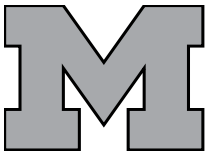

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Frequency and Predictors of False Conviction: Why We Know so Little, and New Data on Capital Cases

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Frequency and Predictors of False Conviction: Why We Know So Little, and New Data on Capital Cases

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September 2007

Abstract

In the first part of this paper we address the problems inherent in studying wrongful convictions: our pervasive ignorance and the extreme difficulty of obtaining the data that we need to answer even basic questions. The main reason that we know so little about false convictions is that, by definition, they are hidden from view. As a result, it is nearly impossible to gather reliable data on the characteristics or even the frequency of false convictions. In addition, we have very limited data on criminal investigations and prosecutions in general, so even if we could somehow obtain data on cases of wrongful conviction, we would have inadequate data on true convictions to compare them to.

In the second part we dispel some of that ignorance by considering data on false convictions in a small but important subset of criminal cases about which we have unusually detailed information: death sentences. From 1973 on we know basic facts about all defendants who were sentenced to death in the United States, and we know which of them were exonerated. From these data we estimate that the frequency of wrongful death sentences in the United States is at least 2.3%. In addition, we compare post-1973 capital exonerations in the United States to a random sample of cases of defendants who were sentenced in the same time period and ultimately executed. Based on these comparisons we present a handful of findings on features of the investigations of capital cases, and on background facts about capital defendants, that are modest predictors of false convictions.

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Frequency and Predictors of False Conviction: Why We Know so Little, and New Data on Capital Cases

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The fundamental problem with false convictions is also one of their defining features: they are hidden from view. In most cases false convictions are not merely invisible but hard if not impossible to identify when we try. This has to be true. We determine criminal guilt in stages: investigation by the police, followed by public prosecution if there is sufficient evidence against an arrested suspect, leading to conviction by a plea of guilty, or dismissal of the charges, or – in a small minority of cases – conviction or acquittal at trial. This is hardly a perfect system but because there's no obvious way to do better, we don't generally know when we're wrong. There are no answers at the back of the book.

The worst effect of the invisibility of wrongful convictions is the most direct: for the most part, they are uncorrected. We do sometimes find new convincing evidence that convicted defendants are innocent, but those who are cleared have usually spent years in prison, and their ultimate release seems to depend heavily on luck. A false conviction is a tragedy for the innocent defendant and his family, whose lives may be destroyed.[1] It also undermines every purpose that criminal punishment is designed to serve. Not only is it profoundly unjust, but we can't deter or incapacitate the real criminal – not to mention any attempt to rehabilitate him – if he's free while someone else is locked up for his crimes.

An important secondary effect of the invisibility of false convictions is that we know very little about them. We don't know how frequently defendants are convicted of crimes they did not commit, or in what sorts of cases, or why it happens, or how best to prevent similar errors in the future.

This paper addresses the problem of studying wrongful conviction. In the first section we discuss the nature of the issue – the extent of our ignorance, and the extreme difficulty of obtaining the data that are needed to answer even basic questions. In the second section we dispel a bit of that ignorance by considering data on false convictions in a small but important subset of criminal cases about which we have unusually detailed information: death sentences.

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[1] Because men make up over 95% of the total, we generally refer to exonerated defendants using male pronouns.

I. Our General Ignorance about False Convictions

1. How frequent are false convictions?

False convictions are accidents: a system we rely on daily goes wrong with tragic results. Like other accidents, most false convictions are probably unintended, although they may be preventable. Drivers frequently speed, and sometimes drive drunk, but they rarely crash on purpose. Police officers and prosecutors sometimes do sloppy investigations, conceal or shade evidence, even lie, but we suspect that they rarely frame a defendant they believe to be innocent.[2] But unlike most accidents, false convictions are invisible at their inception. We *know* when a car crashes or a house burns to the ground, but if we *know* that the man on trial is innocent, we don't convict him in the first place.

Worse (from a researcher's point of view) there is no systematic way to identify false convictions in retrospect. We may not know how many of those who die at the age of 60 suffer from early Alzheimer's disease – the symptoms may not be apparent – but a study of autopsies of patients who die at that age will tell us. There is no general test that can be applied after the fact to confirm or disprove the guilt of convicted criminal defendants. We do know about those cases in which defendants who were wrongfully convicted happen to be exonerated – usually years later – by DNA evidence, or a confession by the real criminal, or other convincing evidence of innocence that was unavailable at the trial. But these exonerations, as far as we can tell, are uncommon, unpredictable, and unrepresentative of wrongful convictions in general. As a result we know very little about the characteristics or even the prevalence of false convictions.

In the absence of actual data, researchers have tried to infer the rate of false convictions from other information. Some have used statistical models that build on the frequency of disagreements on verdicts between trial judges and juries – as reflected in surveys of criminal trial judges – and estimate that up to 10% of criminal convictions in jury trials are erroneous.[3] It is unclear, however, to what extent these models are able to estimate the proportion of convicted defendants who are factually innocent, as opposed to those who should not have been convicted under the law given the evidence presented. Other researchers have surveyed officials who work in the criminal justice system, and report that the great majority believe that wrongful convictions are rare,[4] but that is just collective guess work.

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[2] We do know about a substantial number of intentional frame-ups of innocent defendants. See infra, ____. We believe these cases represent a small minority of all wrongful convictions, but – like most other generalizations on this topic – this is at best an informed guess.

[3] See, e.g., Joseph L. Gastwirth & Michael D. Sinclair, Diagnostic Test Methodology in the Design and Analysis of Judge-Jury Agreement Studies, 39 Jurimetrics 59 (1998); Bruce D. Spencer, Estimating the Accuracy of Jury Verdicts, 4 J. of Empirical Legal Studies 305 (2007); John Baldwin & Michael McConville, Jury Trials 41 (1979). See also Daniel Givelber, Meaningless Acquittals, Meaningful Convictions: Do We Reliably Acquit The Innocent?, 49 Rutgers L. Rev. 1317, 1336-47 (1997), for a general discussion of the issue.

[4] See, e.g., C. Ronald Huff et al., Guilty until Proven Innocent: Wrongful Conviction and Public Policy, 32 Crime & Delinq. 518, 522-23 (1986) (70% of criminal justice officials surveyed believed that false convictions occurred in fewer than 1% of cases).

The legal profession, as usual, is bolder. Recently, for example, Justice Antonin Scalia – retailing claims by a prominent prosecutor – wrote in a concurring Supreme Court opinion that American criminal convictions have an "error rate .027 percent – or, to put it another way, a success rate of 99.973 percent."[5] Eighty-three years earlier, Judge Learned Hand made the same point in more quotable prose: "Our [criminal] procedure has always been haunted by the ghost of the innocent man convicted. It is an unreal dream."[6] These reassurances are based on an implicit assumption that the comparatively few false convictions that come to light are a reasonable proxy for *all* false convictions. As we will see, this assumption is unsupported and almost certainly false.

