified in cases to help provide some consistency. In 1983, the Supreme Court ruled in Strickland v. Washington and identified a set of five precise parameters to identify negligence on behalf of the defense attorney in a case. Negligence can include failing to

29

investigate plausible lines of defense, using an unreasonable line of defense, using a poor defense strategy, or not conducting a thorough enough investigation to determine all defense options (Powell, 1983). Though this is just one example of a Supreme Court decision that was written to restructure the determination of how an attorney can be negligent. All of these are very specific to the investigation the attorney performs in creating their defense strategy.

There is more opportunity for legal defense to be considered inadequate when the case goes to trial. This could be an attorney neglecting to object to something that should be objected or not fighting for something to be entered into evidence that could be crucial. There is also opportunity for inadequacy to affect the defendant in other stages that can be critical to a wrongful conviction including a witness identification situation. There are cases such as Argersinger v. Hamlin and Gideon v. Wainwright that have provided foundational decision within the right to counsel but not specifying the identification of negligence in the situations. Ultimately, Supreme Court rulings that shape the law and the procedures that are upheld through the lower courts are only brought forward on a case by case basis. They only have the ability to address the specificity of the issue that is brought to them. So even though the guidelines defined in Strickland v. Washington seem relatively specific, there are many avenues within the criminal justice process that a defendant travels through from suspect to conviction that do not have defined parameters on how to determine negligence.

Research Presence

Other than its presence in the law, there is a fair amount of research discussing the importance of a competent legal defense attorney. Dating back as early as 1959, John Hansen published an article solely about the topic. More than offering a clear solution to the problem, this article posed more of an eye opening perspective to display the gravity of the problem.

Hansen noted that the possibility of mistakes that can be made by counsel that is inadequate are limitless. These inadequacies are so numerous and are on a sliding scale between doing too much and not doing enough. About two decades later another research article was published discussing negligent defense attorneys and the ever reaching effect that it has.

Focusing more on the rights allowed by the law to a person, Alpert (1979) stated that the law does not simple allow for a person accused of a crime to be represented by counsel but to be defended thoroughly. In saying that, Alpert does concede that the difficulty in making that realization is creating an accurate measurement of the quality of the defense. The solution proposed for measuring the inadequacy of defense counsel is to base it off of the satisfaction of the defendant. The largest obstacle that occurs in the research that is conducted to test this measure is the lack of education of those represented by public counsel. While offering research and a possible solution, the main point that is constantly brought through the research again is the gravity of a defendant being represented by counsel that is inadequate.

Bright (1990) took a more shocking approach in getting this point across by focusing the topic into death penalty cases. He went as far as saying that often the factors that contribute mostly to a conviction resulting in the death penalty are inferior lawyers and poverty. Statements like this bring forward the issue of court appointed attorneys not putting forward the effort that they should. As Alpert (1979) distinguished in the research, there is an identifiable difference in public defense attorneys and private defense attorneys even down to the population that they most commonly work with. This feeds into Bright's (1990) distinction of poverty being a factor that contributes to the likelihood of getting the death penalty because if a defendant is impoverished they are much more likely to require a public defender. Seen far too commonly

throughout much of the legal system, Bright (1990) notes that speed and conclusiveness have taken precedence over the fundamental values of the system, objectivity and justice.

Cloud (2013) studies ineffective legal counsel in relation to county population in order to determine what kind of an effect population size has on the presence of this problem. The results show that ineffective legal counsel is a problem that exceeds population boundaries; areas with lower populations that have lower crime rates do not necessarily have less of a problem with ineffective counsel (Cloud, 2013). Because they are in more rural areas, the attorneys may be lacking in equipment necessary to perform their duties, new attorneys have been assigned to cases regardless of their level of experience, and attorneys that have been given clients are not as communicative as they need to be. He identifies that proven quality defense counsel surprisingly occurs in higher populated areas with higher crime rates. This is concluded as a higher need attracts the quality attorneys within public defense as opposed to the idea that in a rural area with lower crime rates the attorneys would have more time to commit to a case and properly uphold the adequacy required by the law. In order to balance this out, Cloud (2013) suggests first and foremost that the structure in how states determine whether or not to provide a court appointed attorney become uniform. Also, he suggests a state run audit on public defenders to create a sense of accountability along with a flat rate contract in order to remove monetary incentives. While the solutions put forward could be argued as valid, there would still be a need for the determination of how to draw the line between negligent and adequate performance.

Conclusion

Efforts put forward thus far in regards to inadequate legal defense have moved relatively slow towards any kind of change. The common thread through everything that makes up the conversation of inadequate legal defense is that it is impossible to encompass the many minute

details that could lead to a determination that counsel was in fact ineffective. Because of the importance in understanding the gravity and the impact of this contributing factor to wrongful convictions, the National Registry includes the statistics that they have in regards to ineffective counsel in the Registry of Exonerations. Gross (2012) elaborates the need for this research to be complete and based on the facts of the case without the inclusion of any opinions. He discusses that in most appealed cases there is no opportunity available that the competency of defense counsel can be questioned. He goes on to note that when there is a clear reason for an exoneration, such as definitive DNA evidence, the effort to go back through the trial record and determine the competency of defense counsel is rarely put forward. For these reasons, ineffective legal counsel is not included in the data collected by the National Registry of Exonerations, and for the same reasons they will not be included in this research moving forward. However, as an exceptionally expansive issue that is identified within numerous wrongful convictions the research was important to include in order to understand the gravity of it and the necessity for more structure in the system to better control this problem. Wrongful convictions and exonerations are cases that evolve from a multitude of factors that have lead the wrong person into prison. Understanding the foundation and evolution of each of these factors is necessary to even identify possible stipulations to move forward in a productive manner in order to reduce the prevalence of this phenomenon in society.

<div style="text-align:center">County Populations</div>

Finally, after understanding the definition and some examples of the contributing factors listed on the National Registry of Exonerations, the other crucial part of the research question being addressed is county population. This topic needs no definition; however, it is integral to any discussion or conclusion that could be drawn from this research to understand the depth of

impact that population has. There is not a great deal of research specifically on the relationship between population and wrongful convictions, however law enforcement agencies and the judicial system can be impacted by population size. With a better understanding of each of the contributing factors, it is evident that variances in law enforcement could be included in the discussion if there are differences in which contributing factors are more prevalent in different populations. If there is no observable difference, it would also be important to discuss why these differences seen in agencies based on population size do not have an impact on wrongful convictions.

In 1994, Weisheit, Falcone, and Wells published an article about Rural Crime and Rural Policing to address what they felt had not previously been given enough attention in criminal justice research. There was a lack of research to show the distinct difference of policing in rural areas in comparison to urban policing. Important to the operation of any organization and a big difference that is notable between large and small police departments is the amount of tax money that goes to the agency. Weisheit et al. (1994) stated at that time the police departments in urban areas were receiving twice as much funding per officer than police departments in rural areas. Funding impacts many facets in a department from the number of officers that are staffed, the training those officers have access to for them to remain current with a constantly evolving environment, and the resources that are available to them in their investigations.

