

Predicting Erroneous Convictions

Jon B. Gould,* Julia Carrano,** Richard A. Leo*** & Katie Hail-Jares****

ABSTRACT: The last thirty years have seen an enormous increase not only in exonerations of innocent defendants but also academic scholarship on erroneous convictions. This literature has identified a number of common factors that appear frequently in erroneous conviction cases, including forensic error, prosecutorial misconduct, false confessions, and eyewitness misidentification. However, without a comparison or control group of cases, researchers risk labeling these factors as “causes” of erroneous convictions when they may be merely correlates. This Article reports results from the first large-scale empirical research project to compare wrongful convictions with other innocence cases in which the defendant escaped conviction (so-called “near misses”). Employing statistical methods and an expert panel, the research helps us to understand how the criminal justice system identifies innocent defendants in order to prevent erroneous convictions. In another first, the research secured the cooperation of practitioners from multiple sides of the criminal justice system, including the national Innocence Project, the Police Foundation, the Association of Prosecuting Attorneys, and the National District Attorneys Association. The results highlight ten factors that distinguish wrongful convictions from near misses, but the larger story is one of system failure in which the protections of the criminal justice system operate in a counterintuitive

* Professor and Director, Washington Institute for Public Affairs Research, American University.

** Research Scholar in Residence, American University.

*** Visiting Professor, University of California, Los Angeles School of Law (2013–14) and Professor and Dean’s Circle Research Scholar, University of San Francisco School of Law.

**** Doctoral student, Department of Justice, Law, and Criminology, American University.

We thank our colleague, Joseph Young, for his invaluable help with the statistical analysis, and we thank Andrea Butler, Jaclyn Menditch, Truman Morrison, Renee Nicole Souris, Kevin Maass, Erin Crites, and Sarah Ohlsen for excellent research assistance. We are grateful to the expert panelists who lent us their knowledge and insights, and to Eric Martin of the National Institute of Justice (“NIJ”) and the anonymous reviewers for NIJ who provided thoughtful feedback on our original report, which formed the basis of this Article. This project was conducted under Grant No. 2009-IJ-CX-4110 awarded by the National Institute of Justice, Office of Justice Programs, United States Department of Justice. Points of view in this document are solely those of the authors and do not necessarily represent the official position or policies of the United States government.

manner. *The Article closes with a series of policy reforms to address these failings.*

I. INTRODUCTION.....	474
II. WHAT WE KNOW (AND DON'T KNOW) ABOUT ERRONEOUS CONVICTIONS.....	478
III. EMPIRICAL COMPARISON OF ERRONEOUS CONVICTIONS AND NEAR MISSES.....	482
A. DATA COLLECTION AND CASE CODING	483
B. BIVARIATE ANALYSIS	488
C. LOGISTIC REGRESSIONS	490
IV. THE BIGGER PICTURE: UNDERSTANDING AND IMPROVING HOW THE CRIMINAL JUSTICE SYSTEM HANDLES INNOCENCE	494
A. STATE PUNITIVENESS.....	497
B. DEFENDANT'S PRIOR RECORD.....	498
C. DEFENDANT'S AGE.....	499
D. INTENTIONAL MISIDENTIFICATION.....	499
E. FORENSIC ERRORS	500
F. THE PROSECUTION'S CASE: WEAK FACTS, BRADY VIOLATIONS, AND FALSE NON-EYEWITNESS TESTIMONY.....	501
G. WEAK DEFENSE.....	502
H. TUNNEL VISION: A QUALITATIVE FRAMEWORK OF SYSTEM FAILURE	503
V. UNDERSTANDING AND REDUCING SYSTEM FAILURE: POLICY RECOMMENDATIONS	506
A. RECOMMENDATION #1: INCREASE FUNDING FOR INDIGENT DEFENSE AND DISTRICT ATTORNEY OFFICES	508
B. RECOMMENDATION #2: PROSECUTOR OFFICES SHOULD ASSIGN MORE SENIOR ATTORNEYS TO THE CHARGING BUREAU.....	509
C. RECOMMENDATION #3: PROSECUTOR OFFICES SHOULD ESTABLISH INTEROFFICE MENTORING BETWEEN NEW AND EXPERIENCED PROSECUTORS.....	509
D. RECOMMENDATION #4: PROSECUTORS AND POLICE INVESTIGATORS SHOULD NOT RELY ON ANY SINGLE PIECE OF EVIDENCE, SUCH AS EYEWITNESS TESTIMONY, A CONFESSION, OR EVEN FORENSICS	510
E. RECOMMENDATION #5: DEFENSE ATTORNEYS AND POLICE INVESTIGATORS SHOULD WORK TOGETHER TO DEVELOP AND USE ALIBI CHECKLISTS.....	510

2014]	PREDICTING ERRONEOUS CONVICTIONS	473
F.	RECOMMENDATION #6: FORENSIC EVIDENCE SHOULD BE ANALYZED FIRST RATHER THAN LAST.....	511
G.	RECOMMENDATION #7: FORENSIC LAB RESULTS SHOULD BE SUBJECT TO REGULAR PEER REVIEWS AND OVERSIGHT.....	512
H.	RECOMMENDATION #8: YOUTHFUL DEFENDANTS SHOULD BE ASSIGNED A GUARDIAN AD LITEM OR OTHER EXTRALEGAL ADVOCATE WHEN CHARGED WITH A VIOLENT CRIME.....	513
VI.	CONCLUSION	515

I. INTRODUCTION

April 12, 1990, started out on a joyous note for Juan Cabrero.¹ The eighteen-year-old was at a club celebrating a friend's birthday with family and friends. Across the room, however, a fight broke out among a group of men. These men, members of a local gang, were acquaintances of Cabrero. In the melee, many were hurt and one man was even killed. Cabrero immediately began tending to the injured, kneeling on the bloody floor and tearing his clothes to use as bandages. When police arrived, however, they became suspicious of Cabrero's bloodied clothes. Subsequent serological testing showed that the blood on Cabrero's clothing was consistent with the murder victim's blood type—as well as the blood type of over half the male population of the United States. The victim's friend, however, pointed to Cabrero. The friend, after several hours of investigation, lineups, and no sleep since the homicide, identified Cabrero as one of the murderers. Despite the word of several other witnesses, who claimed that Cabrero had not participated in the fight, the identification by the victim's friend prevailed. Based on that identification, the bloody clothing, and Cabrero's virtual failure to raise a defense, the teenager was convicted of murder and sentenced to fifteen years to life in prison. After nearly six years, additional witness statements and advanced DNA testing proved Cabrero's innocence. The same bloodied pants that had initially attracted police attention eventually exonerated Cabrero, proving that none of the blood on his clothes belonged to the murder victim.

At the same time that Cabrero was filing a civil suit for his erroneous conviction, a strikingly similar case was unfolding in a different locale. Johnny Simmons, an African American, twenty-year-old, community college student was hanging out at a bus station when chaos ensued. An assailant fired at a young man in the crowd but missed his intended target. Instead, his bullet fatally hit a woman waiting in line for a bus. During police interviews, an eyewitness intentionally misidentified Simmons as the shooter. The eyewitness, the intended target's cousin, had recently fought with Simmons. Based on this eyewitness identification, Simmons was arrested and indicted. However, at this point, Simmons's case diverged from that of Cabrero. Simmons's defense attorney actively investigated the charges against his client. He obtained a surveillance tape from the bus station and hired an expert to sharpen the images. Through cranial measurements, the expert determined Simmons could not have been the shooter. The defense also located a time-stamped photo of Simmons wearing clothes that did not match those of the shooter and tracked down an eyewitness, by then living

1. Because of the human subjects' requirements that were a precondition for receiving approval to do this study, we have changed the names of all suspects and defendants in our data set of cases in this Article, and we have necessarily altered any identifying case information.

out of state, who declared Simmons had not fired any shots. Entertaining serious doubts about the case, the prosecution flew in the new eyewitness and interviewed him. Convinced the witness was telling the truth about Simmons's innocence, the state dropped the charges against Simmons before trial.

In many ways, these cases tell a parallel story. Both involve an innocent defendant. Both defendants are young men of color arrested for murder. Both cases turn on a single eyewitness's identification. Yet, in one case, an innocent man walked free, and in the other the defendant was incarcerated for six years. Wrongful convictions like Cabrero's have become representative of the failure of the justice system to perform its most fundamental duty—to sort the innocent from the guilty.² Yet the focus on exonerations has obscured the cases the criminal justice system “gets right”³: those cases where the innocent defendants, like Simmons, are identified and released before conviction.⁴ What explains the different outcomes in these two scenarios? Why are some innocent defendants convicted and spend years in prison before exoneration (“erroneous convictions”), while others are released before trial or are acquitted on the basis of their factual innocence (“near misses”)?⁵ Are there factors that could have predicted these dramatically divergent outcomes? Despite substantial scholarly

2. As the Supreme Court has noted, “The basic purpose of a trial is the determination of truth” *Tehan v. United States ex rel. Shott*, 382 U.S. 406, 416 (1966).

3. Of course, we do not mean to diminish or downplay the psychological, emotional, familial, occupational, financial, and other harms associated with erroneous arrest, prosecution, and pretrial incarceration of innocent defendants who are ultimately not erroneously convicted. See Richard A. Leo & Richard J. Ofshe, *The Consequences of False Confessions: Deprivations of Liberty and Miscarriages of Justice in the Age of Psychological Interrogation*, 88 J. CRIM. L. & CRIMINOLOGY 429, 429 (1998).

4. To be sure, police and prosecutors use their discretion at many points in the criminal justice process to identify and release innocent suspects who have been unwittingly ensnared. For purposes of this Article, we will focus on those defendants whose innocence is identified post-indictment.

5. We use the terms “erroneous conviction” and “wrongful conviction” interchangeably in this Article, though we tend to use the former because it lacks an implied moral judgment.

research on high-profile DNA⁶ and non-DNA⁷ wrongful conviction and exoneration cases, these questions remain largely unanswered.⁸

Advanced statistical and comparative social science methodologies, however, present an opportunity to begin answering these questions. Traditionally, most research on wrongful convictions has relied upon narrative methodologies and case studies.⁹ This type of research has revealed a number of factors common among wrongful convictions, such as faulty eyewitness identification, false incriminating statements/confessions, perjured jailhouse informant testimony, and forensic error.¹⁰ Case study research also has deepened our understanding of how wrongful convictions occur, and it has influenced public perceptions and policy debates.¹¹ However, case study research does not allow scholars to conclusively establish what factors differentiate a wrongful conviction from any other case outcome, including a “near miss”¹²—that is, when an innocent defendant is arrested, indicted, and/or prosecuted, but his case is either dismissed prior to trial or he is acquitted at trial. As a result, we know what problems wrongful convictions share,¹³ but not what sets them apart.

6. See generally BRANDON L. GARRETT, *CONVICTING THE INNOCENT: WHERE CRIMINAL PROSECUTIONS GO WRONG* (2011) (calling for reform in safeguarding evidence—like DNA—to avoid convicting innocent persons).

7. See, e.g., SAMUEL R. GROSS & MICHAEL SHAFFER, *EXONERATIONS IN THE UNITED STATES, 1989–2012: REPORT BY THE NATIONAL REGISTRY OF EXONERATIONS* 20–28, 43 (2012), available at http://www.law.umich.edu/special/exoneration/Documents/exonerations_us_1989_2012_full_report.pdf.

8. To our knowledge, the only wrongful conviction researcher who has even addressed the study of “near misses” is James Doyle. See James M. Doyle, *Learning from Error in American Criminal Justice*, 100 J. CRIM. L. & CRIMINOLOGY 109, 129 (2010).

9. Richard A. Leo & Jon B. Gould, *Studying Wrongful Convictions: Learning from Social Science*, 7 OHIO ST. J. CRIM. L. 7, 10 (2009).

10. See generally GARRETT, *supra* note 6 (discussing contaminated confessions, eyewitness misidentifications, flawed forensics, and jailhouse informants as factors in wrongful convictions).

11. Richard A. Leo, *Rethinking the Study of Miscarriages of Justice: Developing a Criminology of Wrongful Conviction*, 21 J. CONTEMP. CRIM. JUST. 201, 212 (2005).

12. A “near miss” occurs when the ultimate error—in our case, a wrongful conviction—is avoided. See Doyle, *supra* note 8, at 129. See also GARRETT, *supra* note 6, at 271–72 (explaining how near misses will come to teach more about criminal justice errors); Jennifer L. Mnookin, *The Courts, the NAS, and the Future of Forensic Science*, 75 BROOK. L. REV. 1209, 1228–29 (2010) (explaining how a mistaken fingerprint match led to a near miss). Near misses have been studied as part of human error analysis in multiple other contexts, including medicine, industry, and aviation. According to Doyle, approximately 5000 aviation near misses are reported annually to the FAA Aviation Safety Active Program. Doyle, *supra* note 8, at 135 n.112.

13. These problems have sometimes been referred to as “causes” of wrongful convictions or causes of error in exoneration. As we discuss in more depth below, these sources of error cannot be described as “causes” in the absence of a control group. See *infra* Part II.

In this Article, we break new ground by analyzing this unanswered question. We report the results from a large-scale empirical research project that compares 260 wrongful convictions to 200 near misses in violent felony cases from across the United States. Drawing on both quantitative and qualitative methods, we examine the factors that statistically explain why an innocent defendant, once indicted, ends up erroneously convicted rather than released. We conclude that a number of variables can predict case outcome, including the age and criminal history of the defendant, the punitiveness of the state, *Brady* violations, forensic error, weak defense and prosecution cases, non-intentional misidentification, and lying by a non-eyewitness. Moreover, we argue that these individual factors are connected and exacerbated by tunnel vision, which prevents the system from self-correcting once an error is made and leads to general system failure. Interestingly, other factors traditionally suggested as causes of erroneous convictions, including criminal-justice official error, false incriminating statements/confessions,¹⁴ and race effects, appear in statistically similar rates in both sets of cases; although they may increase the chance that an innocent suspect will be indicted, they do not necessarily increase the likelihood that the indictment will result in a conviction. Our results inform how the legal community can improve its ability to justly adjudicate cases of innocent defendants in the future, in particular by actively working to combat tunnel vision and establishing procedures and policies to learn from past mistakes.

In Part II, we review the past literature on wrongful convictions, including social science research, and argue that these prior studies are insufficient to determine what statistically differentiates erroneous convictions from other cases. In Part III, we explain our research methodology and present the study results. In Part IV, we discuss in greater detail the factors that distinguish erroneous convictions from near misses, as well as what characteristics (including some of the traditional “causes” of wrongful convictions) the cases shared. In Part V, we offer specific policy recommendations to improve the criminal justice system’s ability to identify and dismiss cases against innocent defendants. Finally, in Part VI, we discuss

14. One of the authors of this Article (Leo) has extensively researched and written on false-confession cases, including many little-known cases that resulted in a dismissal or acquittal. Because of his familiarity with such cases and our method of case selection, it is likely that we included more—and Leo believes substantially more—of these cases than would have occurred with a truly random sample. If so, this might account for the finding that false statements/confessions are not a statistically significant predictor of erroneous convictions in this data set. For a recent empirical analysis and review of the effect of false confession evidence on case outcomes, see generally Saul M. Kassin, *Why Confessions Trump Innocence*, 67 AM. PSYCHOLOGIST 431 (2012).

the broader impact and limitations of our study and suggest directions for future research.