2. What are the causes and predictors of false convictions?

We can't say much about the causes of false convictions in general because we know so little about the *occurrence* of false convictions. For example, it's entirely possible that most wrongful convictions – like 90% or more of all criminal convictions[7] – are based on negotiated guilty pleas to comparatively light charges, and that the innocent defendants in those case received little or no time in custody. If so, it may well be that a major cause of these comparatively low-level miscarriages of justice is the prospect of prolonged pre-trial detention by innocent defendants who are unable to post bail. There is, however, little direct evidence for this pattern.

The exonerations that we know about are overwhelmingly for convictions at trial.[8] The great majority of exonerated defendants were tried and convicted of murder or rape, and sentenced to life imprisonment or to death.[9] These errors came to light as a result of protracted post-conviction investigations. It's hard to imagine anybody going through that sort of trouble to clear an innocent defendant who pled guilty to a misdemeanor, or even to a felony for which the defendant was immediately released.

We do know about a substantial number of exonerations of innocent defendants who pled guilty and received comparatively light sentences – in one particularly disturbing factual context. In the past decade several systematic programs of police perjury have been uncovered, which ultimately led to exonerations of at least 135 innocent defendants who had been framed for illegal possession of drugs or guns in Los Angeles,[10] in Dallas,[11] and in Tulia, Texas.[12] These are

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[5] Kansas v. Marsh, 126 S. Ct. 2516, 2538 (2006) (Justice Scalia, concurring).

[6] United States v. Garsson, 291 F. 646, 649 (SDNY 1923).

[7] See, e.g., Sourcebook of criminal justice statistics online http://www.albany.edu/sourcebook/pdf/t5462002.pdf (95% of state felony convictions in the United States in 2002 were by guilty plea).

[8] Of the 340 exonerated defendants in a 2005 study, only 20 – less than 6% - had pled guilty, and all of them faced the death penalty or life imprisonment. Samuel R. Gross, Kristin Jacoby, Daniel J. Matheson, Nicholas Montgomery, & Sujata Patil., *Exonerations in the United States 1989 Through 2003*, 95 J. Crim. L. & Criminology 523, 536 n. 28 (2005) ("Gross et al, *Exonerations"*).

[9] Gross et al, *Exonerations,* supra note___ at 535.

[10] The Los Angeles cases were discovered when a major scandal in the Rampart division of the Los Angeles Police Department unraveled, beginning in September 1999. Ultimately at least 100 defendants were exonerated. For an in-depth look at the Rampart scandal, including links to official reports and reviews and a summary of the scandal's aftermath, see, *L.A.P.D. Blues*, P.B.S. Frontline, (2001) at http://www.pbs.org/wgbh/pages/frontline/shows/lapd/bare.html; see also, *Report of the Rampart Independent Review Panel* (Nov. 16, 2000), available at http://www.ci.la.

not cases in which the wrong person was convicted for a real crime, but ones where the police lied about crimes that had never happened at all. Most of these innocent drug and gun defendants pled guilty, and had been released by the time they were exonerated two to four years later. These cases do demonstrate that some innocent defendants who are not facing the death penalty or very long terms of imprisonment will plead guilty in return for greatly reduced sentences. Beyond that, it's impossible to draw lessons from them about the (probably) much more common context of innocent defendants who are falsely accused of crimes that actually did occur.

When a false conviction *is* discovered it's usually easy to explain why it happened. If anything, it's too easy to do so – after the fact. Eyewitnesses can be wrong, and judges and jurors often believe them when they are wrong. Some suspects confess to crimes that they did not commit. Forensic scientists sometimes make critical mistakes in analyzing blood, fingerprints, fibers and other items of trace evidence, and – like cops, jailhouse snitches, opportunistic criminals and (probably most common) other suspects – they sometimes deliberately lie and send innocent defendants to jail or to death row. Any or all of these could explain why a defendant was falsely convicted of rape or murder and then exonerated by DNA, or by finding the real killer, ten years later. In most exonerations, at least one of these problems occurred.

The problem with these explanations is that they are *post hoc* and frequently tautological. For most exonerations the main evidence for the occurrence of one or another of these factors is the exoneration itself. In a typical case, we only know that a rape defendant's confession was false because post-conviction DNA evidence now proves that he is innocent. We can't use a factor to predict or prevent false convictions if that factor can only be identified after we learn that a false conviction has occurred.

Consider the following table on the causes of the false rape and murder convictions that resulted in exonerations in the United States from 1989 through 2003:[13]

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ca.us/oig/rirprpt.pdf; Lou Cannon, *One Bad Cop*, N.Y. Times Magazine, October 1, 2000, at 32; Anna Gorman, *For Some, It's Too Late to Overturn Convictions: Judges are refusing to review cases involving tainted officers if inmate is no longer in custody*, L.A. Times, May 19, 2002, at Metro pg. 1 (nearly 150 convictions overturned); Stephen Yagman, *Bada Bing, L.A. City Hall Has a Rico Ring*, L.A. Times, April 25, 2001, at B9 (more than 110 convictions overturned).

[11] See Paul Duggan, *"Sheetrock scandal" Hits Dallas Police*, Washington Post, January 18, 2002, P. A12; Mark McDonald, *Dirty or Duped? Who's to Blame for the Fake-drug Scandal Rocking Dallas Police? Virtually Everyone,* Dallas Observer, May 2, 2002.

[12] See Laura Parker, *Texas Scandal Throws Doubt on Anti-Drug Task Forces*, USA Today, March 31, 2004, at 3A; Adam Liptak*, $5 Million Settlement Ends Case of Tainted Texas Sting*, N.Y. Times, March 11, 2004, at A14; Polly Ross Hughes, *Perry Pardons 35 in Tulia Sting*, Houston Chronicle, August 23, 2003, at A1.

[13] Gross et al, *Exonerations,* supra note___ at 544.

**Table 1: Causes of Error,
Exonerations in the United States
1989 - 2003**

	Murder (205)	Rape (121)
Eyewitness Misidentification	**50%**	**88%**
Reported Perjury	**56%**	**25%**
False Confession	**20%**	**7%**

Note: The columns on Table 1 add up to more than 100% because some exonerations had more than one of the listed causes.

Nearly 90% of the rape exonerations in these data, 107 out of 121, included eyewitness misidentifications – but how could that be otherwise? If the victim had been killed the case would have been classified as murder rather than rape. Since these rape cases all included victims who survived, in all but a handful the victim testified and identified her attacker. Except in a small minority of cases where the victim could not see the rapist (no light; he wore a mask; he covered her face; etc.), rape cases are rarely prosecuted unless the victim is prepared to identify the defendant. That is also true, however, in the great majority of *all* rape prosecutions, most of which lead to conviction of guilty defendants. These aggregate data do not suggest that at the time of trial anything about the content of the victim's identification testimony should have alerted the court to the danger of misidentification. We now know that these were *mis*identifications because we now know from other evidence, usually DNA, that these 107 rape defendants were all innocent. In retrospect, looking only at cases in which a convicted rape defendant was ultimately exonerated, misidentification and innocence are almost synonymous.