Smaller departments that have less funding function off of smaller staffs as they do have smaller caseloads than agencies in high volume areas. Not only do they employ fewer officers, but many of the rural police departments have a higher amount of part time staff and fewer officers in general. Although they may have a smaller case load when it comes to serious crimes, officers in rural areas are required to perform more roles than officers in urban areas. These

officers perform public service roles, administrative roles, and their law enforcement roles as opposed to the more specialized focus in larger departments (Falcone, Wells and Weisheit, 2002). When considering the association this may have with the contributing factors previously mentioned, police departments in smaller communities may not have a specific team to perform evidence collection at a crime scene. Evidence collection can be integral to these cases as science can have a heavy impact on the presumption of guilt. In the first exoneration detailed earlier, Dotson fought his conviction constantly from the moment he was found guilty. DNA evidence that was gathered in the case was the only argument that was considered valid enough to actually over turn his conviction (University of Michigan Law School, 2014). Having access to a specialized person or team to collect evidence from a crime scene produces an assumption for a lower rate of error considering they are specifically trained to perform that task and do it frequently.

Access to teams or the training to be able to perform tasks more efficiently would only be half of the equation. Even if the officer was able to perform the task, small departments do not have access to many physical resources that larger departments do. Rogers, et al. (2007) conducted a study looking at the effect of population on the use of digital evidence and concluded that not only do judges and prosecutors in urban areas have more comfort and exposure to digital evidence, but the larger departments have technological and personnel resources that allow them to handle evidence more effectively. Exposure to these resources for more rural departments would be relatively low as their case loads are also much smaller in comparison with their larger counterparts which may go through a year of a small department's crime in one shift. Even with access to certain resources, the smaller departments being

unfamiliar with the programs or equipment may shy away from using it in fear that their lack of experience would hinder the case more than it would benefit.

Although they have access to less resources, the rural investigators do have a better relationship or knowledge of the citizens in their jurisdiction. Due to the size of their jurisdiction they know almost everyone personally or by reputation compared to larger jurisdictions where officers would generally only be familiar with those they came into contact with frequently (Weisheit et al., 1994). Because of this, officers in smaller communities stray from the paramilitary style that is common in larger departments. This is seen as the reason why police in smaller towns have higher rates of clearing serious crime than the police in larger communities (Falcone et al., 2002). The reasoning given is that in a small town the priority of the police officer is first accountability to their community and second to the police department. The reverse is true for urban police. Although this community relationship is seen as a benefit for the smaller departments, it has also been listed as a notable disadvantage to law enforcement as well. In smaller communities there is a higher level of ownership that an individual may feel over their community. Rural communities favor informal social control to respond to crimes rather than reporting crimes to law enforcement. However, this seems to apply more towards less serious crimes that can be handled, in some cases, more severely than law enforcement would handle them (Weisheit et al., 1994). The cases that are being exonerated are primarily serious offenses that would generate some kind of law enforcement involvement. But it is a facet of the relationship between law enforcement and the community that exemplifies more of a difference between what is common in less populated areas compared to more populated areas.

Even though bad policing is only one of the contributing factors to wrongful convictions, police departments have a large impact on many of these contributing factors. Wrongful

confessions, as mentioned earlier, can stem from officers holding interrogations longer than the amount of time that is seen as productive or reasonable. Forensic evidence is dependent on being effectively retrieved from the crime scene and access to agencies that can process it correctly. The many ways that a mistaken identification can be given are based on how the police officer presents the panel of possibilities for an identification to be made. To see a variance in community size in previous research on how a police officer functions or difference in how the community reacts to the officers could lead to possibilities when considering the contributing factors to wrongful convictions. If there is any variance on the presence of these factors in different sized communities, then knowing the different dynamics in the police departments in smaller areas versus larger areas may help with potential ways to reduce the occurrence of some of these factors where it may be more frequent.

CHAPTER 3

METHODOLOGY

The National Registry of Exonerations already identified from their research what they

considered to be the most prominent and noteworthy contributing factors to the wrongful

convictions that were taking place. Now, with a much more in depth understanding of the

application of each of these contributing factors along with a brief evaluation of the possible

relationship between population of an area and law enforcement, there is a research question to

be addressed. Specifically, as previously mentioned, the research is aimed to find out if there is a

difference in presence or frequency of the contributing factors to wrongful convictions in the

United States, identified by the National Registry of Exonerations, based on the population of the

county the conviction took place in.

Data

The data used to address this research question was obtained in 2015 from the National

Registry of Exonerations. The Registry is constantly maintained and updated meaning that the

information that they provide is always changing and evolving. Due to the constantly changing

nature of this research, a spreadsheet was created to capture the Registry and isolate a selection

of cases to work with. This is to prevent any discrepancies in changes made over the course of

time. Facts and figures provided by the Registry were collected and obtained, as previously

mentioned, by a staff of professors and law students. Through their own research and collection

of court transcripts and police records, along with any investigatory work that could be done to

compile a detailed account for each case, this staff provided numerous categories in the detailed

view of the Registry that would allow for many different points of reference on each case.

However, in this research, it is unnecessary to use the full extent of the categories provided by

the Registry. Future research may incorporate more variables to create a more defined picture, but for the purposes of this research the focus will be primarily on the county, the year the offense occurred, and five of the six identified contributing factors. As previously mentioned, the statistics used to identify inadequate legal defense is relatively unreliable. Once another factor has been used to exonerate a case, the courts will rarely go back to determine the adequacy and performance of the defense attorney making it difficult to determine the actuality of this statistic. Because of its difficulty to define and lack of reliable presence in the research, this contributing factor to wrongful convictions will not be addressed in this research. Again, this can be a possible avenue for further research to focus on to attempt to grasp the extent of the issue and possible ways to reduce its frequency.

Sample

The National Registry of Exonerations is the main population that will be used to address the research question. This includes a total of 1,575 cases that have resulted in an exoneration. All of these cases have at least one contributing factor associated with wrongful conviction, but not all of the cases have a county associated with it. The Registry includes federal offenses that do not fall into a county jurisdiction and therefore do not associate with a county. Due to the nature of the research relying on population data, these cases will be excluded from this research. This will eliminate 93 cases making the sample for the research 1,482 cases. As previously mentioned, the National Registry of Exonerations has many variables present that are not necessarily pertinent to the research being performed to address the research question. These are variables such as age, race, and offense. For identification purposes we will keep the last and first name, just for ease of continuity with the original registry. Because the focus of the research is county population, state and county are necessary along with the year of conviction as these

will help identify the population data to use. And finally, the five contributing factors are included as this is the primary focus of the research. This is all of the information collected from the National Registry of Exonerations that will be compiled into this research in order to address the research question.

Procedure

Once the list of cases has been compiled, the only additional data needed is the actual populations of the counties involved. Using the year of conviction from the Registry, the populations will be retrieved from the United States Census Bureau. The Census statistics are listed once a decade, so the population that will be used in the research will be from the Census gathered after the year of conviction. The 2010 Census is the most recent, therefor these statistics will be used for any conviction from 2010 to present day. Once the populations for each county have been compiled into the spreadsheet created from the National Registry of Exonerations, then the spreadsheet will be prepared to be entered into SPSS Statistics. This program is used for statistical analyses and has many levels of features available to perform different types of statistical manipulations. For this research, SPSS will be used to outline the frequencies of the variables that have been predetermined. This will allow an accurate comparison of the frequencies of the contributing factors with minimal opportunity for error.