II. WHAT WE KNOW (AND DON'T KNOW) ABOUT ERRONEOUS CONVICTIONS

When Edwin Borchard published *Convicting the Innocent* over eighty years ago, public exonerations and research on wrongful convictions were rare.¹⁵ Often credited with producing the first academic research on wrongful convictions in the United States, Borchard's work adopted a relatively simple structure: identify wrongful conviction cases, describe their legal causes, and propose reforms to address the perceived causes.¹⁶ Borchard's case-study approach to wrongful convictions followed a classical method of legal research and reasoning that was adopted by other early scholars in the field.¹⁷

With the advent of forensic DNA testing and the exoneration of hundreds of innocent prisoners in the last two decades, there has come a boom in research on wrongful convictions.¹⁸ Surprisingly, despite the shift in magnitude, there has been little effort to change the *method* of studying these cases.¹⁹ Most of the scholarship occurs in law reviews rather than criminology or other social science journals, and, while increasingly systematic, still follows Borchard's classic template.²⁰

15. EDWIN M. BORCHARD, *CONVICTING THE INNOCENT: ERRORS OF CRIMINAL JUSTICE* xix (1932). For a discussion of Borchard and early work on wrongful convictions, see Leo, *supra* note 16, at 203–04.

16. Leo, *supra* note 11, at 203. See also Jon B. Gould & Richard A. Leo, *One Hundred Years Later: Wrongful Convictions After a Century of Research*, 100 J. CRIM. L. & CRIMINOLOGY 825, 827–29 (2010) (“[P]ublications once again reminded the reading public that wrongful conviction cases were real, that they contravened the ideals of the American criminal justice system, that they had common sources, and that these errors ought to be rectified.”).

17. Gould & Leo, *supra* note 16, at 827–28.

18. See Leo & Gould, *supra* note 9, at 9; Daniel S. Medwed, *Innocentrism*, 2008 U. ILL. L. REV. 1549, 1550.

19. Leo, *supra* note 11, at 206–07.

20. *Id.*; see also, e.g., Hugo Adam Bedau & Michael L. Radelet, *Miscarriages of Justice in Potentially Capital Cases*, 40 STAN. L. REV. 21, 27 (1987). Many books about wrongful convictions for a popular audience also follow this template. E.g., BARRY SCHECK, PETER NEUFELD & JAMES DWYER, *ACTUAL INNOCENCE: FIVE DAYS TO EXECUTION AND OTHER DISPATCHES FROM THE WRONGLY CONVICTED* (2000). The exception to this is a substantial number of research studies in the social sciences (predominately psychology) that examine two of the most common errors in wrongful convictions: eyewitness misidentifications and false confessions. For an overview of much of the scientific eyewitness identification research as applied to the legal field, see generally Gary L. Wells & Deah S. Quinlivan, *Suggestive Eyewitness Identification Procedures and the Supreme Court's Reliability Test in Light of Eyewitness Science: 30 Years Later*, 33 LAW & HUM. BEHAV. 1 (2009). Similarly, for a review of the literature on false confessions, see generally Saul M. Kassin, Steven A. Drizin, Thomas Grisso, Gisli H. Gudjonsson, Richard A. Leo & Allison D. Redlich, *Police-Induced Confessions: Risk Factors and Recommendations*, 34 LAW & HUM. BEHAV. 3

As a result, the literature continues to focus primarily on identifying the isolated legal causes and consequences of wrongful convictions, as well as proposing legal and policy reforms designed to reduce their occurrence.²¹

Such studies have been important in establishing at least eight major sources of wrongful convictions: (1) mistaken eyewitness identification; (2) false incriminating statements or confessions; (3) tunnel vision; (4) perjured informant testimony; (5) forensic error; (6) police error; (7) prosecutorial error; and (8) inadequate defense representation.²²

In addition, the research literature discusses the potential effects of race, age, and geographic region on the fate of innocent defendants.²³ The most recent comprehensive compilation of exonerations in the United States confirms that the majority of cases involved at least one, but often several, of the above factors.²⁴

However, labeling these factors as “causes” of erroneous convictions can be misleading. As noted above, much of the research to date has been conducted by traditional legal scholars and journalists, who have tended to view wrongful convictions through law’s straightforward model of cause and effect: “a wrongful conviction occurred, a cause is presumed, and the trigger is sought in order to prevent its harmful effects in the future.”²⁵ In reality, however, causation is a much more complex phenomenon, and to study it in the social and political world generally requires a control or comparison group to ensure that what is being observed is not merely a correlate.²⁶ Thus, to accurately assess the cause(s) of erroneous convictions, the

(2010). This research, which often uses controlled laboratory experiments or quantitative analysis of actual cases, has been crucial in establishing how these individual errors occur and suggesting reforms to reduce their frequency. Generally, however, the psychological studies do not examine the phenomenon of wrongful conviction as a whole and thus do not attempt to explain from a criminal justice system perspective how and why these cases occur. *But see* CONVICTION OF THE INNOCENT: LESSONS FROM PSYCHOLOGICAL RESEARCH (Brian L. Cutler ed., 2012).

21. Leo & Gould, *supra* note 9, at 14–17.

22. See, e.g., Gould & Leo, *supra* note 16, at 841; Marvin Zalman, *An Integrated Justice Model of Wrongful Convictions*, 74 ALB. L. REV. 1465, 1501–02 (2010–2011); *The Causes of Wrongful Conviction*, INNOCENCE PROJECT, <http://www.innocenceproject.org/understand/> (last visited Nov. 17, 2013).

23. Samuel R. Gross, Kristen Jacoby, Daniel J. Matheson, Nicholas Montgomery & Sujata Patil, *Exonerations in the United States 1989 Through 2003*, 95 J. CRIM. L. & CRIMINOLOGY 523, 541, 544–51 (2005). For a discussion of the impact of race, see Andrew E. Taslitz, *Wrongly Accused: Is Race a Factor in Convicting the Innocent?*, 4 OHIO ST. J. CRIM. L. 121 (2006); Andrew E. Taslitz, *Wrongly Accused Redux: How Race Contributes to Convicting the Innocent: The Informants Example*, 37 SW. U. L. REV. 1091 (2008); Zalman, *supra* note 22, at 1495 n.153.

24. GROSS & SHAFFER, *supra* note 7, 40–79.

25. Leo & Gould, *supra* note 9, at 18.

26. *Id.* at 17–19.

researcher requires a comparison group. Without one, we cannot state for certain whether the frequent errors found in erroneous convictions are actually the “causes” of these miscarriages of justice because we do not know to what extent these errors are present in cases that did not result in an erroneous conviction.²⁷

In fact, there is evidence that these errors *do* occur in other cases. Several scholars have documented and analyzed cases in which mistakes led to an erroneous indictment of an innocent person, but the defendant was not convicted. Drizin and Leo and Leo and Ofshe, for example, have analyzed a number of false incriminating statement/confession cases that did not result in conviction,²⁸ while Cooley and Oberfield have identified several innocent defendants who were indicted, but not convicted, based on erroneous forensic science.²⁹ Recently, a joint study on child-death investigations by ProPublica, PBS *Frontline*, and NPR uncovered defendants indicted but not convicted based on flawed autopsies or lab reports (particularly in controversial shaken baby cases).³⁰ Although these accounts cite the reason for the defendant’s dismissal (such as a new autopsy report or DNA testing), they do not explain how the cases they document differ from other cases in which an innocent defendant was erroneously convicted.³¹

A research methodology that explicitly uses case comparison will help to close this gap. The method requires researchers to identify two similar types of cases that share “independent variables (such as type of crime, prior felony record, etc.) in order to, in effect, control for the potential explanatory effect of these influences on case outcomes.”³² Then, by examining the similarities and differences between the two sets of cases, researchers can identify what factors are uniquely present in either group of cases and statistically test these factors to see if they predict case outcomes. While prior case studies have comprised most of the research on wrongful convictions, several scholars have already used the group comparison method. To date, there have been four such studies, two by criminologists

27. *Id.*

28. Steven A. Drizin & Richard A. Leo, *The Problem of False Confessions in the Post-DNA World*, 82 N.C. L. REV. 891, 949–51 (2004); Leo & Ofshe, *supra* note 3, at 473–77.

29. Craig M. Cooley & Gabriel S. Oberfield, *Increasing Forensic Evidence’s Reliability and Minimizing Wrongful Convictions: Applying Daubert Isn’t the Only Problem*, 43 TULSA L. REV. 285, 292–368 (2007).

30. Chisun Lee et al., *The Child Cases*, PROPUBLICA (June 27, 2011, 11:00 PM), <http://www.propublica.org/special/the-child-cases>.

31. *See id.*

32. Leo & Gould, *supra* note 9, at 21.

(Talia Harmon,³³ and Talia Harmon and William Lofquist³⁴), and two by empirical legal scholars (Brandon Garrett,³⁵ and Samuel Gross and Barbara O'Brien³⁶).

Both Harmon's and Gross and O'Brien's research compared death row exonerations to cases in which the defendant was executed in order to determine why some capital cases lead to exonerations and others to execution.³⁷ Harmon and Lofquist, by contrast, sought to understand why some individuals wrongly convicted of capital crimes were exonerated, while others were executed; in turn, they compared eighty-one death row exonerations with sixteen death row prisoners whom they believed to be innocent.³⁸

Finally, Garrett compared 200 cases of innocent defendants exonerated by DNA testing to a similar randomly selected group of 200 cases that lacked

33. Talia Roitberg Harmon, *Predictors of Miscarriages of Justice in Capital Cases*, 18 JUST. Q. 949 (2001).

34. Talia Roitberg Harmon & William S. Lofquist, *Too Late for Luck: A Comparison of Post-Furman Exonerations and Executions of the Innocent*, 51 CRIME & DELINQ. 498 (2005).

35. Brandon L. Garrett, *Judging Innocence*, 108 COLUM. L. REV. 55 (2008).

36. Samuel R. Gross & Barbara O'Brien, *Frequency and Predictors of False Conviction: Why We Know So Little, and New Data on Capital Cases*, 5 J. EMPIRICAL LEGAL STUD. 927 (2008).

37. Harmon's first study compiled seventy-six cases from 1970 to 1998 in which death row prisoners were exonerated and released, as well as compared random data sets of inmates who were convicted at trial and executed from the same jurisdictions and years. Harmon, *supra* note 33, at 949, 957–58. Using logistic regression, she found that the discovery of new evidence, allegations of perjury, type of attorney, and the amount of evidence introduced at trial were all statistically significant predictors of exonerations. *Id.* at 959–64. Gross and O'Brien compared a sample of 105 capital cases where the defendant was sentenced to death and then later exonerated with a random sample of 137 executions carried out in the same period (1976–2003). Gross & O'Brien, *supra* note 36, at 948. Using chi-square tests, which can establish correlation but do not distinguish among intervening influences, Gross and O'Brien found that defendants who were exonerated were significantly less likely to be reported as mentally ill, more likely to have been tried for crimes that involved two or fewer victims, more likely to have been tried for crimes that involve children as victims, less likely to have confessed, more likely to have claimed innocence at trial, and less likely to have had an extensive criminal record, especially violent felonies. *Id.* at 951–57. They also found a significant difference in time from crime to arrest—the time was much longer in the exoneration cases than in the execution cases. *Id.* at 956–57.

38. Harmon & Lofquist, *supra* note 34, at 503–05. Harmon and Lofquist found that defendants who had a private or resource center lawyer representing them at trial (as opposed to a public defender) were significantly more likely to have their capital conviction correctly overturned and be exonerated. *Id.* at 511–15. The same was true for defendants whose prosecutors relied on fewer forms of evidence at trial, who raised allegations of perjury on appeal, who did not have a prior felony record, or whose case involved an African-American defendant and a white victim. *Id.*

DNA evidence showing innocence or guilt to examine the criminal justice processing of the two sets of cases.³⁹

While these studies have made a number of important and enduring contributions to understanding exonerations and wrongful convictions, their task was not to understand how the criminal justice system identifies innocent defendants in order to *prevent* erroneous convictions. More generally, one thing absent in the literature on erroneous convictions is an analysis of the factors that are uniquely present in cases that lead the system to rightfully acquit or dismiss charges against the innocent but that are not present in cases that lead to wrongful convictions. This type of analysis is important not only for advancing our understanding of the phenomenon of erroneous convictions, but also for developing policies and procedures that safeguard innocent defendants.

Our research seeks to build on and extend the comparative methodology of these earlier studies, as well as break new ground. First, we compare erroneous convictions with near misses. In both sets of cases, an innocent defendant entered the criminal justice system following indictment or information.⁴⁰ In one set, the prosecution continued to an erroneous conviction; in the other, the case against the defendant was typically dismissed, or less commonly, the defendant was acquitted at trial, each on the basis of factual innocence.⁴¹ Thus, our research question directly examines how the criminal justice system can and does “get it right” when faced with an innocent defendant. This, in turn, will provide needed insight into how the system can improve its ability to detect innocent defendants and prevent future erroneous convictions. In addition, we use a rigorous standard of innocence (described in greater detail below) that we believe eliminates any reasonable doubt about whether the defendants in the comparison group are actually guilty or innocent. Finally, by collecting 460 violent felony cases—including non-capital cases—from across the United States, we have ensured a large and diverse sample that is amenable to robust statistical techniques and analysis.

III. EMPIRICAL COMPARISON OF ERRONEOUS CONVICTIONS AND NEAR MISSES

Our study employed a mixed-methods approach that involved both quantitative and qualitative analyses. We began by identifying a set of

39. Garrett, *supra* note 38, at 59–60. Garrett’s results showed that, in general, the cases took similar paths. *Id.* at 73–130. The two sets of cases received reversals at essentially the same rate, and had similar rates of reversal based on factual error. *Id.* at 116.

40. Throughout this Article, we simplify the discussion by using the word “indictment.” This expression should be read to include those felonies initiated by information.

41. Ninety-one percent of the near misses in this study were dismissals, while only 9% of the near misses were jury acquittals. *See infra* Part III.A.

erroneous conviction and near miss cases. After researching and coding the cases along a number of variables, we analyzed the cases using bivariate and logistic regression techniques. With the assistance of an expert panel,⁴² we also explored the cases from a qualitative perspective and examined the statistical results in light of this exploration. We explain each step in more detail below.

A. DATA COLLECTION AND CASE CODING

Every case in our study involved a factually innocent defendant who was indicted post-1980 by a state for a violent felony against a person⁴³ and was subsequently relieved of all legal responsibility for the crime. We created two categories: (1) “erroneous convictions” for those defendants who were factually exonerated after conviction and (2) “near misses” for those who had charges dismissed before conviction or were acquitted on the basis of factual innocence.