If we do know that a convicted rape defendant is innocent, it's pretty clear that the victim's misidentification did contribute to his false conviction. If the victim had not identified the defendant, he probably would not have been convicted. In that sense, the misidentification is a *cause* of the false conviction. But (setting aside the fact that this would also be true if the defendant were guilty) that just moves the inquiry back one step: *Why* did the victim misidentify the defendant? Was it because of the inherent difficulty of the task? Or the suggestiveness of the identification process? Or was the misidentification the product of some earlier misfortune, mistake or misconduct? For example, the detective on the case may have focused her suspicion on an innocent suspect because of misinformation from an informant, or because of the suspect's record, and based on that false lead she may have intentionally or unintentionally misled the victim into picking the suspect from a lineup that included him and several foils.

But what about the *process* that produced the misidentification? In the example we just gave, the detective biased the victim's identification, even if unintentionally. Many psychologists recommend that a lineup be conducted "blind" – that it be administered by an officer who does

not know which person in the lineup is the suspect.[14] If that had been done – and if the foils were properly chosen – the victim could not have been biased by the identification process. Isn't the lineup procedure that was used, with its obvious risk of improper suggestion, a predictor of false convictions? Possibly, but the data at our disposal don't shed light on that possibility one way or the other.

As best we can tell, few actual police lineups are conducted in the recommended "blind" manner.[15] In the absence of that protection, it's nearly impossible to say to what extent identification procedures bias the outcomes. Worse, even if we knew that *all* misidentifications in rape cases that led to exoneration were made in highly suggestive lineups, we could not say with confidence that this practice is a predictor of false convictions. For that we would also need to know what was done in otherwise similar cases of accurate convictions, as well as cases in which the defendants were not convicted or were never charged at all. We don't have that information. What if, for example, the police *always* use the *same* biasing procedure, in all lineups? We could still say, with the wisdom of hindsight, that a specific suggestive lineup caused the misidentification that led to the false conviction of a particular defendant who was later exonerated by a DNA exclusion. But before the DNA evidence came in, we could not have used the occurrence of a biased lineup to predict the defendant's innocence, since biased lineups (we have assumed) happen in all cases, guilty or innocent, across the board.

False confessions – another recurrent cause of wrongful convictions – are even more troublesome than eyewitness misidentifications. They're less common among the exonerations summarized in Table 1, a total of 51 compared to 219 misidentifications, and they occurred primarily in murder cases. The type of false statement involved – "I did it" rather than "That's the man" – is not the sort of thing most people say by mistake, or in court. Less than a quarter of the exonerated defendants who falsely confessed went on to plead guilty (12/51); the rest recanted their confessions, usually claiming that they had been coerced by the police. Since we now know that these confessions were false, these claims of coercion are plausible.

The type of coercion we're talking about does not generally violate the law as interpreted by American courts. We tolerate interrogations that last for many hours, or even for days, with few breaks; that involve two or more officers who insist that there is no doubt that the suspect is guilty; in which the interrogating officers lie to the suspect and tell him over and over again that there is other evidence that proves his guilt beyond doubt, and that his only hope is to admit his guilt while they're still willing to listen.[16] Legal or not, this sort of interrogation is coercive, as that term is ordinarily used, and it produces a fair number of proven false confessions, especially from suspects who are young, mentally retarded or mentally ill.[17]

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[14] 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, 627 (1998).

[15] Gary L. Wells, Eyewitness Identification: Systematic Reforms, 2006 Wisc. L. Rev. 615, 633-35 (noting how few jurisdictions have implemented reforms applying psychological research on protocols for unbiased line-ups).

[16] See, e.g., People v. House, 566 N.E.2d 259 (Il. 1990).

[17] Steven A. Drizin & Richard A. Leo, The Problem of False Confessions in a the Post-DNA World, 82 N.C. L. Rev. 891, 945, 963-75, 1003-05 (2004); Gross et al, *Exonerations,* supra note___ at 544-46.

Most false confessions that we know about lead to – *cause* – false convictions. As with identifications, it's easy to spot a false confession after the fact, once we know that the confessor is innocent. But what about the coercive process that produces false confessions? Is a *coerced* confession a predictor of false conviction? That is not clear at all.

Coerced confessions are often true. Frequently they are confirmed by subsequent evidence that corroborates information supplied for the first time in the confession: the location of a weapon or of stolen property, the name of a corroborating witness, and so forth. We have no better aggregate data on the accuracy of confessions (coerced or not) than we do on the details of police-initiated eyewitness identification procedures. It's perfectly possible, for all we know, that the overwhelming majority of coerced confessions are true. If so, the fact that a defendant confessed under pressure might be a *predictor of guilt*, even though coercive interrogations also lead to some false convictions. On the other hand, it's also possible that coercive interrogation techniques do little or nothing to secure accurate information that would not otherwise have been obtained, but merely increase the risk of error. We don't know.

3. How can we study false convictions?

In theory, the best way to tell if an investigative procedure causes false convictions would be to randomly assign criminal investigations to two groups, use the technique in only one of them, and compare the rates of false convictions across those two sets. This is a non-starter. For better or for worse, researchers do not have the authority to conduct such experiments on criminal cases, nor would it be ethical to do so.

The next best option would be to collect data on representative sets of cases in which the technique in question was used and was not used, and then to compare the accuracy of the outcomes, controlling for as many other influential variables as possible. In practice, that too is impossible. For most criminal cases we don't know enough about the pre-trial investigation to determine, for example, what sort of eyewitness identification procedures or interrogation techniques were employed. Worse, if we could learn which cases did and did not use suggestive lineups or coercive interrogations (or even if we could somehow assign cases to different investigative conditions), we wouldn't be able at assess the impact of these practices on the accuracy of the outcomes because, for the most part, we can't identify the cases in which wrongful convictions occur.