In order for SPSS Statistics to recognize the information, the spreadsheet will be adjusted to allow the program to easily calculate the frequencies. The contributing factors directly from the Registry's website just reflect an abbreviation for the factor in cases when that particular factor was identified. When the factor was not present, the box just remains empty. For SPSS to recognize whether a contributing factor was present or not, this section will be dichotomously coded into either a (1) if the factor was present, or (0) if it was not.

The sample will be organized by population size, from smallest to largest. For this research, the sample will be divided two different ways to provide a more conceptually interesting discussion and the combination will provide a better understanding of the research. The first division will be into quartiles beginning with the smallest 25 percent, and then each 25 percent after will create four segments of the populations to compare for patterns or variances. The second division will be just simply dividing the sample in half, the smallest 50% and the largest 50%. Because the data to be analyzed are population, it is conceptually interesting to have a small versus large comparison.

With the data compiled and coded correctly, it will allow comparisons to address the research question. The divisions of population into different groups will create a percentage of how many cases each contributing factor is present in within that group of population. With those percentages, the research will show the frequency of each contributing factor within each population range that is created through the creation of the quartiles and the halves. These frequencies will allow a comparison of the frequency of each factor across the four quartiles, a comparison between the dichotomy created from the largest populations compares to the smallest populations, and a comparison of the frequency of each contributing factor across the entirety of the cases used in the sample of data. These three comparisons will create varying perspectives of the same data set to determine if there is a difference in the presence or frequency of each of the common causes of wrongful convictions based on county population size.

Limitations

The National Registry of Exonerations addresses the limitations to the cases that they have included in their first report that they released. Because this database is the primary source of information used in this study, it is important to understand the limitations that they found in

compiling their research. There are two main limitations that are distinguished in their research, the misclassification of guilt or innocence and the under inclusion of cases in the database.

The misclassification of guilt can apply both to innocent that have mistakenly been seen as guilty, or guilty that have been mistakenly been found innocent. Gross and Shaffer (2012) address the guilty being misclassified as innocent as many officials have doubts with the amount of exonerations that have come about since 1989. The criteria that they use to determine which exonerations to include in their database is exhaustive to avoid adding in cases where the guilt of the defendant could be argued or debated. But, they rely only on official decisions made through the criminal justice system. There is no personal judgment on the cases that they have researched and compiled as the purpose of their work was to be enlightened on the causes of false convictions. There is always margin for error, but their strenuous scrutiny of the cases to include in the database leaves that margin to be very minimal.

Alternatively, innocent people that have been misclassified as guilty creates a grey area that will never be fully understood. Any case in which the defendant has pled guilty to accept a plea bargain in order to avoid potentially being convicted on a retrial even after their original conviction was vacated was not included in the Registry, again a part of the strenuous effort to avoid cases where the innocent were actually guilty. After already being wrongfully convicted for a period of time, there are some that are not willing to risk a longer sentence or another conviction just to prove their innocence. A plea bargain with a guilty plea at least puts their future in their control to a certain degree. The number of people that have done this, which then disqualifies them from being included in this registry, is unknown as they only report those that have been factually exonerated. This creates more of a grey area with these wrongful convictions that leads into another limitation that is addressed.

42

The more serious of the limitations in studying wrongful convictions by looking at exonerations is not the misclassified cases but all of the cases that are unknown. One example that could give an idea of the amount of unknown wrongful convictions is seen with the ratio of death penalty exonerations to other convictions of just homicide cases. Those with a homicide conviction and a death sentence are 9 times more likely to be exonerated than a non-death penalty sentence. This could mean that either death penalty sentences yield a higher rate of innocence, or that up to 90% of false convictions are not detected in regular homicide cases (Gross & Schaffer, 2012). Another area of unknown cases is cases that have little collectible evidence to examine and test. It is difficult to prove innocence after the fact in many felony offenses purely because there is little to no evidence that could be tested to prove innocence. Felony assault cases account for less than 1 percent of the exonerations but make up almost half of the aggressive felony convictions within the United States. This could be that the rate of wrongful convictions among assaults is actually lower, or there is less testable evidence and therefore innocence is more difficult to prove. Outside of just felony convictions, there is a whole realm of misdemeanor cases that have not even been considered. At this point in time, these cases are not the priority for addressing wrongful convictions as they are not affecting people with the gravity of a felony conviction. These cases will more likely be affected when the contributing factors for felony wrongful convictions are addressed and the number of misdemeanor wrongful convictions is reduced.

In terms of considering the sheer number of people that are incarcerated in the United States currently, it is impossible to even given an estimate of the number of prisoners that may actually be innocent. There is no way to know if the cases that have been included are an accurate representation that are generalizable for all wrongful convictions. If there was a way to

include every wrongful conviction, then maybe the presence of the different contributing factors may vary from what is known currently. Unfortunately, this is probably something that will never be entirely possible. But by addressing these contributing factors and their presence in society as we can see it currently, it may help reduce the future of wrongful convictions and slowly depreciate this profound issue.

CHAPTER 4

ANALYSIS AND FINDINGS

Introduction

As previous research has shown, the factors that contribute to wrongful convictions are ever present through many different stages of the criminal justice process. Each of these contributing factors have evolved over time, although some have been around much longer than others. DNA evidence has been pivotal in illuminating error in cases. Introducing DNA evidence has opened a door that has allowed a multitude of cases to be examined. Although some factors are more prevalent than others, seldom are wrongful convictions based on a singular factor. By looking at previous research, a solid foundation is created of the five main contributing factors to wrongful convictions and the effect county population can have on these different factors. Moving forward, this foundation will help construct a better understanding of each of the variables in the research and further evolve into a more qualified conversation of possible implications of the results. With a good foundation of each factor in the research, the data taken from the National Registry of Exonerations can be examined in order to address the research question posed.

After the data was prepared for analysis - merging the county populations with the spreadsheet of wrongful convictions and removing the data that was not pertinent to this research study – the contributing factors were coded to show if they were present or not in each case. With the populations of each county included in the spreadsheet, the data was listed by county population from smallest to largest. The spreadsheet was then input into a statistical analysis program, SPSS, to divide the data into an equal dichotomy and into quartiles. This creates the basis of the research analysis used to address the research question by dividing the spreadsheet

45

based on county population. By diving the county populations in half and into quartiles, the findings are comprehensive allowing more reference points to compare the frequency and presence of the contributing factors being studied.

General Frequencies

While the data has been collected to address the research question which is specifically identifying the contributing factors of wrongful convictions in varying county populations, reporting basic frequencies can provide a foundation for the results. By doing this, there can be a comparison of which contributing factors are more frequent without considering population specific data. This will ultimately give at least three main points of reference for each contributing factor and its presence in wrongful convictions. These reference points are the frequency of each factor through the cases as a whole, the frequency of each factor with population split into halves, and the frequency of each factor with population categorized into quartiles. Table 1 shows general frequencies and percentages regarding the presence of each factor across all cases. The frequency is the number of cases, out of the total 1,575 cases in the Registry, that the contributing factor was identified as a reason for the wrongful conviction. Using the frequency identified, the percentage is calculated from the total number of cases.