The project employed a conservative definition of “factual innocence” that clearly distinguishes factual innocence (i.e., the defendant did not commit the crime) from innocence based on procedural error or other purely legal criteria (so-called “legal innocence”).⁴⁴ In each case analyzed in this study, we established factual innocence based on two separate components: (1) a judicial, executive, or legislative acknowledgement that the individual did not commit the crime for which he was erroneously

42. See *infra* Part III.A.

43. This includes murder in any degree, voluntary manslaughter, attempted murder, aggravated assault, rape or other sexual assaults involving penetration, attempted rape, and robbery. We acknowledge that the cases studied are not representative of the majority of criminal or even felony cases. This is a limitation shared by virtually all researchers in the field of erroneous conviction. Most known erroneous convictions and exonerations are for serious violent crimes, such as murder, rape, and robbery. *E.g.*, Garrett, *supra* note 35, at 61; Gross et al., *supra* note 23, at 528–29. In part this is because DNA evidence, the most powerful and uncontroverted method of proving innocence, is most often present in these types of crimes, whereas it is not available or analyzed in lesser offenses. Gross et al., *supra* note 23, at 528. In addition, the serious punishment for such crimes leads to greater incentives to prove an erroneous conviction. See *id.* at 531–32. Furthermore, dismissals or acquittals for less serious crimes usually do not receive enough system scrutiny or media attention to make them readily identifiable. See *id.* at 531–33. Even among rapes and murders, the known erroneous convictions and near misses are likely over-representative of cases with DNA evidence. Gross & O’Brien, *supra* note 36, at 938–40; Gross et al., *supra* note 23, at 530–31. Therefore, while our focus on serious violent felonies is inevitable and does not create a bias *between* the erroneous convictions and near misses, it should be kept in mind that the manner in which the criminal justice system identifies and handles innocent defendants accused of lesser or different crimes may be significantly different than our analyses suggest.

44. While a legally innocent defendant may also be factually innocent of the crime, this is not always true. *E.g.*, Gould & Leo, *supra* note 16, at 832–33.

indicted (including a statement of innocence by a prosecutor, governor, judge, state compensation board, or a juror after an acquittal); and (2) evidence that we believe would convince a reasonable person that the individual did not commit the crime (such as post-conviction DNA testing, the prosecution and conviction of another individual for the crime, or a new diagnosis of the victim's condition).⁴⁵ In general, a prosecutor's decision not to retry a defendant after a judge overturned the defendant's conviction was not, by itself, considered a sufficient statement of innocence to include the case in our study. However, in a few rare single-defendant rape cases in which DNA tests on the semen indisputably excluded the defendant as the contributor, we did not require the case to have an official statement of innocence.

We systematically identified potential cases using multiple approaches under a common methodology. These included: examining prior publications in the field; Internet searches; investigating media coverage of these incidents; querying individuals who had written extensively about erroneous convictions or who had worked for organizations involved in identifying and documenting erroneous convictions; and soliciting potential cases through coordinated national outreach to lawyers and criminal justice officials and organizations, including the Innocence Project, the National Institute of Justice, the National District Attorneys Association, the Association of Prosecuting Attorneys, and the National Association of Criminal Defense Lawyers. As a whole, the near misses were more difficult to identify because, in contrast to the information available for erroneous convictions, there are no databases—and comparatively few articles or books⁴⁶—specifically addressing acquittals and dismissals based on innocence.

Once the potential erroneous convictions and near misses were identified, researchers conducted a thorough assessment of the cases to determine if they met the project criteria, most importantly that of factual

45. Our decision only to include cases that had an official statement of innocence was to avoid having prosecutors, judges, or scholars question the legitimacy of our empirical claims. See Keith A. Findley, *Defining Innocence*, 74 ALB. L. REV. 1157, 1158 (2010–2011) (acknowledging prosecutors' and judges' resistance to believing claims of innocence). While requiring an official statement of innocence undoubtedly biases our sample against more controversial cases, we believe this is an acceptable trade-off for purposes of this study. We recognize, however, that there are other ways to define innocence to avoid the second-guessing of an empirical researcher's data set of erroneous conviction cases. See, for example, Drizin and Leo's methodology for establishing proven false confessions, which also could be used to establish proven wrongful convictions. Drizin & Leo, *supra* note 28, at 924–32.

46. See, e.g., BRENTON L. BUTLER, *THEY SAID IT WAS MURDER* (2004); JOHN PHILPIN, *SHATTERED JUSTICE: A SAVAGE MURDER AND THE DEATH OF THREE FAMILIES' INNOCENCE* (2006); GARY L. STUART, *INNOCENT UNTIL INTERROGATED: THE TRUE STORY OF THE BUDDHIST TEMPLE MASSACRE AND THE TUCSON FOUR* (2010).

innocence. Without relying on the assertions of others that a case constituted an erroneous conviction or near miss, the project conducted extensive research into case facts and contacted individuals who could confirm a statement of innocence. Throughout this process, researchers eliminated more than half the cases initially identified because they did not match the study's selective criteria.

In total, we identified 260 erroneous convictions and 200 near misses that met the project's definitions and included them in the study. Among the erroneous convictions, 87% ($n=226$) were jury trials, 5% ($n=12$) were bench trials, and 7% ($n=18$) were pleas. Among the near misses, dismissals were more likely than acquittals to meet the study's requirement of a statement of innocence.⁴⁷ As a result, 91% ($n=182$) of the cases were dismissals and the remaining 9% ($n=18$) were acquittals at a jury trial.

To determine what predicted an erroneous conviction rather than a near miss, we compared the two sets of cases on a number of factors. Our goal was to test the traditional legal sources of error suggested by prior wrongful conviction research,⁴⁸ as well as additional factors that focused on possible sociological and procedural differences between the cases. Sociological explanations for erroneous convictions posit that certain populations, including minorities and people from lower socioeconomic status or class background, are at greater risk of poor treatment in the criminal justice system.⁴⁹ Procedural explanations focus on aspects of the adversarial system or case posture that might influence the likelihood of an erroneous conviction—for instance, Gross and O'Brien's finding that the time from crime to arrest was much longer in exoneration cases than in execution cases.⁵⁰

Using these different explanations, we developed six conceptual categories of variables that may predict an erroneous conviction versus a

47. It proved extremely difficult to obtain an official declaration of innocence in acquittal cases because there is little reason for a public official or juror to give such a statement after a defendant succeeds in court. By contrast, it was much more common for a prosecutor to need (or want) to declare the defendant innocent when dropping charges against him, especially if the prosecutor planned to arrest or indict another suspect. In addition, statements by prosecutors at dismissal could often be found in the media or court documents, while obtaining an official statement of innocence in an acquittal usually required the much more difficult task of getting officials or jurors involved in the case to speak freely with the researcher.

48. See *supra* Part II.

49. See, e.g., MARVIN D. FREE, JR. & MITCH RUESINK, RACE AND JUSTICE: WRONGFUL CONVICTIONS OF AFRICAN AMERICAN MEN 1 (2012); Bedau & Radelet, *supra* note 20, at 39.

50. Gross & O'Brien, *supra* note 36, at 956–57. See generally Andrew D. Leipold, *How the Pretrial Process Contributes to Wrongful Convictions*, 42 AM. CRIM. L. REV. 1123 (2005) (discussing causes for wrongful convictions traditionally cited and suggesting pretrial criminal process should also be considered).

near miss: (1) location effects, such as the jurisdiction of the crime, whether the state uses the death penalty, and state ideology;⁵¹ (2) nature of the victim, such as age, sex, and relationship to the defendant; (3) nature of the defendant, such as race, socioeconomic status, and criminal history; (4) facts available to the police and prosecutor, such as eyewitness identification, confession, and type of forensic evidence; (5) quality of work by the criminal justice system, such as errors or misconduct by forensic examiners, police officers, and prosecutors; and (6) quality of work by the defense, such as type of defense attorney, number of witnesses, and whether an expert was called. These categories are captured by over 600 statistical variables in our quantitative analysis.

We utilized multiple sources to investigate cases and collect relevant case facts. We obtained court or other governmental records either through the state institution itself (such as searchable online court records, transcripts, PACER, and gubernatorial archives), or through the Innocence Project's database of trial transcripts and court proceedings from a subset of its cases. We collected additional case facts through academic articles and

51. Many of the states with the highest number of exonerations are also states with large death rows. See Garrett, *supra* note 35, at 67–68; Gross et al., *supra* note 23, at 541. In addition, it appears that exoneration rates for death sentences are much higher than for other murder convictions and for criminal convictions generally. Gross et al., *supra* note 23, at 531–33. The connection between the use of the death penalty and wrongful convictions may be the result of the fact that capital cases are sometimes afforded greater legal protections (such as increased opportunities to appeal or additional counsel) and are often highly scrutinized by a strong local activist community. *Id.* at 531–32. The greater scrutiny and incentives may result in the discovery of more erroneous convictions. *Id.* If this is the case, then the death penalty is not a source or predictor of the occurrence of erroneous convictions, but rather simply related to how these cases are uncovered. *Id.* However, an alternative explanation for the relationship between the death penalty and higher rates of erroneous convictions is that the death penalty is indicative of a local legal culture that is violent, punitive, and often historically racist. See BESIKI KUTATELADZE, IS AMERICA REALLY SO PUNITIVE?: EXPLORING A CONTINUUM OF U.S. STATE CRIMINAL JUSTICE POLICIES 36–40 (2009); John K. Cochran et al., *Political Identity and Support for Capital Punishment: A Test of Attribution Theory*, 29 J. CRIME & JUST. 45, 52–54 (2006); see also James W. Clarke, *Without Fear or Shame: Lynching, Capital Punishment and the Subculture of Violence in the American South*, 28 BRIT. J. POL. SCI. 269, 274–76 (1998); Jeff Yates & Richard Fording, *Politics and State Punitiveness in Black and White*, 67 J. POL. 1099 (2005) (arguing that conservative political environments are disproportionately punitive against blacks). See generally William M. Holmes, Am. Soc'y of Criminology, *Wrongful Convictions in Capital Cases and the Legacy of Lynching* (2002), available at http://www.faculty.umb.edu/william_holmes/cplynch.htm (comparing capital punishment to “legalized lynching”). These traits may make police, prosecutors, and the community in such jurisdictions more likely to seek convictions despite evidence of innocence. Prior research supports that local legal culture may influence the disposition of a defendant's case. See Thomas W. Church, Jr., *Examining Local Legal Culture*, 1985 AM. B. FOUND. RES. J. 449, 451–53. Based on this reasoning, we hypothesize that near misses will occur more often in areas with a less punitive local legal culture as indicated by no death penalty or small death penalty rates.

news sources. We also supplemented written documents with interviews of sources knowledgeable about the cases, including defense attorneys, prosecutors, journalists, police officers, former judges, jurors, and others involved in the cases. The interviews were especially important for the near misses, which had far sparser case files than the erroneous convictions.

We also rated both sets of cases using a modified version of an instrument from the Police Foundation that examines the strength of evidence available to police, prosecutors, and defense attorneys.⁵² The purpose was to allow us to distinguish between “easy” cases, in which few people would have considered a defendant to be guilty, and “harder” cases, where the facts of a case might have convinced many reasonable people to believe the defendant was guilty even though he was innocent. Evaluating cases in this way also helped assess a possible criticism of the research—that near misses cannot be effectively compared to erroneous convictions because they will always be the weaker cases.

Finally, we convened a panel of experts in the criminal justice field, including two retired judges, two prosecutors, a defense attorney, a police sergeant, a forensic scientist, and several social science and legal scholars. We asked the panelists to individually review a sub-sample of our cases and then, over a two-day period, discuss as a group the reasonableness of individuals’ actions in the cases, what differentiated the cases that led to an erroneous conviction from those that resulted in a dismissal or acquittal, and any measures that might enhance the ability of the criminal justice system to identify and appropriately respond to factually innocent defendants. This qualitative assessment of the cases was designed to ensure that we did not miss any important differences between the two sets of cases that were not amenable to quantitative analysis and examine more in-depth those factors that were statistically significant.

52. The project chose the Police Foundation’s scale as the most appropriate tool for this research because it appears to be the only evidentiary strength rating scale for which “content-oriented validity evidence” has been generated through subject matter experts. For a discussion of the scale’s development of “content-oriented validity,” see E-mail from Karen Amendola, Chief Operating Officer, Police Foundation, to Jon Gould, Professor & Dir., Wash. Inst. for Pub. Affairs Research, Am. Univ. (Apr. 21, 2011, 3:12 PM) (on file with authors). The scale was originally designed by the Foundation as a method of getting at “ground truth” (e.g., is the suspect really guilty?) when assessing the effect of presentation format on the rate of false or correct eyewitness identifications. *See id.* The original scale contains six categories of information or evidence; each category in turn contains exemplars that have been given a rating on a 5-point scale (5 being strong evidence, 1 being weak evidence). These exemplars serve as “anchors” for the investigator or researcher when assessing how the investigator’s own case facts should be rated. With the help of the Foundation, we made some minor modifications to the scale to improve its usefulness for our research. In addition to including a few new exemplars, we added a seventh category to rate the strength of the defense, and converted the 5-point scale into a 3-point scale.

B. BIVARIATE ANALYSIS

Using bivariate analysis to compare the relative frequencies of the variables between the two sets of cases, we identified over twenty factors that bear a statistically significant relationship to case outcome, even when controlled for by time period,⁵³ state,⁵⁴ and type of crime.⁵⁵

Interestingly, bivariate analysis confirms the significance of all six conceptual categories (location effects, nature of defendant, nature of victim, facts available, quality of criminal justice officials, and quality of defense), revealing that a broad range of factors correlate with case outcome. The significant variables include several of the traditional “causes” of wrongful conviction, such as forensic error, *Brady* violations, strength of defense, and mistaken identification of defendant, as well as some that appear unique to our study, including whether the defendant was a high school graduate, the defendant’s age, and whether the defense offered a family witness. Note, though, that these relationships reflect only correlation. We take up causation later in this Part when presenting the regression results.

53. Our concern was that enhanced forensic technology and improved police procedures might skew the distribution of erroneous convictions and near misses over time, and indeed, our near misses did include more recent cases. We wanted a control variable that reflected the point at which forensic methods and investigative techniques would have significantly advanced over prior periods. We selected 1989 for these purposes, which represents the first year that DNA was used to exonerate an innocent defendant. See *infra* Table 1.

54. We controlled for one state—Illinois—in which erroneous convictions were disproportionately located. Here, our concern was that the added frequency may have reflected the circumstances under which erroneous convictions were uncovered as opposed to those forces that would have led to a mistaken conviction. Illinois has seen considerable attention by innocence projects and journalists to uncover erroneous convictions, especially in capital cases. The findings were so profound that they led then Illinois Governor George Ryan to commute the sentences of all defendants then on the state’s death row. Gould & Leo, *supra* note 16, at 830–31, 858; see also GROSS & SHAFFER, *supra* note 7, at 32–33; Locke E. Bowman, *Lemonade out of Lemons: Can Wrongful Convictions Lead to Criminal Justice Reform?*, 98 J. CRIM. L. & CRIMINOLOGY 1503–05 (2008) (reviewing JON B. GOULD, THE INNOCENCE COMMISSION: PREVENTING WRONGFUL CONVICTIONS AND RESTORING THE CRIMINAL JUSTICE SYSTEM (2007)). In this vein, we checked the case distributions for disproportionate influence from other localized “scandals,” such as problems in the Houston crime lab or corruption in the Los Angeles Police Department’s Rampart Division. Those effects were not sufficiently sizeable to necessitate a control. See *infra* Table 1.