An alternative would be to begin with a representative sample of all criminal cases in some well defined category, and determine which of them produced false convictions and which did not. Unlike the first two we mentioned, this plan is possible – for rape prosecutions. Starting in 2001, the Virginia Department of Forensic Science discovered several hundred boxes containing closed rape files from 1973 through 1988 – before pre-trial DNA testing was done in that laboratory – many of which contain biological evidence that was never tested for DNA. The state is planning to test those DNA samples.[18] As far as we know, the group of cases that will be tested is

[18] Michael D. Shear & Jamie Stockwell, *DNA Tests Exonerate 2 Former Prisoners; Va. Governor Orders Broad Case Review*, Washington Post, December 15, 2005. p. A1. Frank Green, *State's DNA Project is Slow Going*, Richmond Times-Dispatch, August 26, 2007. [Need cite that in 2 of 31 cases tested the exonerated suspects had not been convicted.]

reasonably representative of all rapes from 1973 through 1988 for which biological evidence was sent to the Virginia Department of Forensic Science; as far as we know, there is no reason to believe that the preservation of these biological samples was associated with any assessment of the defendant's guilt or innocence. This may become the first systematic study of false convictions ever, and may provide uniquely valuable data on the frequency of false conviction – among rape cases in Virginia in the 1970s and 1980s. (So far, the state has released the results of tests on a small preliminary sample, which found two previously unknown wrongful convictions out of 29.[19])

Other DNA archives, with biological evidence from old rape prosecutions, may be discovered in other jurisdictions. If systematic studies in Virginia or elsewhere uncover a sufficient number of false convictions, we might learn a great deal about the causes as well as the frequency of erroneous convictions for rape two to four decades ago. This would be a breakthrough, even though it would provide no direct data on the frequency or causes of wrongful convictions for other crimes – or for modern current rape prosecutions, for that matter, now that DNA testing has made it much easier to identify rapists accurately early in the investigation.

The remaining backup strategy is to start with groups of cases that are defined by their outcomes: to compare known false convictions and known correct convictions and see if suggestive lineups, coercive interrogations, and so forth, are more common in one group than in the other. Every generalization that is made about false convictions is based on an explicit or implicit comparison of this sort. This is a legitimate third-best research strategy, if its limitations are recognized. In this context those limitations are formidable.[20]

One difficulty in making generalizations about false convictions is that the ones we know about, exonerations, are clearly a small and unrepresentative sample of all false convictions. Setting aside mass exonerations based on proof of police perjury about non-existent crimes,[21] almost all of the exonerations that have come to light since 1989 are for murder – where the likelihood of post-conviction investigation is highest – and for rape, where untested DNA evidence can sometimes provide definitive proof of innocence.[22] Rape and murder together constitute about 2% of felony convictions, and a much smaller proportion of all convictions.[23] There are very few exonerations among convictions for non-homicidal crimes of violence for which DNA evidence

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[19] Id.

[20] This method is essentially a variant of the case-control method of studying disease; see generally James J. Schlesselman, CASE-CONTROL STUDIES: DESIGN, CONDUCT, ANALYSIS (1982). In this context, however, its purpose is different from the usual. We are not studying a pathology (for most case-control studies, disease; here, committing capital murder) but rather the process of *classifying* people with respect to that pathology. The analogy from medicine would be a case-control study that examines not the occurrence of a disease but the frequency and causes of *misdiagnose*s of that disease. Because studies of false convictions examine a process of classification, they are vulnerable to mistakes based on the absence of information about categories of cases for which they have no data. Specifically, comparisons between exonerations and correct convictions exclude cases in which *guilty* defendants were *not* convicted (or never charged); and cases in which *innocent* suspects were *cleared* at trial or before trial, or never charged at all. We discuss these issues below, at _____.

[21] See supra _____.

[22] Gross et al, *Exonerations,* supra note___ at 529 Table 1.

[23] See, e.g., Matthew R. Durose & Patrick A. Langan, Felony Sentences in State Courts, 2000, United States Department of Justice, Bureau of Justice Statistics (2003) at p. 2, Table 1.

is of no value – robbery, for example. And there are virtually no exonerations for the misdemeanors and non-violent felonies that constitute the vast majority of all criminal convictions, and probably include the majority of false criminal convictions as well.

If that were the only problem, we could simply narrow our focus. It would be valuable, for instance, to understand the processes that produce false convictions just among rape cases, for which we have a substantial number of exonerations. Rape exonerations may not be representative of all false rape convictions, but comparisons between them and correct rape convictions would be a start, if it could be done. Of course, we can't be sure that convicted rape defendants who have not been exonerated are in fact guilty, but we could use a representative set of *all* rape convictions as a proxy for *correct* rape convictions on the plausible assumption that this classification will be accurate in a sufficiently high proportion of the cases to provide a useful comparison to known false convictions. But even with these compromises – focusing solely on rape, using rape exonerations as a proxy for all false convictions, and using all rape convictions as a proxy for correct convictions – the task is impossible. We simply don't know enough histories of rape prosecutions and rape convictions in general.

We do know a fair amount about most rape exonerations because an exoneration is an unusual event that draws attention. Unfortunately that attention comes at the end of the case, when the defendant is finally cleared and released. The average time from conviction to exoneration is about ten years.[24] Looking back across that gap, it's often impossible to determine such things as how the pre-trial identification was secured, or why the defendant was suspected in the first place. And that's the easy part. The other side of the comparison is far worse.

The rape exonerations that we know about come from across the entire country. The American criminal justice system is deeply fragmented. It includes not only fifty separate states but more than 3000 counties, most of which have their own separate courts and prosecutors.[25] It would be difficult, at best, to assemble a representative national sample of rape convictions, and if somehow we succeeded, we would know almost nothing about them. The overwhelming majority of rape convictions are obtained by guilty pleas, and generate virtually no records that can be retrieved, even in theory: no trial transcripts, no appeals, frequently no court hearings of any sort, in many cases no description of the investigation at all beyond a single police report which (if it could be found) might include little factual information of any value. The minority of convictions that are based on trial verdicts produce more detailed records – even so, with major gaps – but they are likely to be highly unrepresentative of the mass of cases.[26]

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[24] Gross et al, *Exonerations,* supra note___ at 524.

[25] See, e.g., Steven W. Perry, Prosecutors in State Courts, 2005, United States Department of Justice, Bureau of Justice Statistics (2006) at p. 2.

[26] Here again, we have lots of reasons to believe that the small minority of cases that go to trial are systematically different from the majority that are settled by plea bargains, but no hard data. Among the likely differences: tried cases probably have on the whole weaker evidence of guilt than plea bargained cases because defendants have little incentive to go to trial when the evidence against them is overwhelming; tried cases probably include a lower proportion of defendants with serious criminal records, because such defendants are at a disadvantage in defending themselves at trial and face worse consequences if convicted than those without records; tried cases probably include a higher proportion of heavily aggravated cases because in those cases prosecutors are less likely to offer meaningful concessions in plea bargaining if they are willing to bargain at all; and tried cases might include a higher proportion of innocent defendants because innocent defendants may be reluctant or unwilling to plead guilty even when it is in their self interest to do so.

This lack of data is especially troubling in rape cases, since DNA evidence is only useful in those cases in which the defense claims that the defendant is not the person who had sex with the victim. That claim is generally only plausible when the rapist was a stranger to the victim, which is true in only about a third of all rapes.[27] (Otherwise, the defense – if there is one – must be that the alleged victim consented to sex with the defendant or fabricated the events.) Rape *prosecutions* might include a higher proportion of stranger rapes, but again – we don't know.