Table 1

General Frequencies of Contributing Factors

Contributing Factor	Frequency	Percentage
Mistaken Eye Witness ID	531	33.7
Perjury	870	55.2
False or Misleading Forensic Evidence	356	22.6

Official Misconduct	719	45.7
False Confessions	201	12.8

Identified in a total of 55% of the cases on the registry, perjury or false accusation is the highest occurring contributing factor to wrongful convictions. As discussed through the literature review, the interesting thing that the National Registry of Exonerations does is distinguish between two different forms of Identification errors that occur in cases. Perjury or false accusation is intentional misidentification, commonly referred to as snitch testimony. Normally categorized with perjury, mistaken eye witness identification is the unintentional alternative. This category was not as frequently found in cases, appearing in 33% of this sample. Although these forms of identification are both included in this data, they are one of the most relied upon forms of evidence in convictions. Once the population variable is included in the research, a better picture will form of this major flaw in the system to allow a more informed discussion of how to address these two contributing factors that are seen throughout this sample.

False confessions had the lowest percentage across all of the cases in the sample. This contributing factor to wrongful convictions has been identified in only 12.8% of the cases making it substantially lower than any other contributing factor. False confessions may be infrequent in cases; however, they are important to understand as they are the only contributing factor to wrongful convictions that is self-induced. All of the other contributing factors are actions or lack of action on someone else's behalf, whether it's the officers, prosecutors, specialists in a field, or witnesses. These false confessions exist because in 201 cases, a person that has now been determined innocent confessed to a crime that they did not commit. In a

system that holds the power to sentence someone to death, this kind of an issue having a presence in the registry makes it important to understand even though it is the least frequent.

When looking at the percentages that each contributing factor was identified in a case, it is important to remember that there is not normally a sole contributing factor associated with a wrongful conviction. There are many factors associated in each case, therefore the percentages of all of the contributing factors identified do not add together to a whole of 100% of the cases. Table 1 lays out the foundation by showing the general frequency of each contributing factor to the wrongful convictions across all of the cases in the sample without using population to separate the sample. Because population is not a factor yet, the percentages are calculated from the cases as a whole - the 1,575 cases that made up the entirety of the registry at the time the data was compiled.

<center>Analysis of Quartiles</center>

After understanding the general frequency of the contributing factors among all of the cases, population divisions were incorporated to allow comparison. As previously mentioned, the sample of cases used for the data excludes a selection of cases that did not have county populations because they were under federal jurisdiction or otherwise had no county designated with the case. From the 1,575 cases that made up the National Registry of Exonerations at the time of research, 1,482 make up the sample of data being used for this research. With the data being organized from the smallest population to the largest, SPSS divided the quartiles and created the population ranges for each quartile. Rather than dividing the population into equal quartiles and having an arbitrary number of cases in each quartile, they are quartiles of cases based on population size. To better understand the population ranges that the quartiles are referring to, Table 2 shows the quartile number that is referred to in the results with the county

<center>48</center>

population range included in that quartile. The populations are the entire population of the county of the conviction as reported by the US Census Bureau. As described in the procedure, the Census is only collected once a decade. The populations incorporated into this data is from the Census gathered after the year of conviction. This brings the population as close to the population of the county at the time of the conviction.

Table 2

Population Ranges and Number of Cases within Quartiles

Quartile	County Population Range	Number of Cases
1	4,765 – 187,068	370
2	187,069 – 735,190	373
3	735,191 – 1,951,598	374
4	1,951,599 – 9,818,605	365

Table 3 displays the frequency in which the five contributing factors to wrongful convictions were identified in cases broken into four population quartiles. Along with each percentage, n is used to identify the number of cases that each percentage represents.

Table 3

Population Quartile Frequency Analysis

Contributing Factor	Quartile 1	Quartile 2	Quartile 3	Quartile 4
Mistaken Eye Witness ID	24.1% n=89	32.7% n=122	45.2% n=169	38.6% n=141
Perjury	60.0% n=222	61.1% n=228	48.9% n=183	49.6% n=181

False or Misleading Forensic Evidence	28.9% n=107	22% n=82	19.3% n=72	24.4% n=89
Official Misconduct	46.2% n=171	44.8% n=167	41.2% n=154	46.3% n=169
False Confessions	15.9% n=59	10.7% n=40	9.6% n=36	16.4% n=60

Of the contributing factors, two categories showed more than 10% variance across the quartile divisions. Perjury and mistaken eye witness ID both showed a more substantial jump across the quartiles than the other contributing factors. In the first quartile, the smallest population group, perjury was a factor in 60% of cases. From 61% of the second quartile, perjury had the second largest frequency drop of all the contributing factors to 48.9% in the third quartile. Perjury is more frequently identified as a contributing factor to wrongful convictions in the two smaller population quartiles compared to the larger two larger quartiles. Mistaken eyewitness ID is identified in 24.1% of cases in the first quartile, increases to 32.7% in the second quartile, reaches its highest frequency in the third quartile at 45.2%, and then reduces to 38.6% in the fourth quartile. Contrary to perjury, mistaken witness ID is more frequently identified as a contributing factor to wrongful convictions in the two larger population quartiles compared to the two smaller population quartiles.

Official misconduct shows the lowest variance across the county populations in the quartile analysis with almost an identical percentage of frequency in the smallest quartile and the largest quartile. With a 46.2% frequency in the first quartile, official misconduct reduces to 44.8% in the second quartile, 41.2% identified in the third quartile, to finish at 46.3% in the fourth quartile. There is a 0.1% difference between the smallest population range and the largest

population range. Official misconduct can be considered a broad category as it includes the police involvement but also includes prosecutorial misconduct. Official misconduct was not the only category that showed the highest frequency in the first quartile and the fourth quartile. The two highest frequencies for false confessions were the first and fourth quartiles with 15.9% frequency in the first quartile and 16.4 in the fourth quartile. The frequency in the second quartile is 10.7% and then 9.6% in the third quartile.

Dichotomic Analysis

The second set of finding is from dividing the sample population into halves to create a "large versus small" county perspective. Findings from the quartiles analysis gave a descriptive view to see patterns, but halves allow a slightly less detailed perspective to see the bigger picture with the population variable included. Because the research on the quartiles had already been gathered, SPSS was recoded to run the first and second quartiles as the first half and then the third and fourth quartiles to be run as the second half. This makes the halves come out to a 50.2% smaller population versus a 49.8% larger population of the total range of county populations included. Table 4 shows the percentage of frequency that each contributing factor has identified in wrongful convictions with county population divided as a 50.2% and 49.8% split. Along with each percentage, n is used to identify the number of cases that each percentage represents.