55. We controlled for murder and sexual assault, which made up the vast majority of our cases. Our near misses included more murder cases than did the erroneous convictions, possibly as a result of sampling. That is, we had to rely more on media coverage to identify the near misses, because there is little previous research on these cases; this may have oversampled murders—the most serious and therefore most high profile crimes in the community. See *infra* Table 1.

At the same time, perhaps one of the most important findings from this project is which variables do *not* explain the different outcomes between erroneous convictions and near misses. Indeed, a number of variables that are often discussed by scholars as possible “causes” of erroneous convictions were not correlated with case outcome in the bivariate analysis (Table 2). Among these are official error and misconduct (other than *Brady* violations), jailhouse informants, false incriminating statements/confessions, and various eyewitness misidentification variables.⁵⁶

TABLE 2. POTENTIALLY IMPORTANT FACTORS THAT WERE NOT STATISTICALLY SIGNIFICANT

Variable	Erroneous Convictions Total % (N)	Near Misses Total % (N)
Eyewitness Identification†	82 (260)	75 (200)
Incriminating Statement	22 (259)	29 (200)
Lying by Snitch	11 (260)	7 (200)
Similar Criminal History††	17 (132)	25 (65)
Police Error	16 (259) [Alleged: 14]	11 (198) [Alleged: 15]
Prosecutor Error	9 (260) [Alleged: 7]	6 (199) [Alleged: 6]
Police Misconduct	8 (259) [Alleged: 9]	12 (199) [Alleged: 15]
Prosecutor Misconduct	4 (260) [Alleged: 5]	3 (200) [Alleged: 4]

† Most of the other variables concerning eyewitness identification (such as type of identification procedure or time between crime and identification) were also statistically indistinguishable between erroneous convictions and near misses. The important exception is whether the misidentification was intentional; this was statistically significant and is discussed in greater detail in the text.

†† Percentage excluding cases where the defendant had no criminal history.

Lest there be any misunderstandings, our results do *not* suggest that these variables are unrelated to either erroneous convictions or near misses. In fact, although their rates were so similar that they do not statistically account for divergent case outcomes in the bivariate analysis, factors such as eyewitness misidentification and false incriminating statements/confessions

56. These included: whether there was a misidentification, the number of eyewitnesses, whether the eyewitness was certain of her identification, whether the eyewitness provided a description of the defendant, whether the victim needed multiple tries to identify the defendant, whether a non-victim eyewitness made a cross-racial identification, and the type of identification made by a non-victim eyewitness (e.g., photo array, show-up).

occurred regularly in both sets of cases. We address this point in greater detail in Part IV, suggesting that these errors may lead to the arrest and indictment of an innocent defendant. But, once a factually innocent defendant enters the criminal justice system, the findings here indicate that conviction will not statistically turn on differences in those factors.

C. LOGISTIC REGRESSIONS

Our bivariate results show that over twenty factors are related to erroneous conviction; logistic regression analysis takes this a step further by showing which of these variables can predict an erroneous conviction.⁵⁷ Table 3 displays the results from our full model of logistic regression,⁵⁸ which appears to be excellent at predicting the outcome of interest, as the model fit is strong.⁵⁹

57. With few exceptions, the variables that remained significant, despite the controls, were retained as candidates for logistic regression. At the same time, despite the fact that they remained statistically significant when controlled, a few variables had such low frequencies that they violated the assumptions of the chi-square tests and could not be included in the regression models. These included: the presence of medical error, whether federal law enforcement participated in the case investigation, and whether the defense presented DNA evidence. In addition, notwithstanding its statistical significance, we did not consider it necessary to retain the U.S. census region where the case occurred because interstate differences were accounted for by such variables as presidential vote, death penalty culture (which served as a measure of state punitiveness), and state crime rate, among others. Furthermore, a number of variables that washed out when controlled were nevertheless retained for further testing due to their original significance when all cases were analyzed or their theoretical importance in prior criminal justice research; those, primarily, were variables representing race effects and lying by a non-eyewitness or jailhouse informant. Interestingly, most of these variables did not prove explanatory in logistic regression. The exception was lying by a non-eyewitness, which proved to be significant and was included in our final regression model.

58. To recover missing data, we used multiple imputation. Multiple imputation is the process of filling missing data with plausible values. The primary benefit of multiple imputation is retention of case data; because of this, as King et al. note, methodologists and statisticians are nearly unanimous in their agreement that multiple imputation is a better technique to deal with missing data than the conventional applied data analysis approach—listwise deletion. Gary King, James Honaker, Anne Joseph & Kenneth Scheve, *Analyzing Incomplete Political Science Data: An Alternative Algorithm for Multiple Imputation*, 95 AM. POL. SCI. REV. 49, 50 (2001).

59. To evaluate the model fit in our binary dependent variable models we use the Receiver Operating Characteristic (“ROC”) curve. The area under the ROC curve and above the 45° line gives a unique measure of model fit. In the models that we estimate, we use this area under the ROC curve statistic as the measure of model fit. While there is not a standard for what this number should be, between 80% and 89% is generally considered a good model, and above 90% is an excellent model for predicting the outcome of interest. The area under the ROC curve for our full regression model is 90.8%, suggesting a strong predictive model.

TABLE 3. FACTORS THAT INFLUENCE THE LIKELIHOOD OF AN ERRONEOUS CONVICTION

Concept	Variable	Coef.	(Std. Err.)
<i>Location Effect</i>	Death Penalty Culture	172.848**	(57.809)
	Crime Consistency	1.086	(0.792)
	Female Victim	0.601	(0.463)
	High Profile Case	-0.715	(0.486)
<i>Nature of the Defendant</i>	Age	-0.055**	(0.027)
	Black Defendant	0.213	(0.383)
	High School Grad	-0.309	(0.483)
	Prior Criminal History	0.850***	(0.296)
<i>Nature of the Facts</i>	Strength of Pros. Case	-1.091**	(0.490)
	Forensic Error	0.956**	(0.467)
	Non-Eyewitness Testimony/Evidence	0.333	(0.461)
	Testimony Discrepancy	0.422	(0.472)
	Unique Perpetrator Description	0.270	(0.480)
	Intentional MisID	-0.890**	(0.448)
<i>Quality of Work by CJ System</i>	Pros. Withheld Evidence	1.655***	(0.557)
	Lying Non-Eyewitness	1.159**	(0.574)
	Time from Arrest to Indict.	0.241	(0.493)
<i>Quality of Defense</i>	Strength of Defense Case	-1.043**	(0.470)
	Physical Alibi	-0.716	(0.489)
	Other Suspect	-0.693	(0.534)
	Evidence of Misconduct	-0.989*	(0.488)
	Family Witness	0.887***	(0.290)
<i>Controls</i>	Illinois Cases	0.953**	(0.419)
	Post-DNA	-1.213***	(0.347)
	Murder Cases	-0.674*	(0.364)
	Constant	-0.131	(2.111)

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Among the variables related to location effect, the nature of the crime, and the nature of the victim, only the death penalty culture/punitiveness measure⁶⁰ has a consistent impact on case outcome; more specifically, defendants in states with greater use of the death penalty are more likely to be erroneously convicted. Other such variables, including the demographics of the victim, are insignificant.

Among defendant characteristics, the defendant's age and any prior criminal history influence case outcome. Older defendants are less likely to be erroneously convicted, and defendants with prior criminal histories are more likely to face an erroneous conviction. Other defendant characteristics, such as race and high school graduation, have no impact in distinguishing between an erroneous conviction and near miss.

Three factors related to the nature of the facts are associated with erroneous convictions, although not necessarily as expected. To be sure, errors in forensic analysis increase the likelihood of an erroneous conviction, but the stronger the prosecution's case, the less likely an erroneous conviction occurs. So, too, intentional misidentification is associated with decreases in the likelihood of an erroneous conviction. The other three factors are insignificant.

Evaluating the work of the criminal justice system, two variables are associated with an increased probability of an erroneous conviction. The prosecution's withholding of evidence and lying by a non-eyewitness are both positively associated with an erroneous conviction. The time to arrest from indictment is not related.

Three components of the quality of defense are associated with a change in the probability of an erroneous conviction. When the defense has a stronger case, an erroneous conviction is less likely. Additionally, when the defense presents evidence of misconduct, it reduces the likelihood of an erroneous conviction, but at a lower degree of certainty than the other measures ($p < 0.10$). The existence of a family witness is associated with an *increase* in the likelihood of an erroneous conviction. Other evidence presented by the defense, including a physical alibi and another suspect, do not systematically relate to case outcome.

60. We measured the death penalty/state punitiveness variable in several ways, including: (1) state executions post-1976 per state population; (2) state executions post-1976 per number of state murders; and (3) a ranked level of state punitiveness developed by Besiki Kutateladze. KUTATELADZE, *supra* note 51, at 13 (creating a multidimensional measurement of state punitiveness). We primarily used the first measure in bivariate analysis, but state death penalty culture, defined as the number of executions post-1976 per number of murders, proved to be the most robust measure in the regression analyses, and thus we selected it for the final model.

Finally, as with the bivariate analysis, we controlled for time period (post-DNA), type of crime (murder), and state (Illinois).⁶¹ All of the control variables are significantly associated with case outcome. Although we do not discuss the substantive influence of these variables, their inclusion assures us that the results for the key theoretical variables are not spurious.

Our analysis also reveals the predicted probabilities for each variable in the full regression model.⁶² For the dichotomous variables,⁶³ we show the change in the probability of an erroneous conviction given a change in one of these variables from zero to one. For the continuous measures,⁶⁴ we display the change in the probability of an erroneous conviction given a change in the independent variable from its minimum to its maximum. For instance, as the age of the defendant increases from its minimum (fourteen) to its maximum (seventy-six), the likelihood of an erroneous conviction decreases, on average, by 65%. Figure 1 also indicates the 95% confidence intervals of our statistics, i.e., the range of values within which we are 95% certain that the true value of the statistic falls. The shorter the horizontal line, the smaller the confidence interval; this means that the statistic is quite close to the true value, and thus we are relatively certain about our findings. For example, Figure 1 shows that we are more certain of our finding regarding the level of impact of the defendant's prior criminal history than we are about the level of impact of the prosecutor withholding evidence.

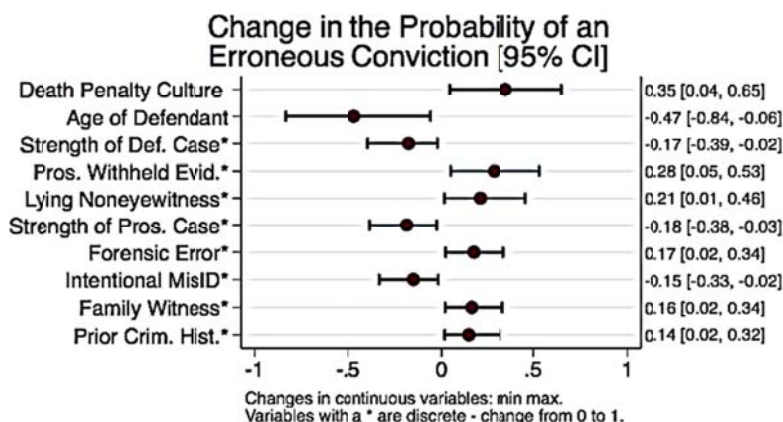
61. Logit or probit models will both produce similar coefficient estimates that are simply different by a factor of about 1.7. See J. SCOTT LONG & JEREMY FREESE, *REGRESSION MODELS FOR CATEGORICAL DEPENDENT VARIABLES USING STATA* 136–45 (2d ed. 2006). Although here we report the models controlled for murder, we also estimated all of the models with rape and produced similar results.

62. See *infra* Figure 1. Using Clarify, we performed 1000 simulations over the five datasets created using multiple imputation and predicted the change in the probability of an erroneous conviction given changes in the independent variables while holding all other variables at their means. See Gary King, Michael Tomz & Jason Wittenberg, *Making the Most of Statistical Analyses: Improving Interpretation and Presentation*, 44 AM. J. POL. SCI. 347, 351 (2000). Using Boehmke's algorithm, we then plotted these predicted probabilities and their standard errors. See FREDERICK J. BOEHMKE, *PLOTFFDS: A STATA UTILITY FOR PLOTTING FIRST DIFFERENCES* (2008).

63. These include: Prior Criminal History, Forensic Evidence Error, Intentional Misidentification, Lying Non-Eyewitness, Strength of the Prosecution's Case, Prosecutor Withheld Evidence, Strength of the Defense's Case, and Family Witness.

64. These include: Death Penalty Culture and Age of the Defendant.

FIGURE 1. PROBABILITY OF AN ERRONEOUS CONVICTION



In sum, using bivariate analysis we identified over twenty factors that distinguish erroneous convictions and near misses; ten of those factors were also significant in our logistic regression model. The latter predictors—which include the age and criminal history of the defendant, punitiveness of the state, *Brady* violations, forensic error, weak defense, weak prosecution case, family defense witness, non-intentional misidentification, and lying by a non-eyewitness—help explain why an innocent defendant’s case, after indictment, is either dismissed or leads to an erroneous conviction. These factors include several of the traditional legal sources of erroneous convictions as well as sociological (but not procedural) variables, suggesting that the difference in case outcome for an innocent defendant is the result of a relatively complex and diverse process. In Part IV, we examine more in depth what this process may look like.

IV. THE BIGGER PICTURE: UNDERSTANDING AND IMPROVING HOW THE CRIMINAL JUSTICE SYSTEM HANDLES INNOCENCE

Our findings indicate that several of the traditional “causes” of erroneous convictions—including forensic error and quality of defense—do indeed separate erroneous convictions from near misses, while others—such as criminal-justice-official error and false incriminating statements/confessions—appear in statistically non-differentiable rates in both sets of cases. Therefore, only the former factors can be considered statistical predictors of erroneous convictions once an innocent defendant has been indicted. However, this does not mean that the latter issues do not contribute to erroneous convictions. While our statistical analysis indicates that the non-significant factors are insufficient in themselves to statistically

predict that an innocent defendant will be convicted, their very numbers in both sets of cases indicate that they do play a role, and it is clear that some types of erroneous evidence—such as false incriminating statements/confessions—create a very high (and statistically significant) risk of erroneous conviction if the case is not dismissed but instead proceeds to plea bargaining or trial.⁶⁵ However, it is beyond the scope of this Article to provide an analysis of the varied conditions and causal pathways under which factors such as false incriminating statements/confessions lead to erroneous convictions.

To fully understand our statistical results, a qualitative assessment of the cases, aided by the expert panel, was vital. Discussions with the panelists placed the quantitative findings within the greater context of the criminal justice system, creating a narrative of the system-wide processes that can influence case outcome. From this, we conclude that there is a difference in what contributes to the mistaken indictment of an innocent defendant and what factors then increase the likelihood that the indictment will lead to an erroneous conviction. The key distinction between the erroneous convictions and near misses is the point in the criminal justice system at which they diverge.