In short, it's easy to see why we know so little about false convictions. We are limited to those few unrepresentative cases that happen to come to light, we have inadequate information about the underlying investigations in those cases, and we can't compare them to correct convictions because we know even less about the investigations that lead to criminal convictions in general.

4. What *do* we know about false convictions?

We can make a few generalizations about false convictions. We've already mentioned the clearest: We don't know how many false convictions occur, but it's clear that there are many more false convictions than exonerations.

Virtually all the individual exonerations we know about are in rape and murder cases. It's easy to see why. For rape we have a unique tool: previously untested DNA can sometimes prove innocence beyond doubt. In murder cases we have a unique incentive: because the consequences of conviction are so serious, innocent murder defendants are more likely than other innocent defendants to have the benefit of extensive post-conviction investigations. We don't catch all false convictions for rape and murder; we probably don't even catch most of them. For example, a majority of post-conviction innocence investigations in rape cases go nowhere because no biological material can be found to use in DNA testing.[28] Nonetheless, we have found a substantial number of wrongful rape and murder convictions.

But what about false convictions for other crimes – crimes for which DNA is of no use and where the stakes are lower than for murder? Robbery is an important example. Like rape, robbery is a crime of violence that is often committed by strangers, which makes misidentification of the criminal a serious risk. In fact, robberies by strangers are several times more common than rapes by strangers, so there is every reason to expect that false convictions in robbery cases greatly outnumber those in rape cases. But without DNA to help them, virtually no innocent robbery defendants are exonerated.[29] And of course, we rarely even think about wrongful convictions for misdemeanors or non-violent felonies.

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[27] See, e.g., Cathy Maston & Patsy Klaus, Bureau Of Justice Statistics, *Criminal Victimization In The United States, 2002 Statistical Tables* 42 Tbl.29 (2003).

[28] See Risinger, D. Michael, "Convicting the Innocent: An Empirically Justified Wrongful Conviction Rate" (September 16, 2006), available at SSRN: http://ssrn.com/abstract=931454, at p. 13, text at note 29.

[29] Gross et al 529-31. In addition to their greater frequency, robberies by strangers may be more prone to error than rapes by strangers because the victims are less likely to have had good opportunities to view the criminals. Id. (The case of Antonio Beaver, who was exonerated in St. Louis in March 2007 is the sort of exception that proves the rule. Beavers was falsely convicted of first degree robbery and spent more than 10 years in prison before he was exonerated by DNA because in that particular robbery the criminal got into a scuffle with the victim and bled in the

As we mentioned, the major obstacle to useful comparisons between exonerations and criminal convictions in general is our lack of systematic information on the conduct of criminal investigations. We do, however, have quite good information on some demographic traits of the defendants and the victims, both for exonerations and for comparable criminal cases, and some of the demographic comparisons we can make suggest factors that increase the risk of a wrongful conviction.

Rapes of white women by black men account for well under 10% of all rapes in America, but half of all rape exonerations fall in that category.[30] This stark disparity suggests that prosecutions of inter-racial rapes with black defendants are particularly error prone, perhaps because – as many psychological studies show – white Americans are much more likely to mistake one African American stranger for another than to do so with members of their own race.[31]

There are comparably strong data on the relationship between age and false confessions. Steven Drizin and Richard Leo collected information on 125 proven false confessions, 44 of which led to false convictions; 81% of these false confessions were for murder. Of the suspects who falsely confessed, 35% were under the age of 18.[32] This is a large over-representation: fewer than 10% of all suspects arrested for murder are juveniles.[33] It suggests, as several researchers have argued,[34] that youth is major risk factor for false confessions.

On the whole, however, we know little about false convictions. In the section that follows we add a bit to our knowledge of that unknown continent by examining false convictions in a particularly well-documented class of cases – death sentences.

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car he stole, which was later recovered. Heather Ratcliffe, *"This Feels Strange to Have My Freedom," Man Cleared by DNA is Freed*," St. Louis Post-Dispatch, March 30, 2007, p.A1.

[30] According to the Bureau of Justice Statistics' Criminal Victimization in the United States, 1996-2002, Table 42 (available at http://www.ojp.usdoj.gov/bjs/abstract/cvusst.htm.) – based on the National Criminal Victimization Survey – black offenders accounted for an average of approximately 10% of all rapes and sexual assaults of white victims between 1996 and 2002. (The statistic fluctuates from year to year because for each year it is extrapolated from a sample of 10 or fewer survey responses.) Another Bureau of Justice Statistics study – based on the National Incident-Based Reporting System, reports that in 88% of rapes the victim and the offender are of the same race, and that the victims of rape are approximately evenly divided between whites and blacks. Bureau of Justice Statistics, Sex Offenses and Offenders, p. 11 (February 1997), available at http://www.rainn.org/Linked%20files/soo.pdf. It follows that the proportion of all rapes that have white victims and black offenders is about 5 to 6%.

[31] C. A. Meissner & J.C. Brigham, Thirty Years of Investigating Own-Race Bias in Memory for Faces: a Meta-Analysis, 7 *Psychology, Public Policy and Law* 3 - 35 (2001).

[32] Steven A. Drizin & Richard A. Leo, The Problem of False Confessions in a the Post-DNA World, 82 N.C. L. Rev. 891, 845, 847 (2004). See also Gross et al, *Exonerations,* supra note____ at 544-46.

[33] See, e.g., Sourcebook of Criminal Justice Statistics 2003, pages 354, 355, available at http://www.albany.edu/sourcebook/pdf/t47.pdf; Sourcebook of Criminal Justice Statistics Online, http://www.albany.edu/sourcebook/pdf/t472003.pdf; Sourcebook of criminal justice statistics Online, http://www.albany.edu/sourcebook/pdf/t472004.pdf; Sourcebook of criminal justice statistics Online, http://www.albany.edu/sourcebook/pdf/t472005.pdf.

[34] Drizin & Leo, supra note___ at 847; Gross et al, *Exonerations,* supra note___ at 544-46 [Kassin?].

II. Death Penalty Cases

Since 1973, 124 American criminal defendants who were sentenced to death have been exonerated.[35] This is a startlingly high number, considering that death sentences amount to less than one-tenth of one percent of prison sentences in the United States.[36] Most likely this extraordinary number of capital exonerations is caused in part by a higher underlying error rate among capital convictions and in part by a higher rate of detection of those errors after conviction. It's well known that more resources are devoted to capital defense than to other cases, before and after conviction, but it's hard to believe that better review alone explains the capital exoneration rate.[37] If that were the whole story it would mean, for example, that if we had reviewed prison sentences with the same level of care that we devoted to death sentences, there would have been approximately 87,000 non-death row exonerations from 1989 through 2003 rather than the 266 that were reported in a comprehensive study in 2005.[38]

The extra care that is devoted to capital cases, both before and after conviction, is a major asset for researchers. Death sentences, unlike the great majority of criminal convictions in the United States, are almost all based on trials; and even the handful of capital defendants who plead guilty are then subject to trial-like sentencing hearings, usually before juries. All death sentences are reviewed after conviction, and almost all are reviewed repeatedly. With rare exceptions, every capital sentence generates at least one post-conviction legal opinion that is published or available on the internet; in most there are two or more available opinions. In general, only a small fraction of American prisoners are represented by lawyers at any given time, but most capital defendants have legal representation for all or most of the time that they remain on death row.