Table 4

Population Dichotomy Frequency Analysis

Contributing Factor	Smaller Half	Larger Half
Mistaken Eye Witness ID	28.4% n=211	41.9% n=310

Perjury	60.6% n=450	49.3% n=364
False or Misleading Forensic Evidence	25.4% n=189	21.8% n=161
Official Misconduct	45.5% n=338	43.7% n=323
False Confessions	13.3% n=99	13.0% n=96

Because the dichotomy analysis uses the same spreadsheet as the quartile analysis, it should come as no surprise that the results generated the same patterns that were identified in the results of the quartiles. The dichotomy allows a reference point that is expansive to create a general pattern. The quartiles allow a thorough analysis of the frequencies to define a more specific population to address policy implications. Perjury and mistaken eye witness ID are the two categories that show the most substantial variance in frequency across the halves. Perjury is present in 60.6% of the smaller half of the populations and 49.3% of the larger half. Mistaken witness ID is present in 28.4% of the smaller populations and in 41.9% of the larger populations. The dichotomy allows a more distinct picture of the division between the largest and the smallest county population ranges.

The three remaining contributing factors show little change between the smaller population range and the larger population range. False confessions are present in 13.3% of the smaller half of population ranges and in 13% of the larger half of populations. Again, there is a small variance between the presence of false confessions across the different populations. The frequency of bad forensic evidence in the wrongful convictions in the smaller half is 25.4% which is higher than its 21.8% frequency in the larger half of populations. Official misconduct

has a similar variance with a 45.5% frequency in the smaller half and 43.7 in the larger half of populations. Official misconduct is a good example of why the data was divided into halves and into quartiles. In the dichotomic analysis, official misconduct has a slight frequency drop between small populations and large populations. These results may not catch attention; but when including the results of the quartile analysis, official misconduct becomes a notable contributing factor in this research. In the quartile population analysis, official misconduct frequency is almost identical in the smallest quartile and in the largest quartile. Almost identical frequency results in the outermost county populations of the data is a crucial pattern to incorporate in policy implications. Other than this important distinction, the dichotomic analysis reflected the same patterns that are seen in the data from the quartile analysis.

Conclusion

The research question that was posed initially was to identify if there is a variance in the presence or frequency of these contributing factors based on county populations. By looking at the frequency of the contributing factors as a whole, there is a better understanding of which factors are more prevalent in the cases and which are the least prevalent. It creates a foundation before adding county population as a variable. Dividing the populations up equally into quartiles and halves allows patterns to be identified easier than just using one method over the other. In the halves, it is easier to see the biggest variances that are present in the county populations. By including the quartile analysis, more discussion is created because patterns that are not seen in that halves are identified. For example, official misconduct being the same in the smallest counties versus the largest counties would not have been as interesting just looking at the halves. There is little variance between the smallest half and the largest half, but they are not identical numbers. Now it poses the question, why is misconduct seen at almost the exact rate in the

smallest counties as it is seen in the largest counties? These three reference points of the data create a rich picture of the sample population that is being researched and allow a better approach to addressing the research question.

CHAPTER 5

DISCUSSION AND CONCLUSION

Discussion

Using the three reference points of data previously discussed, the research question can be fully addressed. The Registry outlined the most common causes for wrongful convictions in the United States and provided the foundation for the research sample. Is there a difference in the presence or frequency of these causes based on county population? The data shows that there is a difference in the frequency of each factor across different population sizes, but some factors have a higher variance than others. In research, no change is just as important to discuss as a high level of change. The discussion allows the data to be combined with previous research to identify if county population is the reason that the frequency of the contributing factors changes. The intention of researching this topic was to identify areas that policy changes could be implemented to help reduce the presence of wrongful convictions. Population size as a factor establishes a specific area for policy implications to be directed and allows a better chance for them to be imposed. Rather than addressing the entire country, the policy implications are directed to specific counties that fall within a definite population range. In order to identify the areas that may need policy changes to reduce the presence of these contributing factors, patterns in the research findings need to be established.

Contrary Eyewitness Testimony

There were multiple evident patterns that arose in the findings of the research. Patterns can help direct future policy implications to show areas to focus change. The first pattern that was identified through the research was the relationship between perjury and mistaken eye witness ID. Generally categorized together, eyewitness testimony is a blanket that includes both

55

of these contributing factors. When the National Registry of Exonerations was originally compiled, Gross and Shaffer (2012) thought it necessary to distinguish between two main categories of this topic. They chose to divide eyewitness misidentification into eyewitnesses that lie and those that are mistaken. By doing so, they created two categories under the same main topic where one is considered an intentional lie and the other is an unintentional lie. In this research, perjury has the highest frequency across all of the cases. Once the population variable is included, these two categories seem indicate a more adverse relationship. When the population was split into halves, perjury had a high frequency in the smaller half of populations and takes a drop when looking at larger populations. Mistaken eyewitness ID shows the opposite results with population as a variable; it has a low frequency in the smaller half of populations but almost doubles in the larger half of populations.

Now to combine the research with the definitions, intentional lies from eyewitnesses are more frequently seen in smaller populations versus larger population. Unintentional lies are observed more frequently in larger populations than in smaller populations. Population size may impact the presence or absence of these two factors because population size defines the physical number of people within the county. The number of people that an eyewitness would be in contact within a day and the familiarity with those people are two substantial variables that directly relate to eyewitness testimony. Previous research on the difference in policing between different populations identified that police officers in rural areas know almost everyone in their jurisdiction personally or by reputation (Weisheit et al., 1994). Although that research was directed to police officers, this is common among the members of the community as well. Pure scarcity of population would increase the likelihood of knowing everyone through family, friends or just familiarity from presence in the community.

To be able to identify the wrong person intentionally would be more relevant in smaller populations because there is a higher chance they know details about that person that would make them a valid suspect. Where as in larger populations, there is a chance most people do not even know their neighbors let alone the entire population of a county. To witness a crime or be the victim of a crime never having seen the offender before, there is understandably a much higher chance to mistakenly identify the wrong person. Friedland (1990) identified through his research that there are multiple stages that occur when a person creates a memory. He saw in his results that a memory can be altered during the second and third stages of this process by something as simple as watching the news. Population size would impact the presence of the unintentional misidentification because the pure density of the population allows so many options for suspects. With many options that could be very similar, the important details that may distinguish one suspect from another could be influenced in the memory of the witness by simply interacting with the police (Friedland, 1990). Population size is an integral consideration when looking at research of a social science because population is not just the number of people within an area. Population contributes in research on these two factors by defining the likelihood of a witness to identify the wrong person intentionally because the witness and the suspect know each other and there is a profit for the witness, and by defining the likelihood of an unintentional error in memory.

Although perjury and mistaken eyewitness identification were present in all of the population categories, policy implications would be more effective if directed to the populations that had the highest frequency. Once broken into quartiles, perjury was consistent with its frequency across the first two population quartiles. Mistaken eyewitness ID shows higher frequency in the third and fourth quartile, but in the third quartile the frequency is higher than the

fourth quartile. Looking specifically at the third quartile, populations between 735,191 and 1,951,598, mistaken eyewitness ID shows its highest frequency in those areas. It is important to understand the complexity of these factors in as much detail that is available. Identifying specific population areas that show an elevation in the presence of these factors not only allows a better interpretation of why the factor exists, but it also directs a specific population size for policy implications to be executed.