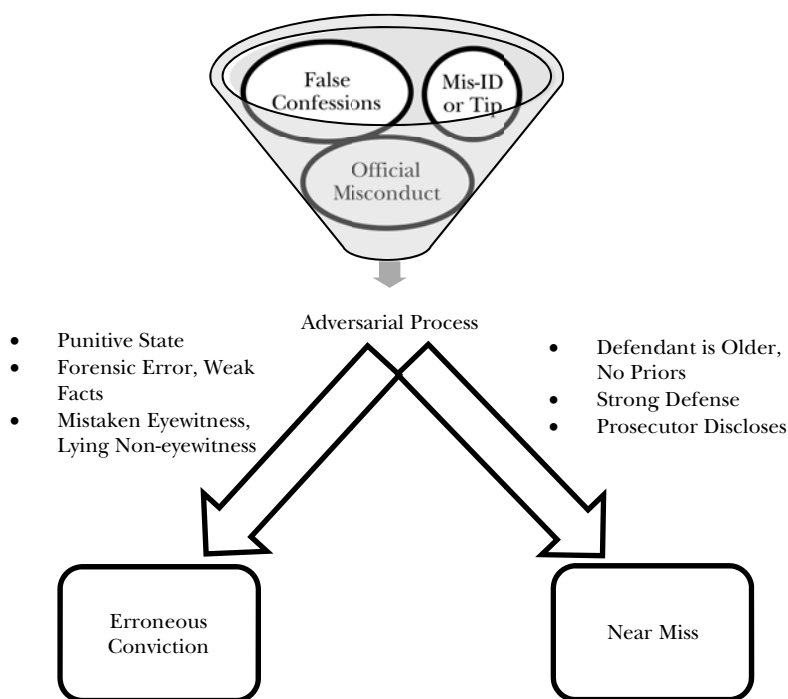
Many of the near misses and erroneous convictions started in a similar way—most frequently a misidentification or false incriminating statement/confession, but sometimes an official error or anonymous tip—that led to an indictment. That is, regardless of the ultimate resolution of a case, an innocent individual entered the criminal justice system because, for example, a witness falsely implicated him, a prosecutor or police officer

65. Consistent with earlier research by Richard Leo, Richard Ofshe, and Steve Drizin, our data on false incriminating statements/confessions show that if a false confessor's case is not dismissed prior to trial, it creates a *substantial* and *statistically significant* risk of leading to a wrongful conviction. Seventy-five percent (42/56) of our wrongful-conviction, false-incriminating-statement/confession cases involved a jury trial, whereas 25% (14/56) resulted from a plea bargain. Ninety percent (51/57) of our near-miss false-incriminating-statement/confession cases were dismissed prior to trial, whereas 10% (6/57) resulted in acquittal. Remarkably, if an innocent false confessor in our combined sample of wrongful-conviction and near-miss cases did not have his case dismissed but instead proceeded to plea bargaining or trial, he stood a 90% (56/62) chance of being wrongfully convicted. Almost equally remarkable, if the false confessor took his case to trial, he stood an 88% (42/48) chance of being wrongfully convicted. This is even higher than in the research Leo and Ofshe reported, which demonstrated that 78% (29/37) of the false confession cases in their study that were not dismissed (i.e., proceeded to plea bargaining or trial) were convicted while 73% (22/30) of those who took their case to trial were convicted. See Leo & Ofshe, *supra* note 3, at 478 tbl.b2. Similarly, Drizin and Leo found that 86% (44/51) of the false confession cases in their study that were not dismissed were convicted, and 81% (30/37) of those who took their cases to trial were convicted. See Drizin & Leo, *supra* note 28, at 953 tbl.8.

made an error, or he was induced to confess.⁶⁶ But an initial error need not necessarily lead to an erroneous conviction. Our near misses show that many erroneous indictments result in a dismissal or acquittal instead.

Thus, the divergent outcomes rest upon mitigating factors—our statistically significant variables—that intervene in the investigation and prosecution of a crime and subsequently influence the likelihood of a mistaken conviction. Some of the factors are environmental or static (and therefore largely uncontrollable), such as the defendant's age, his number of prior offenses, and the state's level of punitiveness. Others, namely the strength of the prosecution and defense and whether there is error in forensic testing, are dynamic and therefore directly dependent on the actions of the people involved in the adversarial system. A summary of the pathways leading to divergent case outcome is illustrated in Figure 2.

FIGURE 2. DIVERGENT PROCESSES OF INNOCENCE CASES



66. Chi-square analysis on our data mirrors the findings of other scholars that defendants are more likely to falsely confess if they are a minority, juvenile, or have a mental disorder. *Cf.*, e.g., Garrett, *supra* note 35, at 89; Gross et al., *supra* note 23, at 534; Kassin et al., *supra* note 20, at 8–9, 19. This holds true for both the erroneous convictions and the near misses. Thus, it appears that these populations are at increased risk of false confession and hence of a wrongful arrest and indictment. Race and mental status do not seem to increase the risk of an erroneous conviction after the indictment, although as we have discussed, the defendant's age continues to be significant after indictment, predicting an erroneous conviction rather than a near miss.

To understand the divergence illustrated in the schematic, we examine the ways in which each of our statistically significant mitigating factors influences the development of a case against an innocent defendant and intervenes to increase or decrease the likelihood of an erroneous conviction. We then discuss their collective operation within a systemic framework offered by the expert panel—namely, tunnel vision. Examining how these factors predict an erroneous conviction or a near miss leads to suggestions about how to both protect at-risk defendants and reform the system.

A. STATE PUNITIVENESS

Defendants in punitive states appear to be at an increased risk of erroneous convictions once indicted.⁶⁷ In a punitive legal culture, police and prosecutors may be more interested in obtaining a conviction at all costs (leading to greater *Brady* violations, etc.), and community pressure may encourage overly swift resolutions to cases involving serious crimes like rape and murder.⁶⁸ Additionally, officials in more punitive states may be more likely to assume the defendant's guilt. This culture eventually works against the defendant, as state agents overlook or under value evidence that contradicts the assumption of guilt. By contrast, defendants in less punitive jurisdictions might benefit from a law enforcement or legal community willing to consider exculpatory theories or evidence. Among the near misses in our study, there were many examples of prosecutors in less punitive jurisdictions who actively questioned the case prepared by the police or another prosecutor, as well as judges who rigorously vetted evidence, such as confessions, during pretrial hearings.

67. We measured state punitiveness/death penalty culture in several ways. *See supra* note 60. Only one measure—state death penalty culture defined as the number of executions post-1976 per number of murders—was significant in the regression model. *See supra* note 60 and accompanying text. Therefore, while we think the relationship between state punitiveness and erroneous conviction is worth exploring, our conclusions regarding this variable are more tentative than our other findings.

68. *See infra* note 89 and accompanying text. Note that while a history of racism or poor race relations in many punitive jurisdictions may account for some increase in the likelihood of an erroneous conviction in these states, both the race of the defendant (57% of defendants in the wrongful convictions were African American versus 37% for near misses) and the proportion of minorities in the state were not statistically significant when controlled for type of crime. *See infra* Table 1. This leads us to conclude that racial discrimination cannot be the primary reason for the significance of state punitiveness.

B. DEFENDANT'S PRIOR RECORD

A prior record may harm an innocent defendant in different ways and at different times during the case.⁶⁹ If the defendant has a previous arrest or conviction, his picture is probably in a mug book, and he is more likely to be placed in a lineup; that fact alone may place a defendant in jeopardy that a witness will erroneously choose his photo for a crime he did not commit. But our study shows that a defendant's prior record may continue to harm the defendant even after indictment—in fact, it helps predict whether the defendant will be convicted or have his case dismissed.

We surmise that one reason the defendant's record is influential even after indictment is that prior criminal history can bias police and prosecutors into prematurely narrowing their focus on the defendant and ignoring potentially exculpatory evidence. For example, if an innocent defendant is mistakenly identified by an eyewitness (or implicated in a crime in some other way, such as an anonymous tip), the police and prosecutors must decide whether he is really a viable suspect, or whether the evidence against him is misleading and unreliable. If the former, the investigation will quickly focus on ruling the defendant *in* as the perpetrator; if the latter, police and prosecutors may take active measures to attempt to *exclude* him. In evaluating the viability of the suspect, investigators consider a defendant's criminal history. If the defendant has no criminal record, the police are more likely to view inculpatory evidence with skepticism, arguing that this is not the type of person who is likely to commit a crime. They are more likely to investigate whether a mistake has been made. The opposite would be true if the defendant had a history of arrests or convictions.

Furthermore, somewhat surprisingly, our results suggest that it is simply prior involvement with the criminal justice system that puts a suspect at greater risk for an erroneous conviction, rather than the specifics of that involvement. Among defendants with a prior conviction, there was not a significant difference between the erroneous convictions and near misses based on the number of the prior convictions or even whether the priors involved a history similar to the crime at hand. In fact, in both sets of cases, only a relatively modest percentage of defendants had a record that was similar to the crime at issue (17% among erroneous convictions, 25%

69. Other scholars have discussed this point. See, e.g., Harmon & Lofquist, *supra* note 34, at 509–10 (finding that innocent defendants with no prior felony record were more likely to be exonerated than executed); Larry Laudan & Ronald J. Allen, *The Devastating Impact of Prior Crimes Evidence and Other Myths of the Criminal Justice Process*, 101 J. CRIM. L. & CRIMINOLOGY 493, 497–98 (2011) (discussing the impact of prior-crimes evidence at trial, in particular for innocent defendants); see also Arye Rattner, *Convicted but Innocent: Wrongful Conviction and the Criminal Justice System*, 12 L. & HUM. BEHAV. 283, 287–90 (1988) (describing past wrongful conviction cases); cf. Gross & O'Brien, *supra* note 36, at 956 (finding that exonerated defendants were much less likely than executed defendants to have serious criminal records).

among near misses). We conclude that while there is undoubtedly some utility in considering a defendant's record to determine if there is a history of similar or signature crimes, the fact that the majority of erroneously convicted defendants in our group had completely unrelated and very often minor convictions, suggests that putting weight on less relevant prior history may pose an unwarranted risk for innocent defendants.

C. DEFENDANT'S AGE

Statistically, a defendant's age predicts erroneous convictions, with younger defendants seeing a higher likelihood of conviction. While being young is usually not enough to cause the police to suspect an innocent individual, once indicted a defendant's age may work against him. A younger defendant will often not have the sophistication or knowledge to aid in his defense and may be slow to realize the gravity of the situation. Compared to older suspects, he will often be less able to withstand the demands of the police, and his story may be less credible to detectives. In addition, among our cases, many erroneously convicted teenaged and young adult defendants had difficulties establishing their alibis, either because they did not have full-time jobs (where they would have clocked in and out on a computer, for example) or because their alibi witnesses, rather than a boss at work or reputable coworkers, were young transient friends that failed to impress the police.

D. INTENTIONAL MISIDENTIFICATION

Misidentifications as a whole did not differ appreciably between erroneous convictions and near misses.⁷⁰ However, when we distinguished intentional misidentifications from honestly mistaken misidentifications, the difference became statistically significant, with honest mistakes predicting erroneous convictions and intentional misidentifications associated with near misses. Although it may seem counterintuitive, a lying witness may actually be easier for police and prosecutors to detect with further investigation than one who is honestly mistaken. For example, in one near miss in our study, the "victim" was a college student who said her professor had raped her. While her identification of the professor was credible, further police investigation uncovered strong indications that she was lying (emails that she had retouched, a forged restraining order, etc.). When confronted with this evidence, the victim confessed that she had made up the sexual assault.⁷¹ By contrast, if the case had involved an honest

70. See *supra* Part III.

71. Of course, while uncovering an intentional misidentification might be easier, it usually still requires a rigorous investigation to determine the true facts of the case—if police had not

misidentification by the victim (as did the majority of erroneous convictions), there would not likely be a “smoking gun” for the police to find and discredit the identification.

E. FORENSIC ERRORS

In many of the erroneous convictions, forensic evidence served to compound earlier misconceptions or mistakes, rather than correct them, thereby increasing the chance that the innocent defendant would be convicted. In some cases, forensic evidence was not collected or incorporated into the case because a pre-judgment about the defendant's guilt made it seem unimportant or non-probative.⁷² In other cases, errors in the forensic evidence itself served to implicate the innocent defendant and further derail the investigation. The most common error was improper forensic testimony at trial that was biased towards the prosecution and against the defendant.⁷³ In these instances, it appears that the state used forensic science merely to confirm its case rather than provide a rigorous, independent assessment of the defendant's guilt.

By contrast, the proper use of forensic evidence may increase the likelihood that an innocent defendant, once indicted, will eventually have his case dismissed. As was the case in many of the near misses, if viewed impartially, forensics (such as DNA testing of rape kits) can successfully combat a mistaken eyewitness, disprove a false incriminating statement or confession, or otherwise challenge the original evidence against the defendant. For example, one near miss involved a severely drug-addicted husband found at the scene of the crime who admitted he could have killed his prostitute wife in a drug-induced haze. Despite the fact that the husband was indicted as the “perfect” suspect, the police ordered blood tests on physical evidence near the victim. When the tests came back excluding the husband, the police took the results seriously and ordered a more thorough investigation. The state painstakingly tracked another suspect from the victim's hotel room to a local hospital, and eventually built a much more solid case against him; he subsequently confessed and was properly

been diligent, this case, as many other near misses, may have ended in an erroneous conviction instead.

72. For example, in the murder of several prostitutes, the State decided that DNA that did not match the defendant was “non-probative” as to his guilt. The argument was that semen evidence from a prostitute was useless for discovering her murderer given the victim's sexual promiscuity. The State's earlier theory, however, belied this position, as they claimed the defendant had a sexual encounter with the victims prior to killing them.

73. See GARRETT, *supra* note 6, at 12, 73; Simon A. Cole, *Forensic Science and Wrongful Convictions: From Exposer to Contributor to Corrector*, 46 NEW ENG. L. REV. 711, 711–36 (2012); Brandon L. Garrett & Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 VA. L. REV. 1, 4–5 (2009).

convicted. In that case, a thorough and unprejudiced evaluation of forensic evidence uncovered the weaknesses in the initial inculpatory evidence against the defendant and saved him from a conviction.

F. THE PROSECUTION'S CASE: WEAK FACTS, BRADY VIOLATIONS, AND FALSE NON-EYEWITNESS TESTIMONY

Of all the statistically significant factors that harm an innocent defendant, a weak prosecution case is hardest to explain. Intuitively, we might expect the opposite—that cases with weaker evidence against the defendant would be more likely to end in dismissal or acquittal. But in fact, a qualitative assessment of the cases revealed a number of reasons for our finding. Many of our erroneous conviction cases lacked good evidence from the start. In a typical scenario, the only inculpatory evidence was a microscopic hair comparison and an identification of the defendant by the rape victim, who admitted she only saw the perpetrator briefly in the dark. This type of evidence is relatively difficult for the defense to combat—the hair and face *could* be his—and the lack of alternative evidence to evaluate makes it difficult for the prosecution to uncover a mistake. By contrast, in the near misses, the inculpatory evidence may seem stronger on its face—a victim who identifies the perpetrator by name or a supposed DNA match. But it might actually be easier for either the prosecution or the defense to debunk this type of “conclusive” evidence with, for example, proof that the victim is lying or that the DNA sample was mislabeled. In addition, more pieces of evidence in a case means that there is more for defense counsel to attack or for the prosecution to use to find an alternative suspect.