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[35] Death Penalty Information Center, Innocence: List of Those Freed from Death Row, available at: http://www.deathpenaltyinfo.org/article.php?scid=6&did=110.

[36] Approximately 8,000,000 million defendants were sentenced to 1 year or more in American prisons from 1977 through 2004. U.S. Department of Justice, Bureau of Justice Statistics, data available at http://www.ojp.usdoj.gov/bjs/dtdata.htm#prisoners State Prison Adm 1988-04 & State & Fed Prison Adm 1977-2000. The total from these sources is 8,083,645, but it does not include Federal prison sentences for 1990-92 or 2004. In that same period 6807 death sentences were imposed (U.S. Department of Justice, Bureau of Justice Statistics, data available at http://www.ojp.usdoj.gov/bjs/abstract/cp04.htm) which amounts to 0.085% of all prison sentences.

[37] There are also strong theoretical reasons to expect a higher rate of false convictions in murder cases generally, and capital murder cases in particular. See Samuel R. Gross, *Lost Lives: Miscarriages of Justice in Capital Cases*, 61 Law And Contemporary Problems 123 (Autumn 1998). For example, it appears that police and prosecutors identify and bring to trial murder suspects after difficult investigations that would not be pursued for less serious crimes. The main likely result is an increase in the number of accurate convictions. But this practice is also likely to increase the number of false capital and non-capital murder convictions, because it requires the authorities pursue difficult cases, where the evidence is less than overwhelming and the risk of error is substantial.

[38] Gross et al, *Exonerations*, supra note___ at 532. The number in the text is derived from the number of capital exonerations from 1989 through 2003 reported by Gross et al – 74 – multiplied by the ratio of prison sentences to death sentences in the previous footnote: 74 X (8,000,000/6807) = 86,969. Gross et al made a somewhat different comparison – between the *current* numbers of death row defendants and other prisoners as of 2001 – and estimated that given similar detection rates the number of non-death row exonerations in that period would have been "over 29,000." They noted, however, that "This is a conservative estimate, since death-sentenced defendants spend more time in prison than the average inmate and therefore are an even smaller proportion of the total population of defendants who are convicted of felonies and pass through prisons in any given time period." Id. at 532 n. 21. The number we report here is based on the correct comparison – death sentences to "the total population of defendants who are convicted of felonies and pass through prisons in any given time period" – and, as expected, it is considerably higher than the previous estimate, by a factor of 3.

And, of course, everybody, from the first officer on the scene to the Chief Justice of the United States, takes capital cases more seriously than other criminal prosecutions – and knows that everybody else will do so as well. The net effect is that capital cases are far better documented than other criminal cases.

Because so much more is known about death sentences than other convictions, we can use data on capital exonerations to estimate a lower bound for the error rate in capital convictions. We can also use these data to attempt to identify some predictors of such errors.

1. The capital exoneration rate

In 1972, in *Furman v. Georgia*,[39] the Supreme Court invalidated all existing death penalty statutes. The "modern" use of the death penalty in the United States dates from the following year, 1973, when the first of the post-*Furman* capital sentencing laws went into effect. Death sentences since 1973 are tracked by the Bureau of Justice Statistics of the Department of Justice. As a result we know that 7,534 people were sentenced to death from 1973 through 2004.[40] In the same period, 111 defendants were exonerated after being sentenced to death for murder under a post-*Furman* capital sentencing statutes, or 1.5% of all death sentences.[41]

That figure – 1.5% – is not the final word on exonerations for the cohort of defendants who've been sentenced to death since 1973, let alone a reasonable estimate of the rate of false capital convictions. As time passes, some defendants in this group who have not yet been exonerated will be; others who are innocent will never be identified. But it's a starting point for estimating a lower bound for the rate of exoneration in capital cases.

Of the 7,534 defendants sentenced to death between 1973 and 2004, 13% had been executed as of the end of 2004, 4% died of suicide or natural causes, 41% were removed from death row because their capital sentences or the underlying convictions were reversed by one means or another, and 42% remained on death row.[42] These various groups are quite differently positioned with respect to the possibility of exoneration.

Some of those capital defendants who remain on death row will be exonerated in years to come. For those who claim to be innocent, exoneration is always a theoretical possibility and sometimes an actual prospect. The list of defendants who have been released from death row includes several who came within days of execution. On the other hand, defendants who are removed from death row but not exonerated – typically because their sentences are reduced to life imprisonment – no longer receive the extraordinary level of attention that is devoted to death row inmates. (This applies as well to those who die on death row from suicide or natural causes.)

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[39] Furman v. Georgia, 408 U.S. 238 (1972)

[40] Tracy L. Snell, Capital Punishment, 2005, United States Department of Justice, Bureau of Justice Statistics, NCJ 215083 (2006) at p. 14, Appendix Table 2.

[41] These are the cases listed by the Death Penalty Information Center in its "List of Those Freed from Death Row," supra note___, excluding those defendants who were convicted of pre-Furman murders, or who were on death row for crimes other than murder.

[42] Calculated from Snell, supra note___, p. 14, Appendix Table 2.

If they are in fact innocent they are probably much less likely to be exonerated than if they had remained on death row. In both categories, the count of exonerations is incomplete, either because the intensive process of detection of capital errors is still underway, or because it was abandoned once the threat of execution was removed.[43]

Of the post-*Furman* death row inmates who were exonerated between 1973 and 2004, 95% had been freed within 20 years of their conviction (106/111). Overall, 2394 death sentences were pronounced in American courts from 1973 through 1984. By 2004, the process of identifying exonerations for these 20- to 30-year-old death sentences was largely complete. It resulted in 54 exonerations – almost exactly half of all capital defendants who were exonerated through 2004 – or an exoneration rate of 2.3% (54/2394). Eighty-one percent of capital exonerations occurred within 15 years of sentencing (90/111). By the end of 2004 there had been 86 exonerations among the 3792 capital defendants who'd been sentenced to death through 1989, at least fifteen years earlier – also an exoneration rate of 2.3% Two additional defendants who were sentenced to death before 1990 were exonerated in 2005, but judging from the pattern of previous cases, we have probably seen almost all the capital exonerations that we will see for defendants sentenced to death through 1989. In other words, a good estimate of the long-term post-*Furman* capital exonerations rate in the United States is 2.3%

That figure – 2.3% – is the actual proportion of exonerations among death sentences imposed in the United States between 1973 and 1989. It may serve as an estimate of the proportion of *all* death sentences since 1973 that will eventually result in exonerations, assuming the processes that produce death sentences and exonerations have not greatly changed since 1989.