Policy can address these two categories similarly because ultimately it is the use of eyewitness testimony within cases. Perjury itself shows the highest frequency across all four quartiles; it is the most frequently identified flaw in regards to wrongful convictions. Using informants such as accomplices, co-defendants, jailhouse snitches, or any police informants creates a conviction that relies on a form of evidence that is consistently flawed. Informants and witnesses are useful for building a case or getting information that can lead to answers or useful evidence, but with how swayed a jury is by the word of a witness it should not be used in trials as its own form of evidence. The amount of cases that were built solely from an eyewitness identification where the informant or witness has recanted shows the erroneous nature of this form of evidence. One of the prominent obstacles in researching this topic is the length of time it can take for a witness to recant their testimony. The exonerations consist of wrongful convictions that span across the last 60 years, so many of the recantations happened decades after the original conviction. It would be difficult to do experimental research because wrongful convictions are objectively difficult to identify. If they were more evident, exonerations would not be as prevalent as they are. Another difficulty would be in finding a county willing to make change that could affect their conviction rates. Using witness testimony is beneficial in closing cases and to remove that availability would create a higher number of dead cases because without being

able to use witness evidence they may not be able to convict. It would be a matter of convenience over quality, and in a system created for protection of society and retribution it would be difficult to find an entire county willing to set aside the use of a form of evidence so commonly used. Not only would it be difficult to find a county to participate, but it would be difficult to establish a way to test the effects of removing witness testimony on the quality of convictions. But with such high prevalence in wrongful convictions, this would be the most beneficial policy change to address in terms of bettering the system as a whole. Testing on a few small counties to show a positive result in the quality of convictions by forcing agencies and attorneys to rely on better evidence would then make it something applicable for larger counties. Perjury may not be as prevalent in wrongful convictions in larger counties, but mistaken eyewitness ID is seen at higher rates in larger counties. Because both contributing factors are used the same way, policy changes for one would be applicable for the other and could strengthen criminal cases as a whole.

Third Quartile Theme

Another interesting pattern that evolved in the research is between the quartiles themselves. With the exception of mistaken eye witness ID being at its highest frequency in the third quartile, the third quartile has the lowest frequency for every other contributing factor for wrongful convictions. As previously mentioned, the third quartile includes county populations from 735,191 – 1,951,598. For reference, this category includes counties on its smaller end like San Francisco, California and then counties like New York, New York and Dallas, Texas on its higher end. Because the research was run with the county population at the time of the conviction, some of the bigger counties spread across multiple quartiles considering the exonerations include convictions from as far back as 1956. A county like Dallas at its current

population puts it into the fourth quartile, but the cases included in the third quartile were convictions at a time when the population was lower. This third quartile contains the lowest frequency rates for all of the contributing factors with the exception to mistaken eyewitness ID which maxes out in the third quartile.

When looking at convictions and the criminal justice system there are thousands of factors that could contribute to this reduction in numbers, but minor factors would not show a consistent drop. It is as if the population increasing leads to better training among officers and prosecutors, better resources are available, and specialized units exist that can handle different tasks to ensure each part of a criminal case is handled effectively. Rogers, et al (2007) identified that even if smaller counties have access to resources, they have less exposure to the resources due to smaller caseloads. Because they are not as exposed to the resources that are available, they are less likely to use the resources in fear that their lack of experience would impede the case. Then the county population grows and it hits a threshold where the problem is just quantity. Efficiency becomes a priority over quality of work; job roles are overloaded and cases need to be closed out. This third quartile seems to show an efficient balance between resources and staffing based on population size and although there are still problems, policy implications can be derived based on studying this quartile and what specifically makes it more effective than the others. It could be a matter of increasing staffing in higher county populations to help lessen the caseloads, finding a way to bring better resources out to smaller county populations, or increasing training standards for officers and prosecutors across the board to balance out any inconsistencies when population fluctuates. A difficulty with policy implications in the criminal justice system is the budget necessary to impose change. However, with solid research and applicable numbers that can pinpoint where change needs to happen, budgets can be reworked to

put emphasis in areas that will show positive changes. Every county wants to run as efficiently as possible and a majority of the people that work within this system value fairness and justice, making this a simple priority to impose.

Consistency in Official Misconduct

The last major pattern identified in the results of the research is the lack of frequency change in official misconduct. As discussed in the findings section, the results of official misconduct validate why the research was run more than one way. By analyzing the population in an equal dichotomy and in quartiles, an interesting pattern was revealed that would not have been as distinctly noticeable through just the dichotomy. In table 3, the results of the quartiles show that official misconduct was identified in 46.2% in the first quartile and 46.3% of the fourth quartile. This is referring to the smallest population group compared to the largest population group in the quartile breakdown of the populations. The results being 0.1% variance from each other in such a large population jump means that official misconduct is a major issue across varying populations.

The prior research on urban versus rural policing validated that there is a significant change in policing based on population. Weisheit et al. (1994) indicate that because officers in smaller jurisdictions know a majority of the community, they avoid paramilitary style policing which is common in urban areas. Along with policing style, the job role of a police officer also fluctuates depending on the population size. In smaller counties, a police officer's daily function consists of public service, administrative, and law enforcement duties (Falcone, Wells and Weisheit, 2002). This research did not make an urban versus rural distinction because the US Census classifies urban population as a population greater than 50,000 which is not even inclusive of the entire first quartile. Exonerations and wrongful convictions are not common

enough in small county populations to make the urban versus rural distinction necessary. However, the largest county population in the first quartile is 9% of the smallest county population in the fourth quartile. These two population groups have a substantial difference in size when considering the frequency of official misconduct varies by only 0.1%. This contributing factor to wrongful convictions also has the lowest variance in frequency across all four quartiles, with only 5.1% difference between its highest frequency and its lowest. It is vital when discussing the results of this research to consider why there is no change across county population in the presence of official misconduct.

Official misconduct refers to both prosecutorial and police departments that have been identified causing substantial errors, intentionally or unintentionally, in a case that has led to a wrongful conviction. When considering population as a factor, there would be many reasons that could be attributed to why official misconduct was more frequently identified in small counties. The lack of proper training of police officers or the multifaceted expectation of job roles by officers in smaller populations would contribute to possible misconduct. Weisheit et al. (1994) indicated that urban police departments received twice as much funding per officer than rural departments. Less funding means a higher amount of the staff in rural departments are part time. Population impacts many facets of policing and police departments in counties. In smaller counties, the presence of violent or serious offenses like those that make up the National Registry of Exonerations is much lower than in larger counties. The attention paid by local media, concerned citizens, elected officials and everyone else living in the county would be much higher if there was only one murder in the entire year. With everyone interested in the case, if the police department took too long to close out the case it would possibly show incompetency within the police department. Closing out a case quickly and efficiently would benefit a smaller county to

instill the community's trust in the system. By trying to work quickly to identify a suspect, this could lead to corners being cut or misconduct appearing in a case.

Misconduct appearing in cases due to closing cases out quickly is the main factor to consider with the presence of misconduct in large county populations. Larger counties have police departments and prosecutors that are not equipped to handle the number of cases that are being processed. To work through caseloads efficiently, quality is lessened. Along with the need for efficiency and speed, the sheer number of people working within larger counties would contribute to higher levels of misconduct. The level of discretion and trust that prosecutors and officers have when working daily is very high. Oversight of either of these professions is limited allowing the availability of opportunity to make questionable decisions with less of a chance of reprimand. There are many reasons that each of these would be present in different populations, but to be so equally present in the smallest quartile and the largest quartile is a notable finding.