Weak facts may also encourage prosecutors to engage in certain behaviors designed to bolster the case, which our statistics show help predict an erroneous conviction. In several of our erroneous convictions, a prosecutor, convinced of the defendant's guilt despite a lack of conclusive proof, failed to recognize and turn over exculpatory evidence or enlisted a snitch or other non-eyewitness to provide dubious corroborating testimony. These types of actions compound, rather than rectify, previous errors or misconduct in the case.

Specifically, the prosecution's failure to turn over exculpatory evidence severely harms the system's ability to self-correct from initial errors because it hamstring the defense and reduces the effectiveness of the jury's decision-making process. For example, a prosecutor, convinced of the defendant's guilt, may withhold what she considers to be a “red herring” from the defense—such as a report of another suspect seen in the neighborhood. Of course, if she is correct and the defendant is really guilty, then the harm may be minimal. But if her judgment is incorrect, she has deprived the other participants in the system (i.e., defense attorney, judge, and jury) from forming an alternative opinion. By contrast, when prosecution, police, and

defense attorneys have the opportunity to fully evaluate both sides' evidence, the innocent defendant stands a better chance of achieving justice.

In addition, our finding that intentionally false statements by a non-eyewitness predict an erroneous conviction suggests that police and prosecutors may rely on questionable testimony to obtain a conviction in cases with weak facts. Lying non-eyewitnesses include jailhouse informants and snitches. Thus, our results partially support prior literature that argues snitch testimony plays a substantial role in producing erroneous convictions for the obvious reason—there are strong incentives and few disincentives for the snitch to lie.⁷⁴ However, because snitch testimony alone was not significant in our quantitative analysis, our research indicates that the danger of lying non-eyewitness testimony is not limited to instances where money or reduced sentencing is offered to jailhouse informants, but can include scenarios in which family, friends, co-workers, or neighbors want to hurt the defendant or cast suspicion away from the real perpetrator. Regardless of whether the false evidence is from a jailhouse informant or another type of non-eyewitness, our qualitative analysis revealed that such testimony is particularly dangerous because it is often specifically elicited by the prosecution when case facts are weak, which means the state may not be inclined to rigorously vet it in the same way as it would for other types of evidence.

G. WEAK DEFENSE

Unlike our finding that a weak prosecution case predicts an erroneous conviction, our finding with regard to quality of defense was not a surprise. As we would expect, a poor defense increases the likelihood that an indicted, innocent defendant will be convicted. Many of the erroneous conviction cases involved defense attorneys who had serious conflicts of interest, who did not bother to prepare opening and closing statements, or who did not have the education or funds to enlist the help of an expert witness at trial. Additionally, many of the attorneys interviewed, who have since gone on to have long, successful careers, recalled their erroneous conviction cases as being among their first, and admitted that, at the time, they had little experience defending a client against a violent felony charge. These attorneys failed to correct earlier flaws in the case or challenge the prosecution's version of events, and as such, substantially increased the probability that the defendant would be erroneously convicted. Relatedly,

74. See, e.g., Gould & Leo, *supra* note 16, at 851–52; Alexandra Natapoff, Comment, *Beyond Unreliable: How Snitches Contribute to Wrongful Convictions*, 37 GOLDEN GATE U. L. REV. 107, 107–108 (2006). See generally Alexandra Natapoff, *Snitching: The Institutional and Communal Consequences*, 73 U. CIN. L. REV. 645 (2004) (examining the problems associated with snitch testimony).

within the defense case, our results indicate that family witnesses are associated with erroneous convictions. Family witnesses are among the weakest defense witnesses, usually only providing character evidence or an inadequate alibi.⁷⁵ Indeed, defense attorneys may turn to family members in those cases in which there is little additional evidence to offer on the defendant's behalf, or when the attorney has failed to fully investigate other potential witnesses.⁷⁶

By contrast, as evidenced by many of our near misses, an experienced, well-educated, and adequately funded defense attorney often plays a vital role in uncovering earlier flaws in the case so that charges are dismissed.⁷⁷ Among the near misses, there were examples of defense attorneys establishing solid alibis for their clients by tracking down witnesses, finding receipts, or analyzing security footage. In some cases, defense attorneys made the crucial decision to retain an expert witness to examine the defendant's confession and eventually convince the judge or prosecutor that the confession was involuntary and/or false.

H. TUNNEL VISION: A QUALITATIVE FRAMEWORK OF SYSTEM FAILURE

As discussed above, our statistical analysis identified a number of individual factors that help to explain how a factually innocent defendant may proceed to conviction rather than dismissal or acquittal. The expert panelists, in their qualitative analysis of our cases, identified how these factors are connected and exacerbated by another traditional "source" of erroneous conviction—tunnel vision. In fact, tunnel vision provides a useful framework for understanding the larger, system-wide failure that separates erroneous convictions from near misses.

75. Alternatively, the detrimental role of family and friends as defense witnesses may be more closely tied to our earlier finding regarding past criminal history. *See* Laudan & Allen, *supra* note 69, at 508. Laudan and Allen reviewed a number of studies on juries or mock juries. Even in cases where the introduction of prior bad acts was barred, Laudan and Allen found that character witnesses—primarily family and friends—ended up being impeached on the stand due to a defendant's criminal history. *See id.* at 526. As a result, these defense witnesses often ended up actually serving state interests and were less likely to be viewed as trustworthy by jury members. *See id.* at 523.

76. We remain cautious when discussing the significance of this predictor, however, as we suspect that the difference between erroneous convictions and near misses on this variable may in part be a result of the different procedural postures of the two sets of cases. Because the great majority of near misses did not proceed to trial, we do not know what the defense lawyers would have presented if they had to mount a defense before a jury—that is, we suspect many would have presented a family witness if no other witnesses were available.

77. We reiterate that the distinction in quality of defense is not solely attributable to whether the attorney is a public defender, court appointed, or retained in some other manner. This variable was tested and was not statistically significant.

Tunnel vision is defined as the social, organizational, and psychological tendencies “that lead actors in the criminal justice system to ‘focus on a suspect, select and filter the evidence that will ‘build a case’ for conviction, while ignoring or suppressing evidence that points away from guilt.”⁷⁸ As more resources—money, time, and emotions—are placed into a narrative involving a suspect, criminal justice professionals are less willing or able to process negative feedback that refutes their conclusions.⁷⁹ Instead, they want to devote additional resources in order to recoup their original investment.⁸⁰ As a result, evidence that points away from a suspect is ignored or devalued, and latent errors are overlooked.⁸¹ It is a difficult concept to measure quantitatively (hence, it was not included in our statistical analysis), but it appeared frequently in our qualitative assessment of the erroneous convictions. And, indeed, we conclude that many of our quantitative findings are predicated upon this escalation of commitment that sees exculpatory evidence and other red flags ignored or not fully investigated.⁸²

Tunnel vision helps explain how compounded errors can occur in a case and why the system fails to self-correct.⁸³ For example, in many of our

78. Keith A. Findley & Michael S. Scott, *The Multiple Dimensions of Tunnel Vision in Criminal Cases*, 2006 WIS. L. REV. 291, 292 (quoting Dianne L. Martin, *Lessons About Justice from the “Laboratory” of Wrongful Convictions: Tunnel Vision, the Construction of Guilt and Informer Evidence*, 70 UMKC L. REV. 847, 848 (2002)); see also Keith A. Findley, *Tunnel Vision*, in CONVICTION OF THE INNOCENT: LESSONS FROM PSYCHOLOGICAL RESEARCH, *supra* note 20, at 303–04.

79. See Findley, *supra* note 78, at 306–13; Findley & Scott, *supra* note 78, at 307–22.

80. See Findley, *supra* note 78, at 306–13; Findley & Scott, *supra* note 78, at 307–22.

81. See Findley, *supra* note 78, at 306–13; Findley & Scott, *supra* note 78, at 307–22.

82. The concept of tunnel vision is similar to the more heavily theorized process studied in psychology and management called escalation of commitment. See, e.g., Joel Brockner, *The Escalation of Commitment to a Failing Course of Action: Toward Theoretical Progress*, 17 ACAD. MGMT. REV. 39, 39 (1992) (stating that escalation of commitment is “the tendency for decision makers to persist with failing courses of action.”); Martin D. Coleman, *Sunk Cost and Commitment to Medical Treatment*, 29 CURRENT PSYCHOL. 121, 122 (2010) (discussing same); Barry M. Staw, *The Escalation of Commitment to a Course of Action*, 6 ACAD. MGMT. REV. 577, 577 (1981) (discussing same). In particular, we found this literature helpful in that it led us to think of tunnel vision as a process, rather than a static phenomenon, and in so far as it focused on organizational escalation of commitment, caused us to consider how latent errors in a system are ignored. Cf. Doyle, *supra* note 8, at 110–13.

83. A similar concept is explored by Kassin et al., who examined how false confessions “taint” subsequent evidence, including lineups, fingerprint analysis, and polygraphs, by biasing or corrupting the actors. Saul M. Kassin, Daniel Bogart & Jacqueline Kerner, *Confessions that Corrupt: Evidence from the DNA Exoneration Case Files*, 23 PSYCHOL. SCI. 41, 43–44 (2012). Likewise, Castelle and Loftus discuss the “cross-contamination” of evidence in George Castelle & Elizabeth F. Loftus, *Misinformation and Wrongful Convictions*, in WRONGLY CONVICTED: PERSPECTIVES ON FAILED JUSTICE 17 (Saundra D. Westervelt & John A. Humphrey eds., 2001). Through wrongful conviction case studies, they successfully demonstrate how supposedly independent pieces of incriminating evidence against an innocent defendant were actually

erroneous conviction cases involving false incriminating statements/confessions or eyewitness misidentifications, detectives either did not bother to collect physical evidence because they considered it redundant, or they did not give adequate attention to forensic evidence that appeared to contradict the initial inculpatory evidence. Alternatively, if the physical evidence was neutral or ambiguous, such as a crime scene hair that could not be excluded as coming from the defendant, a preconceived vision of the case based on prior flawed evidence consciously or unconsciously led the officials to view the physical evidence as actually inculpatory. In this case, it could result in the state forensic scientist declaring at trial that the crime scene hair “matched” that of the defendant—or worse yet, adding unsubstantiated statistics to state that there is only a 1 in 10,000 chance that the hair was *not* the defendant’s. In other words, because of tunnel vision, criminal justice officials sometimes twist forensic evidence to confirm the case against a defendant rather than employ it to explore alternative leads or challenge assumptions. At best, this means going beyond the evidence; at worst it, entails outright fabrications.

To a large extent, the panelists attributed tunnel vision in our cases to a police and prosecutorial culture in which questioning and independent thinking are not valued, procedures are not designed to probe already-gathered evidence, and little or no concern is given to learning from past errors.⁸⁴ Even if safeguards are in place to reduce individual errors (such as checklists for physical evidence collection or proper file maintenance), they cannot not be used effectively when the officials in the system are blinded by tunnel vision.

Judges also fall prey to tunnel vision. In a number of our erroneous convictions, the judge failed to use her discretionary powers to closely examine the evidence,⁸⁵ level the playing field between prosecution and defense, or otherwise take an active role in protecting the innocent defendant.⁸⁶ According to our statistical results, these cases rarely involved

influenced by each other. *Id.* Thus, while the case might appear to be corroborated by different types of evidence, in reality none of the evidence independently verified the defendant’s guilt.

84. It is important to note that a majority of the panelists came from police or prosecutor organizations or backgrounds. This was hardly a group predisposed to doubt law enforcement officials.

85. *Cf.* Cole, *supra* note 73, at 724 (noting that an examination of the first DNA exonerations showed that many judges failed to use their gatekeeping functions to keep out improper or invalidated forensic evidence and testimony).

86. For example, in one case the judge used thinly veiled threats to convince an innocent defendant to take the plea offered by the prosecution, despite the fact that the defense was ready to put on very exculpatory DNA evidence. In another case, the judge ruled that an investigator did not need to present the confidential informant who had supposedly implicated the defendant in the crime. Years after the defendant’s conviction, an external investigation

legally recognizable judicial error or misconduct,⁸⁷ but those standards of proof are so high that the courts' recognition of their contribution would be rare.⁸⁸ Instead, the cases reveal a more subtle scenario in which mistakes or misconduct made earlier by police, prosecutors, eyewitnesses, or defense attorneys were compounded when judges failed to perform their gate-keeping function to prevent further injustices.

Community pressure or concerns about community safety also contribute to escalation of commitment and tunnel vision. In several cases, especially those involving sex crimes against children or the murder of police officers, elected leaders or media reports placed investigators under additional pressure to make an arrest and to take a dangerous and likely repeat felon off the streets. While officers may have been originally justified in arresting the defendant based on weak suspicions in order to ensure public safety, the state often placed too much stock in the arrest and turned a blind eye to the potential weaknesses or flaws in the case.⁸⁹ High-profile arrests may also receive greater attention and support from supervisors and politicians, making it more difficult for officers or prosecutors to let the suspect go even if they want. Thus, escalation of commitment contributes to and facilitates system breakdown because it dismantles the rigorous testing of evidence that makes the adversarial process function effectively.

V. UNDERSTANDING AND REDUCING SYSTEM FAILURE: POLICY RECOMMENDATIONS

Our conclusion is that erroneous convictions are more about system failure than individual causes. Erroneous convictions represent complex breakdowns in the adversarial process, which occur when errors are

found the informant (who denied ever implicating the defendant) and concluded that the original investigator had likely invented the entire testimony.

87. Judicial misconduct was present or alleged in less than 1% of near misses and erroneous convictions. Judicial error was alleged in 5% and proven in 5% of erroneous conviction cases; in the near misses, the percent of alleged judicial error was 2.5% and proven was 0.5%. While it is problematic to compare the judicial errors or misconduct in the two sets of cases because of the different procedural postures of the cases (almost all the erroneous convictions went to trial while most of the near misses did not), the overall percentages of such misconduct and error are small.

88. To be coded as misconduct rather than error, the judicial conduct must have been intentional or grossly negligent. To be coded as proven rather than alleged, the conduct must have been recognized as error or misconduct by a higher court, a jury in a civil suit, or the offending judge in question. In addition, we did not code alleged error or misconduct unless there were substantial facts to support the allegation.

89. Panelists noted that the standard for arrest and indictment should be different, but unfortunately, once a defendant has been arrested, prosecutors do not always thoroughly reevaluate the case using the more critical standard. The panelists also admitted, however, that articulating an appropriate standard for indictment is difficult.

compounded rather than rectified, often as a result of tunnel vision. Most of our cases involved more than one error, sometimes as many as four or five. This was particularly evident with the erroneous convictions. For example, false testimony alone was rarely the direct cause of an erroneous conviction. The larger story often involved a prosecutor who had serious doubts about a witness's story but did not share these with a superior or the defense, and a defense attorney who did not have the time or energy to investigate the witness's story. Just as a jetliner may crash when a multitude of problems arises and distracts the crew's attention from the task at hand,⁹⁰ erroneous convictions result from a combination of errors within the criminal justice system.