We have estimated the rate of "exonerations," but our focus is wrongful convictions. As we use the term, "exoneration" is an official act – a pardon, a dismissal or an acquittal – declaring a defendant not guilty of a crime for which he or she had previously been convicted because new evidence of innocence that was not presented at trial required reconsideration of the case.[44] This is in part a substantive definition. It requires new evidence of innocence, and we have excluded any case in which there was unexplained physical evidence of the defendant's guilt. But "exoneration" is primarily a procedural concept. The key element is an official statement releasing the defendant from any liability for the crime for which he was convicted.

Very likely some defendants whom we count as "exonerated" did in fact participate in the crimes for which they were convicted. But in our estimation, the probability of innocence is high for all of these exonerated defendants – for many, innocence is beyond dispute – and the number of

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[43] It might be possible to use the data at our disposal to estimate what the rate of capital exonerations would be if all death sentences were subject for an indefinite period to the level of scrutiny that applies to those facing the prospect of execution. Such an estimate would be a significant step toward estimating the underlying rate of false convictions in capital cases. In this paper we undertake a simpler task: to calculate the actual rate of exoneration for death sentences that are old enough so that the existing process of identifying errors has run its course.

[44] Our definition of exoneration is the same as that in Gross et al, *Exonerations*, supra note___ at 524. As in Gross et al, we have excluded any case in which a dismissal or an acquittal appears to have been based on a decision that while the defendant was not guilty of the charges in the original conviction, he did play a role in the crime and may be guilty of some lesser crime that is based on the same conduct. For our purposes, a defendant who is acquitted of murder on retrial, but convicted of involuntary manslaughter, has not been exonerated. We have also excluded any case in which a dismissal was entered in the absence of strong evidence of factual innocence, or in which – despite such evidence – there was unexplained physical evidence of the defendant's guilt.

misclassifications low enough to make these exonerations a useful proxy for innocence. Moreover, for the purpose of estimating the proportion of innocent defendants sentenced to death, there are offsetting factors. "Exoneration" requires an official act that clears the defendant's record completely. The set of exonerations we analyze excludes several death-sentenced defendants who presented strong post-trial evidence of innocence and who were eventually released after they pled guilty to second-degree murder or other non-capital charges as a result of negotiated compromises with prosecutors.[45] It is likely that least some of these "non-exonerated" defendants who were released from death row list are actually innocent. And of course the set of exonerated defendants does not include innocent defendants who were executed, nor those who remain on death row, nor the undetected innocent defendants among the thousands of defendants who've been removed from death row but remain in prison.

All things considered, we believe that 2.3% – the long-term rate of exoneration of death-row inmates – is a conservative estimate of the rate of wrongful death sentences.

There is one other study of false conviction rates that is based in actual case data, by Professor Michael Risinger who examined death sentences in rape-murder cases from 1982 through 1989.[46] Using DNA exonerations as his measure of innocence, Risinger calculates that at least 3.3% of defendants sentenced to death for rape-murder in that period were innocent, and he estimates that the true proportion might be about 5%.

2. Predicting false capital convictions

A. The dataset: executions and capital exonerations

As we mentioned, a major problem for studying false convictions is obtaining data on appropriate comparison groups of non-false convictions. For capital cases that is comparatively easy, for reasons already noted. On the other hand, capital cases appear to be more error-prone than other serious felony convictions, which means that a comparison group of capital cases might include a higher proportion of undiscovered false convictions than we would expect for other felony convictions. That is particularly true for capital defendants who were sentenced to death comparatively recently (who may not yet have been exonerated), and for those who were removed from death row but not freed (who are unlikely to benefit from the special attention to cases that might lead to executions).

In this section we compare 105 cases of capital defendants who were sentenced to death for murder under post-*Furman* statutes and exonerated through 2003, to a random sample of 137 of the 885 executions that were carried out in the same period. We use executions as our comparison group for two inter-related reasons.

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[45] See Death Penalty Information Center, Probable Innocence - Released From Prison, available at: http://www.deathpenaltyinfo.org/article.php?scid=6&did=111#Released.

[46] Risinger, supra note ____ at 14-15.

First, as a group, the cases of executed defendants received a higher level of post-conviction scrutiny than any other well-defined group of criminal cases.[47] With some exceptions,[48] these are cases in which the multi-layer process of capital review ran its course. As a result – while it is all but inevitable that at least some innocent defendants have been put to death in the United States in the past 25 years – overall, the set of executions probably includes a substantially lower proportion of innocent capital defendants than those who remain on death row, or those who were removed but not exonerated.

Second, executions and exonerations are the two categories of capital cases in which all possible proceedings on claims of innocence have been completed, one way or the other. For those who were put to death, the legal system concluded that there was no evidence of innocence sufficient to stop the executions. For those who were exonerated, the system determined there was sufficient evidence of innocence to require that the defendants be cleared and released. It is instructive to see if there are systematic differences between these two groups.

B. Date and Place of the Crime, and Race of Defendant and of Victim

The two sets of cases we compare are quite similar in the dates of both the crimes and the convictions of the defendants.[49] They are not so closely matched by location. Some states in this national sample had many executions – especially Texas (37% of the total) and Virginia (7%) – but comparatively few exonerations (7% and 1%, respectively); and some states had large numbers of exonerations – especially Illinois (16%) – and few executions (1%).[50]

We also collected data on the race of the defendants and the victims in these two sets of cases. Many post-*Furman* studies have found that American defendants who are convicted of killing white victims are more likely to be sentenced to death than those convicted of killing minority victims, especially African American victims.[51] We see no evidence that defendants who are

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[47] Judging from anecdotal evidence, some of this scrutiny operates unobserved, under the radar. For example, one of the authors mentioned the subject of this research to a colleague, who proceeded to describe a case he handled several years earlier as a Supreme Court clerk. The case was one of many pre-execution petitions for certiorari that the Supreme Court clerk reviewed, but on this one he was worried that the defendant might be innocent. He obtained the trial record, which only made him more anxious. To check his judgment, the clerk – who considered himself a liberal – gave the record to a conservative fellow clerk, who had the same reaction: this defendant might well be innocent. So they found a basis to recommend that the Court grant certiorari (assume jurisdiction of the case) and remand it to the lower court for reconsideration in light of some other Supreme Court case, and the Court followed their recommendation – a maneuver that would at a minimum add years to the life span of the litigation on the defendant's death sentence, and possibly side-track it permanently. We have no idea how often things liked this happen at the hands of clerks, judges and prosecutors, up and down the line, but when they do their effect is to keep some possibly innocent capital defendants from execution without directly addressing their guilt or innocence.