Official misconduct is a complicated contributing factor to wrongful convictions when it comes to proposing policy changes that could be implicated to reduce its presence in society. The largest challenge is the discretionary power given to both prosecutors and police officers to be able to effectively perform the duties of their job. Police officers face many dynamic and evolving situations every day that require them to have the ability to make decisions based on their training and experience to handle the situation as best as they can. In limiting or restricting the discretion that an officer has, there is a much larger risk of putting an officer in a situation where their safety is at risk because of policy. This does not make policy change impossible, it is just a crucial consideration when considering changes being imposed on officers. What may make sense in theory could be a change that has grave results when enforced.

In an effort to address this issue, counties have already started implicating some changes to reduce these numbers. In 2015, the National Registry of Exonerations identified 24 Conviction Integrity Units across the United States that have been put in place to investigate claims of innocence. A Conviction Integrity Unit works within the prosecutor's office of a county to identify and correct false convictions along with preventing future false convictions. The first Conviction Integrity Unit was created in 2002, but momentum in creation of these units did not start increasing until 2010. These are new units within counties meaning there is not much research on their success rates as so far more than half of the units in operation today have not shown any exonerations yet. Exonerations are a lengthy judicial process after researching the case to determine if there are grounds for a wrongful conviction, many of these units may not see progress for a few years. This is an excellent opportunity for future research, with official misconduct as a far reaching issue across county populations this is a change that has recently been put into place. Future research can investigate the progress of these units to see if they make a positive difference or if they are an unsuccessful attempt for change. With research being relatively minimal on wrongful convictions and exonerations, Conviction Integrity Units have been the most influential change made in the criminal justice system in reaction to this topic.

Conviction Integrity Units are a notable reaction to this topic; however, there are many other changes that have been made to proactively reduce the presence of these factors. The time frame of the cases included in this Registry date back to 1956. The policing styles and prosecutorial decisions reflected in these earlier cases are very different to the policies and procedures seen today. From landmark Supreme Court cases that dictate the lawful policing procedures to the improvement of technology and algorithm based programs, the change in law enforcement over the last 60 years is remarkable. Many prosecutors require cases to encompass

64

multiple forms of evidence before filing the case, eliminating the amount of cases based solely on eyewitness testimony. Law enforcement agencies in many counties are now required to video record interrogations in their entirety to allow oversight and reference. There were multiple cases in the Registry that included a child as an eyewitness where the testimony was later recanted. Agencies now require specially trained forensic interviewers to address children. Generally, the interviewer will testify on behalf of the child to help mitigate transformation of the story. The implementation of improved practices and procedures by police over the last 60 years will affect the presence of contributing factors in more recent cases on this Registry. Future research can take a similar approach regarding the relationship of population to the frequency of these contributing factors, possibly focusing on exonerations in more recent years. This would eliminate the inclusion of convictions from an earlier time when questionable policing practices were more common.

<div align="center">Policy Implications</div>

This research is valuable because in addressing the common contributing factors to wrongful convictions, it gives policy reform the ability to shape the criminal justice process into a more efficient system for anyone that has found their way into the system. It not only affects wrongful convictions, but it builds strong processes in general to create stronger cases moving forward. This allows assurance that the wrong person is not being convicted, but there is also a stronger case against the correct suspect. By looking specifically at the main themes or patterns that emerged in the findings, policy implications to address each pattern will be a direct approach to better the system as a whole.

Eyewitness identification is widely used, and as the research has shown, a highly flawed piece of evidence. Broken into two categories for this research, policy implications would most

likely address both together. Although one is intentional and one is unintentional, the presence of eyewitness testimony in cases should be restricted. It can be valuable to gather more evidence and put together a case against a suspect, but with the consistent errors that it brings into the system the value dissolves before trial. Previous research showed the danger of eyewitness testimony in jury trials based on the level of value jurors give this form of evidence regardless of being informed of the flawed nature. Eyewitness testimony is beneficial in securing convictions; however, given the grave results of this research it has to be determined if the risk is worth the reward.

Establishing that one population group has consistently lower frequency rates that the other three population groups it was being compared to allows for a specific focal point for policy implications. Policy implications can be derived by quantifying the ratio of officers to population, the caseloads of officers and prosecutors, the quality or quantity of labs and resources available, and other factors that affect these contributing factors. The application of caseload reduction, better training, and availability of quality resources in the counties that make up the other three quartiles would be direct changes that should help reduce errors. As previously mentioned, these changes are difficult to impose because of monetary restrictions. But with concrete research and a higher awareness of the increasing presence of wrongful convictions, this will become a priority for counties.

Conviction Integrity Units are a valuable and hopeful integration into the criminal justice system to prevent future wrongful convictions. They hold departments to a higher level of accountability in how cases are handled and a new awareness of the depth of the problem could reduce misconduct. The value of oversight is seen not just the prosecutor's office but also in the police departments involved. In regards to police misconduct, the interrogation process is one of

the most commonly identified procedures in need of reform. As seen in police misconduct frequency levels, but also in false confessions, interrogations seem to be an area that cause many wrongful convictions. More supervision or higher quality standards in the interrogation process would not create a threat to an officers' safety and may help reduce numbers in both of these categories.

<center>Limitations and Future Research</center>

The main limitation in this research is generalization. By using a multitude of cases without categorizing the contributing factors in each case individually, the research becomes a generalization of the factors. Every case has circumstances and a multitude of factors that affected the wrongful conviction outside of just the five contributing factors. However, in a system constantly evolving and changing, the best changes made are trial and error. Wrongful convictions give a direction to focus change that is more likely to have positive results.

As previously mentioned, these cases date as far back as 1956. Daily life has changed substantially over the last 60 years and these changes include processes in and around the criminal justice system. Although policy today would not be created based on a situation that happened 60 years ago, the inclusion of these cases was to identify the issues as a whole. Future research can focus on wrongful convictions that have only occurred within the last five years and analyze the variance in results from this study to see what has improved or worsened. When addressing policy changes in an expansive country and system, data like this can be dictated numerous ways to find information. But when considering the frequency in populations across the United States, this research can apply a foundation for future research to expand on.

Future research can focus on the third quartile that showed lower frequency rates across all but one of the contributing factors. By focusing on the populations within this quartile and

<center>67</center>

comparing components that make up the contributing factors to wrongful convictions, future research can identify valuable changes to be implemented in counties across the country to reduce their presence. A better understanding of the change across county populations is necessary in the future. Prior research focused on the urban versus rural distinction to populations; however, when researching errors in the justice system the urban versus rural distinction creates lopsided research. Research needs to include more of an equal division of population groups to allow a more accurate representation of the reality of the variance across populations. It is ineffective to make a blanket change across counties that are so diverse in nature, policy changes that address this diversity will show favorable results when implemented.

Conclusion

The National Registry of Exonerations has provided valuable insight into the flaws that strain the daily processes of the criminal justice system in the United States. By providing a thorough and detailed analysis of every exoneration in the US, this registry makes up a spreadsheet of data that can be manipulated multiple ways to learn more about the criminal justice system. By giving specific factors that contribute to wrongful convictions, this research had the opportunity to manipulate this spreadsheet to consider how these factors presence and frequency vary across different populations. The results of the research study did show variance across different county populations, creating policy implications and a foundation for future research that can create policies specific to certain county sizes. Policy implications can even be gained from the lack of variance illustrated in the research, to address issues that do affect the country as a whole.