By contrast, among the near misses, the original errors were corrected in a variety of ways. These corrections included: better or complete forensic testing, an active defense attorney who tracked down and documented an alibi, or a follow-up investigation in which the victim or witness recanted the identification. Crucially, these interventions, regardless of their actual scope, broke the momentum within the escalation of commitment. The cases illustrate that a well-functioning criminal justice system is not one in which there are no errors, but rather one in which one part of the system can correct another.

Of course, it is important to prevent errors in the first place, and we applaud much of the previous research that has suggested reforms to address individual problems such as false incriminating statements/confessions, eyewitness errors, and the like.⁹¹ But because ensuring perfect evidence is not realistic, it is equally as important to consider what practices

90. The 1972 crash of an Eastern Airlines airplane into the Florida Everglades was ascribed to the crew's inattention to the autopilot, which had been deactivated while the pilots were troubleshooting the malfunctioning of its landing gear. NAT'L TRANSP. SAFETY BD., FILE NO. 1-0016, AIRCRAFT ACCIDENT REPORT: EASTERN AIR LINES, INC., L-1011, N310EA, MIAMI, FLORIDA, DECEMBER 29, 1972, at 23 (1973).

91. See, e.g., Amy Bach, *Extraordinary Wrongful Convictions, Ordinary Errors—Why Measurement Matters*, 73 ALB. L. REV. 1219 (2010); Gould & Leo, *supra* note 16; Richard A. Leo & Deborah Davis, *From False Confession to Wrongful Conviction: Seven Psychological Processes*, 38 J. PSYCHIATRY & L. 9 (2010); R.C.L. Lindsay & Gary L. Wells, *Improving Eyewitness Identification from Lineups*, 70 J. APPLIED PSYCHOL. 556 (1985); Margery Malkin Koosed, *Reforming Eyewitness Identification Law and Practices to Protect the Innocent*, 42 CREIGHTON L. REV. 595 (2009); Daniel S. Medwed, *Looking Forward: Wrongful Convictions and Systemic Reform*, 42 AM. CRIM. L. REV. 1117 (2005); Robert J. Norris, Catherine L. Bonventre, Allison D. Redlich & James R. Acker, *"Than That One Innocent Suffer": Evaluating State Safeguards Against Wrongful Convictions*, 74 ALB. L. REV. 1301 (2010–2011); David A. Sonenshein & Robin Nilon, *Eyewitness Errors and Wrongful Convictions: Let's Give Science a Try*, 89 OR. L. REV. 263 (2010); Cyrus R. Vance, Jr., *A Conviction Integrity Initiative*, 73 ALB. L. REV. 1213 (2010); Gary L. Wells, Mark Small, Steven Penrod, Roy S. Malpass, Solomon M. Fulero & C.A.E. Brimacombe, *Eyewitness Identification Procedures: Recommendations for Lineups and Photospreads*, 22 L. & HUM. BEHAV. 603 (1998).

and policies can break the escalation of commitment and improve the system's ability to self-correct when flawed evidence does arise. A number of such recommendations emerge from our study.

A. *RECOMMENDATION #1: INCREASE FUNDING FOR INDIGENT DEFENSE AND DISTRICT ATTORNEY OFFICES*

Both a strong defense and a strong prosecution reduce the likelihood of an erroneous conviction. Our recommendation, originally suggested by Gershowitz and Killinger, would provide resources so that innocent defendants receive the most protection.⁹² A well-funded district attorney's office will be better able to screen cases, identify weak or exculpatory evidence, and not be unduly dependent upon other investigatory bodies, such as police, paralegals, defense attorneys, or private investigators. At the same time, a well-funded indigent defense system will be better able to fully investigate a defendant's alibi, hire experts, and dedicate more time to each case.⁹³

For both prosecutors and defense attorneys, we propose that this increased funding be earmarked primarily for the hiring of new attorneys. In addition, particularly in metropolitan areas, we also suggest using funds to increase starting salaries and/or case reimbursements among defense attorneys. Collectively, these actions will reduce caseloads⁹⁴ while making public service more financially palatable for the best educated law students.⁹⁵ Reducing financial pressures offers an important check against escalation of commitment. As better-educated attorneys are able to focus more of their energies on fewer cases, both the defense and prosecution will have greater opportunity to note evidentiary inconsistencies or other

92. Adam M. Gershowitz & Laura R. Killinger, *The State (Never) Rests: How Excessive Prosecutorial Caseloads Harm Criminal Defendants*, 105 NW. U. L. REV. 261, 299 (2011).

93. For a thorough examination of indigent defense funding and its impact on incarceration rates and erroneous convictions, see generally Symposium, *Broke and Broken: Can We Fix Our State Indigent Defense System?*, 75 MO. L. REV. 667 (2010).

94. Reducing attorney caseloads will often require increased funding, as noted here. However, other ways of decreasing caseloads (i.e., decreasing the supply of cases) should also be explored. For example, Recommendation #2 may serve to reduce the number of cases in the prosecution's office by more selectively choosing the cases that the office accepts from the police.

95. To complement increased funding, we also suggest that law schools and state legislatures consider developing programs such as New York's District Attorney and Indigent Legal Services Attorney Loan Forgiveness Program. By such programs, attorneys who enter into public service as an assistant district attorney, district attorney, or indigent defense attorney are eligible for the state to provide grants for up to \$20,400 for paying accumulated student loans from law school. Kristin Brown Lilley, *Summary of New State Loan Forgiveness Program for Public Interest Attorneys*, EMPIRE JUST. CENTER (Aug. 24, 2009), <http://www.empirejustice.org/issue-areas/civil-legal-services/articles/summary-of-new-state-loan.html>.

concerns. As a result, innocent defendants will be more likely to be identified earlier in the process.

B. RECOMMENDATION #2: PROSECUTOR OFFICES SHOULD ASSIGN MORE SENIOR ATTORNEYS TO THE CHARGING BUREAU

Innocent defendants would also benefit from assigning more senior attorneys to the charging bureaus. Experienced prosecutors are better able to spot weak or troublesome cases and, if they are more immune from internal pressures within the office, will be more likely to form an independent assessment of the evidence against the defendant. Indeed, in jurisdictions in which police and prosecutors do not effectively collaborate, prosecutors may find it necessary to review arrest and charging records with the same critical eye as defense lawyers to ensure that irregular or dubious cases are not accepted for prosecution. Our research reveals that sources of error at indictment are often as important as errors at trial because factors such as tunnel vision can prevent the subsequent investigation and trial from uncovering and correcting these errors.⁹⁶ While there might be a tendency for prosecutors to accept weak cases with the idea of “sorting it all out later,” delaying those judgments poses a particular risk to innocent defendants.

C. RECOMMENDATION #3: PROSECUTOR OFFICES SHOULD ESTABLISH INTEROFFICE MENTORING BETWEEN NEW AND EXPERIENCED PROSECUTORS

A smaller district attorney’s office may not have a separate charging bureau or may have too few attorneys to assign only senior attorneys to the task of deciding which cases will be pursued. In these circumstances, and in every office that could support such a program, we suggest fostering a close mentoring relationship between new and more experienced prosecutors. Such mentoring relationships would have many benefits for deterring wrongful convictions. For example, experienced prosecutors can help new prosecutors examine cases for “red flags” and point out concerning areas. They can also educate less experienced prosecutors about the type of evidence that must be shared with the defense, reducing the possibility of *Brady* violations.⁹⁷

96. Daniel S. Medwed, *Emotionally Charged: The Prosecutorial Charging Decision and the Innocence Revolution*, 31 CARDOZO L. REV. 2187, 2205–10 (2010). Medwed suggests a number of reforms to combat tunnel vision at the charging stage, including increasing in-house education and training by the prosecutor’s office, requiring police to disclose full case files, and forming internal review committees to assess charging decisions. *Id.* These reforms would work well in conjunction with our proposal to put more experienced and better educated prosecutors in charge of indictment decisions.

97. Gershowitz & Killinger, *supra* note 92, at 285 (finding that younger attorneys may commit more *Brady* violations simply because they had less experience identifying what evidence needed to be shared).

D. RECOMMENDATION #4: PROSECUTORS AND POLICE INVESTIGATORS SHOULD NOT RELY ON ANY SINGLE PIECE OF EVIDENCE, SUCH AS EYEWITNESS TESTIMONY, A CONFESSION, OR EVEN FORENSICS

Systemic momentum leading to an erroneous conviction often originates when police investigators and prosecutors accept one piece of evidence as conclusive “proof” of the defendant’s guilt. From there, our results illustrate how investigators fail to follow-up or become influenced in their interpretation of subsequently collected evidence. We urge investigators not to view any one piece of evidence as definitive in proving innocence or guilt. Instead, investigators should gather and evaluate all evidence, while being mindful of its limitations. One suggestion offered by our expert panel was that investigators not involved in the overall investigation—specifically, another police detective or a prosecutor—be invited to view the cumulative body of evidence and provide feedback. Approaching the evidence from outside the investigation may allow an individual to be more objective in his evaluation of the evidence’s veracity.

In one of the near misses, for example, police officers had arrested a neighbor for the kidnapping, rape, and murder of a young girl. Their main evidence against him was an unmatched blood stain and fabric fibers. As the case moved towards trial, the police invited a former FBI analyst to look over their results. The analyst was hired by the defense, but had previously worked with the case prosecutor, and was given considerable access to the evidence. In doing so, the analyst asked several provocative questions about discrepancies he noticed when looking at the fiber comparison. Prompted by that meeting, police moved forward to test the blood found in the neighbor’s car, which exonerated the defendant. In this case, newspaper interviews illustrated a dangerous escalation of commitment that led to the defendant’s arrest, at which point police prematurely announced they had “got their guy.” However, an outside expert was able to derail this process, forcing everyone involved to take a step back and concentrate on what the evidence really did (or did not) prove.

E. RECOMMENDATION #5: DEFENSE ATTORNEYS AND POLICE INVESTIGATORS SHOULD WORK TOGETHER TO DEVELOP AND USE ALIBI CHECKLISTS

The most successful defense attorneys in our research were those that investigated their clients’ alibis. These attorneys were often able to obtain a dismissal or minimize their client’s time in prison following an erroneous conviction. However, police are often the primary investigatory body and conduct the first check on alibis. We suggest that criminal defense attorneys and police work together to develop an alibi checklist, which would highlight categories of potentially exculpatory evidence that ought to be investigated before a case goes forward. This will ensure both bodies are working with the same benchmarks in mind and increase the chance that witnesses are contacted multiple times. Multiple interactions with witnesses

can help determine their reliability and potentially produce information that may have been overlooked in an earlier interview.

A good alibi checklist can also identify potentially unlikely or forgotten witnesses. For example, in one case, an innocent defendant was asked if he was employed. At the time, the defendant, who was a seasonal construction worker, was unemployed and responded accordingly. Police then failed to follow-up and ask if he had been employed at the time of the murder. Fortunately, after the defendant's indictment, the defense attorney did ask this question and as a result was able to locate a number of witnesses who testified that the man was across town at work when the victim was shot. A checklist in this situation would have prompted both parties to ask questions pertinent to prior or seasonal employment and likely would have brought the police to the same conclusion as the defense attorney, only much earlier.

Such a checklist could be a local project in each jurisdiction, or it could be developed and distributed on a national scale through professional organizations, such as the Fraternal Order of Police, the Police Foundation, the American Bar Association, the Association of Prosecuting Attorneys, or the National Association of Criminal Defense Lawyers. Although not a panacea, a checklist could prompt investigators to take smart and consistent steps to verify a defendant's story.

*F. RECOMMENDATION #6: FORENSIC EVIDENCE SHOULD BE ANALYZED FIRST
RATHER THAN LAST*

Perhaps the most notable difference between the near misses and erroneous convictions was the time at which available forensic and physical evidence was tested. In the near misses, forensic and physical evidence was tested early, with prosecutors delaying trial until the results returned. In those cases, getting exculpatory forensic results early in the investigation helped to combat tunnel vision and often enabled prosecutors to avoid costly trial preparation.

In our panel discussion, prosecutors acknowledged the importance of early analysis of physical evidence and expressed a desire to conduct more DNA and other forensic testing. At the same time, they argued that doing so was often too costly, especially for small or underfunded districts, and would not be given priority when there was additional evidence to rely upon in the case, such as a confession. However, what we know about confessions and other forms of "sure-fire" evidence shows that these cases require forensic testing as much as any other. Increasing federal assistance, or targeting this assistance to small or medium communities, may allow more testing to be conducted earlier in the process and in a greater variety of cases.

In addition, although DNA testing has received considerable attention, DNA is not the only type of forensic or physical evidence available; indeed,

experts have noted that cases with exonerating DNA evidence are almost certainly in the minority.⁹⁸ Other physical evidence that should be analyzed as soon as possible includes surveillance tapes, computer logs, and fibers. In many of our near misses, early attention to physical evidence other than DNA led to a dismissal. For example, in one case, a young man was arrested for a double robbery and homicide based on a tip to police, but an extremely close examination of a surveillance video by a forensic anthropologist showed that the perpetrator was not the defendant. Such early examination should be standard.

*G. RECOMMENDATION #7: FORENSIC LAB RESULTS SHOULD BE SUBJECT TO
REGULAR PEER REVIEWS AND OVERSIGHT*

Forensic lab reports should be subject to peer review in a manner similar to other scientific research.⁹⁹ Our results suggest that the most common (and serious) forensic mistakes were not in the actual analysis, but in the presentation of the results. In an erroneous conviction case, for example, a forensic analyst incorrectly stated that a hair, found at the crime scene of a sexual assault, was “unlikely to match anyone else other than the defendant.” This description is scientifically inaccurate, since no empirical evidence exists on the reliability of hair matching.¹⁰⁰ In addition, hair comparison is not exact enough to be individualized (i.e., exclude the entire population).¹⁰¹ Similar misinterpretations were made in a number of cases, including over-stating the certainty of fiber “matches” or neglecting to tell the jury that the presence of vaginal secretions may have masked the identity of the semen donor.

Such errors in interpretation and testimony are often the result of an accidental or subconscious bias that occurs when the scientist is tainted by knowledge of the state’s case against the defendant. To combat such tendencies, increased internal and external review should be more common among forensic labs. In fact, labs should establish a schedule of regular full reviews. In these situations, external reviewers would audit both reports and performance to ensure excellence in analysis and interpretation. The results and testimony of technicians at all levels of seniority would be

98. See, e.g., GROSS & SHAFFER, *supra* note 7, at 20; Medwed, *supra* note 96, at 1118.

99. See, e.g., JAMES R. ACKER & ALLISON D. REDLICH, *WRONGFUL CONVICTION: LAW, SCIENCE, AND POLICY* 384–90 (2011); Roger Koppl, *How to Improve Forensic Science*, 20 EUR. J.L. & ECON. 255, 256 (2005); Kent Roach, *Forensic Science and Miscarriages of Justice: Some Lessons from Comparative Experience*, 50 JURIMETRICS J. 67, 68 & n.5 (2009); Ryan M. Goldstein, Note, *Improving Forensic Science Through State Oversight*, 90 TEX. L. REV. 225, 226 (2011).

100. COMM. ON IDENTIFYING THE NEEDS OF THE FORENSIC SCI. CMTY. ET AL., NAT’L RESEARCH COUNCIL OF THE NAT’L ACADS., *STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD* 5–25 (2009); see also Garrett & Neufeld, *supra* note 73, at 50.

101. Garrett & Neufeld, *supra* note 73, at 49.

reviewed and validated. Thus, in the above example, auditors would be provided with a transcript of the scientist's testimony, as well as a copy of the results; in this case, as in so many, simply reviewing the written lab results would not have uncovered the error.

Unfortunately, while most states have forensic lab oversight committees, these boards are typically vested with only responsive power.¹⁰² Hence, when a complaint is made, the board may be asked to investigate. We propose that states establish such an oversight board if they have not already done so. Then, it must be vested with independent investigatory power. The Missouri Crime Laboratory Review Commission serves as an excellent model for such legislation and enactment.¹⁰³ The Commission is independent, vested by statute to "assess the capabilities and needs of Missouri crime laboratories, as well as their ability to deliver quality forensic services in a timely manner to law enforcement agencies."¹⁰⁴ Although the Commission has a proactive agenda, it can still act in a responsive manner, and is also charged with investigating allegations of misconduct or error.¹⁰⁵ The Missouri Commission, then, possesses a twofold approach to addressing forensic oversight. Such a model should be examined and expanded to other states.

Arguably, it might be ideal to have only independent forensic laboratories involved in criminal cases. But given the current situation in many jurisdictions where money, politics, and availability of qualified scientists limit viable options, establishing thorough peer reviews or oversight of labs run by local and state governments might go a long way towards reducing unconscious (and conscious) bias and ensuring that forensic evidence functions as a truly independent assessment of the strength of the case against the defendant.

*H. RECOMMENDATION #8: YOUTHFUL DEFENDANTS SHOULD BE ASSIGNED A
GUARDIAN AD LITEM OR OTHER EXTRALEGAL ADVOCATE WHEN CHARGED WITH A
VIOLENT CRIME*

Certainly, young people can and do commit horrific crimes. However, in our sample, young defendants (including, but not limited to, those who

102. For a discussion of state forensic oversight commissions, see Robert J. Norris, Catherine L. Bonventre, Allison D. Redlich & James R. Acker, *supra* note 91, at 1320–29. Norris and his coauthors found that fifteen states have already established “permanent forensic science oversight entities” either by statute or by the state attorney general. *Id.* at 1325. However, under the auspices of the federally funded Paul Coverdell Forensic Science Improvement Grant program, all states that received such a grant are required to have an oversight board; since all fifty states have received a Coverdell grant, all fifty should have such a board. *Id.* at 1322–24.

103. MO. REV. STAT. § 650.059 (2012).

104. *Id.* § 650.059(8)(1) (Supp. 2012).

105. *Id.* § 650.059(8)(2).

could have been charged as juveniles)¹⁰⁶ appeared to be at a heightened risk of an erroneous conviction. In addition, they were often erroneously convicted of crimes that were much more serious than any prior interaction they may have had with the criminal justice system. We postulate that youthful defendants have particular difficulty assisting in their own defense because of their immaturity and lack of financial and other resources. In addition, this may be a greater issue when the defendants are charged, like in our cases, as adults rather than juveniles. Therefore, a guardian *ad litem* or other form of extralegal advocate could be assigned when a young defendant is indicted for a serious felony, working alongside the defense attorney to safeguard the defendant's rights and interests. This advocate need not meet the legal definition of a guardian *ad litem*, but could instead be an educated person, versed in the relevant law, who can establish a rapport with the youthful client, and who would be knowledgeable about the unique social and psychological difficulties faced by young defendants. Analogous positions would include Court Appointed Special Advocates ("CASA") or domestic violence victim advocates.¹⁰⁷ In addition, unlike a traditional guardian *ad litem*, who is usually assigned to a defendant that has been charged as a juvenile, the advocate should be assigned to any defendant who *could* have been charged as a juvenile, or even to all defendants under twenty-one.

Although our own cases did not involve an assigned advocate per se, several younger defendants benefitted from strong organizational advocates. In one case, a group of five African-American boys—all under the age of eighteen—were charged in the case of a murdered homeless man. Police initially arrested one of the boys, who had a cognitive impairment, on a jaywalking charge and drove him around until he confessed to the murder and implicated his friends. When the state branch of the National Association for the Advancement of Colored People ("NAACP") learned about this case, its leaders lobbied on behalf of the boys and provided resources that the boys' impoverished families did not otherwise have. More importantly, however, the NAACP offered guidance and informal legal advice to the boys during the pre-trial process. As a result, the boys ceased

106. Our research did not involve any defendants who were charged as juveniles, but some of our defendants were of an age (fifteen–eighteen years) where they could have been charged as such.

107. Reviews of this form of advocacy have found that the presence of an advocate led to better outcomes for children in family court situations (though typically not defendants themselves) and victims of domestic violence. Christina M. Camacho & Leanne Fiftal Alarid, *The Significance of the Victim Advocate for Domestic Violence Victims in Municipal Court*, 23 VIOLENCE & VICTIMS 288, 290–91, 297–99 (2008); Patrick Leung, *Is the Court-Appointed Special Advocate Program Effective? A Longitudinal Analysis of Time Involvement and Case Outcomes*, 75 CHILD WELFARE 269, 282–84 (1996).

talking to authorities without an attorney present and took steps to lessen their culpability. Largely due to the NAACP's advocacy, the state's Attorney General began investigating the case and eventually cleared the boys of the murder. If, as here, having an advocate can help prevent an erroneous conviction, other young, impoverished, and potentially naive defendants may benefit as well.

VI. CONCLUSION

Our research shows the utility of a large-scale, empirical study of erroneous convictions using a control group. Ten factors—the age and criminal history of the defendant, punitiveness of the state, *Brady* violations, forensic error, weak defense, weak prosecution case, the existence of a family defense witness, non-intentional misidentification, and lying by a non-eyewitness—help statistically account for why an innocent defendant, once indicted, may be erroneously convicted rather than released. Because these findings have practical implications, we offer our results and recommendations without suggesting that many oft-cited problems in the justice system, such as poor identification techniques, false incriminating statements/confessions, or racial bias, are not important or consequential. But our study indicates that there are problems in the system that *both* lead to the indictment of the innocent and also prevent the dismissal or acquittal of innocent defendants once they enter the criminal justice system. The question for criminal justice policymakers, then, is where in the process to focus attention. Ultimately, where we put our resources is a question of which miscarriages we want to stop and the feasibility of the specific reforms necessary to do so. As such, policymakers have to consider the relative harm done to an innocent defendant at each stage in the criminal justice system, as well as the costs and benefits of the reform efforts targeted to that stage.¹⁰⁸ We suspect that ultimately reforms are merited across the system.

As one of the first large-scale empirical studies to analyze erroneous convictions with a control group, our investigation was primarily exploratory and clearly indicates that additional study would be beneficial. In particular, the near misses were limited in the type and extent of data available. Unlike the erroneous convictions, most of these cases did not have transcripts or lengthy court documents, nor did they involve appeals, post-conviction investigations, or *habeas corpus* proceedings like the erroneous convictions.

108. The costs of indicting the wrong person are often similar to those involved in convicting the wrong person, though not as extreme—loss of freedom and/or good name in the community for the innocent defendant, taxpayer money spent pursuing a case that must be dropped, the real criminal still not apprehended and possibly causing further harm, loss of evidence and witnesses over time, and the victim's emotional re-victimization when the case must be reopened.

This may artificially depress the observation of certain errors or misconduct in the near misses. In addition, because there are no prior systematic studies of near misses, we had to rely heavily on case solicitation and media searches to locate these cases. For these reasons, we hope that the research conducted in this study will be replicated, and we believe that increased effort in police departments and prosecution offices to record or track near misses would benefit future researchers with more systematic and robust data to analyze.

Finally, researchers looking to study erroneous convictions using social science methodologies may wish to consider different control groups, such as “rightful convictions” or a narrower set of near misses (e.g., those involving drug crimes or false incriminating statements/confessions), which would provide a more nuanced view of the major issues we explored in this Article. Regardless, a new era of social science research on erroneous convictions is now before us. Such research moves beyond case studies and the delineation of static “causes,” focusing instead on the more dynamic and complex question of what these cases can tell us about how the criminal justice system safeguards, or fails to safeguard, innocent defendants who have been erroneously accused, arrested, and indicted. The analysis and findings presented in this Article are an important step in that direction.

TABLE 1. SIGNIFICANT VARIABLES IN BIVARIATE ANALYSIS

Variable Group & Name	No Controls		Controlled for State (Illinois excluded)	
	Erroneous Convictions % (N)	Near Misses % (N)	Erroneous Convictions % (N)	Near Misses % (N)
<i>Location Effects:</i>				
State death penalty culture	.07 (201)**	0.4 (160)		
Crime rate consistency	6.5 (260)**	-0.8 (178)		
<i>Nature of the Defendant:</i>				
Defendant's race (% African-American)	57 (257)***	37 (189)		
High school graduate	45 (128)**	65 (105)		
Previous criminal conviction	67 (212)***	42 (166)		
Mean age of defendant	25 (253)***	29 (139)		
<i>Nature of the Crime:</i>				
At least one female victim	86 (260)***	66 (199)		
At least one white female victim	48 (260)***	31 (200)		
High profile criminal case	8 (260)*	15 (200)		
<i>Quality of Work by Criminal Justice Officials:</i>				
Prosecution withheld exculpatory evidence	11 (260)**	4 (200)		
Time between arrest & indictment (days-log)	1.8 (116)**	1.6 (73)		
<i>Nature of the Facts Available to the State:</i>				
Non-eyewitness gave testimony	31 (260)*	21 (198)		
Intentional misidentification by eyewitness				
Intentional false testimony by non-eyewitness				
Errors in forensic evidence	34 (260)***	15 (200)		

Discrepancy b/w victim's description and defendant	22 (206)***	8 (200)		
<i>Strength of prosecution's case:</i>				
➤ Weak	35 (260)***	24 (200)		
➤ Probative	53 (260)***	46 (200)		
➤ Highly Probative	12 (260)***	31 (200)		
<i>Quality of Defense:</i>				
Defense presented alternative suspect	10 (192)***	22 (157)		
Defense presented evidence of CJ official misconduct	7 (193)***	20 (163)		
Defense presented family member as a witness	52 (181)***	25 (153)		
Defense presented physical evidence corroborating alibi	5 (194)***	24 (153)		

Variable Group & Name	Controlled for Crime (Murder cases)		Controlled for Crime (Sexual assault cases)	
	Erroneous Convictions % (N)	Near Misses % (N)	Erroneous Convictions % (N)	Near Misses % (N)
<i>Location Effects:</i>				
State death penalty culture	—	—	—	—
Crime rate consistency	—	—	—	—
<i>Nature of the Defendant:</i>				
Defendant's race (% African-American)	45 (109)	39 (124)	62 (182)***	31 (62)
High school graduate	42 (60)	54 (76)	44 (97)***	82 (28)
Previous criminal conviction	65 (81)**	46 (109)	66 (157)***	38 (53)
Mean age of defendant	25 (106)*	28 (128)	25 (65)**	30 (181)
<i>Nature of the Crime:</i>				
At least one female victim	69 (109)***	44 (131)	98 (185)*	93 (67)
At least one white female victim	44 (109)*	31 (131)	58 (185)*	40 (67)
High profile criminal case	14 (15)	15 (19)	7 (185)***	21 (67)
<i>Quality of Work by Criminal Justice Officials:</i>				
Prosecution withheld exculpatory evidence	19 (108)***	5 (131)	10 (184)	9 (67)
Time between arrest & indictment (days-log)	—	—	—	—
<i>Nature of the Facts Available to the State:</i>				
Non-eyewitness gave testimony	51 (109)***	26 (129)	29 (185)***	9 (67)
Intentional misidentification by eyewitness	26 (109)	34 (131)	5 (185)***	40 (67)
Intentional false testimony by non-eyewitness				
Errors in forensic evidence	31 (109)	19 (131)	36 (185)	13 (67)

Discrepancy b/w victim's description and defendant	—	—	—	—
<i>Strength of prosecution's case:</i>				
➤ Weak	51 (109)***	24 (131)	28 (185)	24 (67)
➤ Probative	41 (109)	44 (131)	59 (185)	54 (67)
➤ Highly Probative	8 (109)	33 (131)	14 (185)	22 (67)
<i>Quality of Defense:</i>				
Defense presented alternative suspect	—	—	—	—
Defense presented evidence of CJ official misconduct	12 (81)	23 (106)	7 (136)**	24 (55)
Defense presented family member as a witness	41 (74)*	25 (99)	58 (127)***	23 (52)
Defense presented physical evidence corroborating alibi	54 (80)*	71 (103)	70 (139)	73 (55)

Variable Group & Name	Cases Controlled by Pre-DNA Resolution		Cases Controlled by Post-DNA Resolution	
	Erroneous Convictions % (N)	Near Misses % (N)	Erroneous Convictions % (N)	Near Misses % (N)
<i>Location Effects:</i>				
State death penalty culture	—	—	—	—
Crime rate consistency	—	—	—	—
<i>Nature of the Defendant:</i>				
Defendant's race (% African-American)	65 (147)***	39 (26)	47 (109)	37 (163)
High school graduate	48 (75)	62 (12)	40 (53)*	65 (92)
Previous criminal conviction	65 (130)***	37 (19)	68 (82)*	43 (147)
Mean age of defendant	—	—	—	—
<i>Nature of the Crime:</i>				
At least one female victim	—	—	—	—
At least one white female victim	—	—	—	—
High profile criminal case	—	—	—	—
<i>Quality of Work by Criminal Justice Officials:</i>				
Prosecution withheld exculpatory evidence	12 (147)	4 (28)	15 (112)	6 (171)
Time between arrest & indictment (days-log)	—	—	—	—
<i>Nature of the Facts Available to the State:</i>				
Non-eyewitness gave testimony	—	—	—	—
Intentional misidentification by eyewitness	—	—	—	—
Intentional false testimony by non-eyewitness	—	—	—	—
Errors in forensic evidence	33 (147)	21 (28)	35 (111)***	14 (170)

Discrepancy b/w victim's description and defendant	—	—	—	—
<i>Strength of prosecution's case:</i>				
➤ Weak	30 (148)*	18 (28)	41 (112)***	24 (172)
➤ Probative	59 (148)	54 (28)	46 (112)	44 (172)
➤ Highly Probative	11 (148)	29 (28)	13 (112)	31 (172)
<i>Quality of Defense:</i>				
Defense presented alternative suspect	11 (114)	20 (21)	10 (79)*	24 (136)
Defense presented evidence of CJ official misconduct	6 (114)	14 (21)	8 (79)*	21 (142)
Defense presented family member as a witness	60 (106)**	26 (19)	40 (75)*	25 (134)
Defense presented physical evidence corroborating alibi	4 (115)	15 (15)	5 (75)***	26 (133)

The following variables are in units other than a percentage: death penalty culture, crime rate consistency (rate), and mean age of defendant (years).