Wrongful convictions are an opportunity to see specific flaws and errors that exist throughout the different stages of the criminal justice system. In a country so large, any system

that is in place to protect the public and carry out justice is susceptible to errors and imperfections. Research creates the unique ability to study topics such as this one to identify changes that could be made in the future, or research that can be done in the future to eliminate these imperfections and create an enhanced system. As time moves on, more information will come to light that may change the nature of this research all together. In the last 27 years, wrongful convictions have gone from a nonexistent topic to units evolving in response and television shows putting the topic in the homes of millions. An integral part of the system being successful is using this illumination of a negative aspect of the system as a positive chance to change. This topic and research allows an unparalleled opportunity to implement changes that make cases stronger will ultimately feed the original intention of the criminal justice system, protect the innocent and carry out justice against the guilty.

REFERENCES

Alpert, G. P. (1979). Inadequate defense counsel: An empirical analysis of prisoners'
perceptions. *American Journal of Criminal Law, 7(1),* 1-21.

Black, H. C. (1991). *Black's Law Dictionary: Centennial Edition (1891-1991)* (6th ed.). St. Paul,
MN: West Group.

Bohan, T. L. (2010). Review of: Strengthening forensic science in the United States: a path
forward. *Journal of Forensic Sciences, 55(2),* 560-564. doi:10.1111/j.1556-
4029.2009.01313.

Bright, S. B. (1990). Death by lottery – Procedural bar of constitutional claims in capital cases
due to inadequate representation of indigent defendants. *West Virginia Law Review, 92,*
679-695.

Cicchini, M. D., & Easton, J. G. (2010). Reforming the law on show-up identifications. *The
Journal of Criminal Law and Criminology, 100(2),* 101-133.

Clements, N. (2007). Flipping a coin: A solution or the inherent unreliability of eyewitness
identification testimony. *Indiana Law Review, 40,* 271-290.

Cloud, Z. (2013). The problem of low crime: Constitutionally inadequate criminal defense in
rural america. *Public Interest Law Review, 22,* 403-438.

Committee on Identifying the Needs of the Forensic Sciences Community, National Research
Council. (2009). *Strengthening forensic science in the united states: A path forward.*
Washington, DC: The National Academies Press.

Covey, R. (2013). Police misconduct as a cause of wrongful convictions. *Washington University
Law Review, 90,* 1133-1189.

Drizin, S. A., & Leo, R. A. (2004). The problem of false confessions in the post-dna world. *North Carolina Law Review, 82,* 891-1007.

Dror, I. E., & Cole, S. A. (2010). The vision in "blind" justice: Expert perception, judgment, and visual cognition in forensic pattern recognition. *Psychonomic Bulletin & Review, 17(2),* 161-167. doi:10.3758/PBR.17.2.161

Friedland, S. L. (1990). The competency and responsibility of jurors in deciding cases. *Northwestern University Law Review, 85(1),* 190.

Garett, B. L. (2011). False confessions. *Litigation, 37(4),* 54-58.

Garrett, B. L., & Neufeld, P. J. (2009). Invalid Forensic Science Testimony and Wrongful Convictions. *Virginia Law Review, 95(1),* 1-97.

Gudjonsson, G. H., & Pearse, J. (2011). Suspect interviews and false confessions. *Current Directions in Psychological Science, 20(1),* 33-37. doi:10.1177/0963721410396824

Hansen, J. A. (1959). Inadequate representation by defense counsel. *Jag Journal,* 9-20.

Illinois v. Dotson, 116 Ill. App.3d 419 (1987)

Joffee, S. J. (2010). Long overdue: Utah's incomplete approach to eyewitness identification and suggestions for reform. *Utah Law Review, 2,* 443-460.

Kassin, S. M., & Gudjonsson, G. H. (2004). The psychology of confessions: A review of the literature and issues. *Science in the Public Interest, 5(2),* 33-67.

Kassin, S. M., Meissner, C. A., & Norwick, R. J. (2005). "I'd know a false confession if I saw one": A comparative study of college students and police investigators. *Law and Human Behavior, 29(2),* 211-227. doi:10.1007/s10979-005-2416-9

Koehler, J. (2011). If the shoe fits they might acquit: The value of forensic science testimony. *Northwestern University School of Law Scholarly Commons, 23,* 1-46.

Langenburg, G., Champod, C., & Wertheim, P. (2009). Testing for potential contextual bias effects during the verification stage of the ace-v methodology when conducting fingerprint comparisons. *Journal of Forensic Science, 54(3),* 571-582. doi:10.1111/j.1556-4029.2009.01025.x

Loh, W. D. (1981). Psycholegal research: Past and present. *Michigan Law Review, 79(4),* 659-707.

Neuschatz, J. S., Lawson, D. S., Swanner, J. K., Meissner, C. A., & Neuschatz, J. S. (2007). The effects of accomplice witnesses and jailhouse informants on jury decision making. *Law and Human Behavior, 32,* 137-149. doi:10.1007/s10979-007-9100-1

Penacino, G., Sala, A., & Corach, D. (2003). Are dna tests infallible. *International Congress Series, 1239,* 873-877.

Powell, L. F. (1983). Strickland v. Washington. *Supreme Court Case Files.* Washington & Lee University School of Law, Virginia.

Stevens, D. J. (2008). Forensic science, wrongful convictions, and American prosecutor discretion. *The Howard Journal, 47(1),* 31-51.

Swanner, J. K., & Beike, D. R. (2010). Incentives increase the rate of false but not true secondary confessions from informants with an allegiance to a suspect. *Law and Human Behavior, 34(5),* 418-428.

Taslitz, A. E. (2009). Prosecuting the informant culture. *Michigan Law Review, 109,* 1077-1102.

University of Michigan Law School. (2014). *The National Registry of Exonerations.* Retrieved from: http://www.law.umich.edu/special/exoneration/Pages/about.aspx

United States Department of Justice. (1985). *The science of fingerprints: Classification and uses.* Washington, DC: U.S. Government Printing Office.

Vokey, J. R., Tangen, J. M., & Cole, S. A. (2009). On the preliminary psychophysics of

    fingerprint identification. *The Quarterly Journal of Experimental Psychology, 62(5),*

    1023-1040. doi:10.1080/17470210802372987

Warden, R. (2004). The snitch system: How snitch testimony sent randy steidl and other

    innocent americans to death row. Retrieved from:

    http://www.innocenceproject.org/understand/Snitches-Informants.php

Wells, G. L., & Olson, E. A. (2003). Eyewitness testimony. *Annual Review of Psychology, 54,*

    277-295. doi:10.1146/annurev.psych.54.101601.145028

West, E. M. (2010). Court findings of prosecutorial misconduct claims in post-conviction

    appeals and civil suits among the first 255 dna exoneration cases. Retrieved from:

Whipple, G. M. (1909). The observer as reporter: A survey of the psychology of testimony. *The*

    Psychological Bulletin, 6(5), 153-170.