[48] Professor John Blume calculates that approximately 12% of those executed between 1973 and 2003 waived at least some of their available appeals. John H. Blume, Killing The Willing: "Volunteers," Suicide And Competency, 103 Mich. L. Rev. 939, 1008-09 (2005).

[49] See infra, Appendix, Table A(1).

[50] See infra, Appendix, Table A(2).

[51] See David Baldus et al., Racial Discrimination and The Death Penalty in The Post-Furman Era: An Empirical and Legal Overview, With Recent Findings From Philadelphia, 83 Cornell L. Rev. 1638 (1998); U.S. General Accounting Office, Death Penalty Sentencing: Research Indicates Pattern of Racial Disparities (1990); David

sentenced to death for killing white victims are also, in aggregate, more likely to be innocent than those sentenced to death for killing minority victims. The victims were white in comparable proportions of these two sets of cases, 73% of the executions and 77% of the exonerations.[52]

On the other hand, non-white defendants are somewhat more common among the exonerated than the executed, 61% to 50%,[53] a difference that is due entirely to a higher proportion of exonerations with non-white defendants and white victims – 40% compared to 27% for executions.[54] It is possible that non-white defendants who are sentenced to death for killing white victims are more likely to be innocent than other death sentenced defendants, but the difference is comparatively small and we are not confident that it reflects a genuine causal pattern.

C. The limitations of these data

Despite the advantages of comparing capital exonerations and executions, the inferences we can draw are severely limited in two respects: *First*, we have only imperfect information about the cases we consider. S*econd,* the cases we consider represent only two of several possible outcomes of capital prosecutions. As a result, apparent differences (or similarities) may be misleading. A couple of comparisons will illustrate these limitations.

Table 2 reports data on the mental status of the executed and exonerated defendants in our data, and on aspects of their defense at trial.

Table 2: Executions and Capital Exonerations in the United States 1973 – 2003, Defendant's Mental Status and Testimony at Trial

	Executions (137)	Exonerations (105)
Mentally ill defendant[a]	**22%**	**8%**
Mentally retarded defendant	**11%**	**7%**
Defendant testified at trial	**15%**	**18%**

[a.] $\chi^2(1, N = 242) = 9.16, p < .01$

Baldus et al., EQUAL JUSTICE AND THE DEATH PENALTY: A LEGAL AND EMPIRICAL ANALYSIS (1990); Samuel R. Gross & Robert Mauro, DEATH & DISCRIMINATION, RACIAL DISPARITIES IN CAPITAL SENTENCING (1989).

[52] $\chi^2(1, N = 225) = .32, p = .57$ See infra, Appendix, Table A(4). Data from the NAACP Legal Defense and Educational Fund show that 81% of *all* executions in this time period were for white-victim homicides, a proportion that is within a few percent of that for exonerations of non-white capital defendants – as is the proportion for executions in our sample – but higher rather than lower. See infra, Appendix, note____ Table A(5).

[53] $\chi^2(1, N = 242) = 3.07, p = .08$. See infra, Appendix, Table A(4).

[54] $\chi^2(1, N = 225) = 3.53, p = .07$. See infra, Appendix, Table A(4). In this case, the comparable data for all executions in the relevant period show a somewhat greater difference: 43% of all executed defendants were non-white, and 26% were non-white defendants convicted of killing white victims. See infra, Appendix, note___ Table A(5).

In the top row of Table 2 we see that 22% of the executed capital defendants are described as mentally ill, but only 8% of those who were exonerated. If this were a fair description of the mental status of the defendants it would suggest that among defendants sentenced to death mental illness was a negative predictor of innocence, which would be an interesting and perhaps surprising finding. In fact, there is no reason to believe that is so.

We don't actually know which of these defendants are, or were, mentally ill, and which were not. That would require data from psychiatric examinations of all of the defendants, in both categories. As far as we know, such data do not exist; in any event we don't have them. Our data are limited to facts that are mentioned in the records of the cases that are available from published sources or on the internet. The count of defendants who are listed as "mentally ill" is actually a count of cases in which evidence of mental illness is *reported* in the documents available to us. In some cases reports of mental illness may be inaccurate, but that is not the main problem. The real difficulty is that the production of these reports – accurate or inaccurate – is likely to be biased in a manner that is associated with the outcome of the case.

In 1986, in *Ford v. Wainwright*,[55] the Supreme Court held that the constitution prohibits the execution of prisoners who are insane at the time their death sentence is to be carried out. This was not a new rule. The Court noted that even before its decision, "no State in the Union permit[ted] the execution of the insane."[56] As a result, defense attorneys had a strong incentive throughout the period of our study to produce evidence of mental illness, if available, for those prisoners who were approaching execution – a group that includes all of those who were in fact executed, but only a fraction of those who were exonerated. That difference in incentives could easily explain the pattern in our data. By contrast, mental retardation only became a legal obstacle to execution with *Atkins v. Virginia*[57] in 2003, at the very end of the period we studied. Not surprisingly, as the second row of Table 2 shows, reports of mental retardation are less common among these death sentenced defendants than reports of mental illness, and while they are more common among the executions than the exonerations, the difference is smaller than for reports of insanity (11% and 7%, respectively).

The bottom row of Table 2 illustrates a more fundamental problem. The reported data show that equivalent proportions of executed and exonerated defendants testified at trial, 15% and 18%. Whether the defendant testified is a major and readily observable feature of a capital trial. It is usually explicitly mentioned, one way or the other, in the opinions, news stories and other documents describing these cases, and there is no reason to believe that the availability of data on this variable is biased in any manner that reflects the outcome of the case. As a result, we are not greatly concerned about the completeness or the accuracy of our data on this item.

But do these data mean that testimony by the defendant has no value as predictor of innocence in a capital case? That probably depends on the context. Among cases in which the defendants were sentenced to death, that appears to be true. That is what the data show, at least if executions are good proxy for all death sentences. But among the entire set of capital cases that *go to trial* the picture might be entirely different. It is possible – probable – that innocent capital defendants

[55] 477 U.S. 399 (1986).

[56] Id. at 408.

[57] 536 U.S. 304 (2003).

are considerably more likely than guilty ones to testify at trial. And it may also be that innocent capital defendants who do testify at trial – perhaps *all* capital defendants who testify at trial – are less likely to be convicted than those who don't, or if convicted less likely to be sentenced to death. The net effect might be that innocent capital defendants are more likely to testify than guilty ones, and as a result more likely to avoid death sentences, but that among those who *are* sentenced to death, equivalent proportions testified (which is all these data show). If so, testimony by the defendant would be a predictor of innocence at trial, but not one we could observe by looking only at defendants who were convicted and sentenced to death.

We report a handful of findings that are comparatively immune to the problems we have discussed. We confine ourselves to reliable data that were not generated by the process of capital litigation itself because they describe basic facts about the crime and the initial investigation. Several variables emerge as likely predictors of false conviction in capital cases – but we cannot begin to provide a general description of the process that produces these errors.

D. Possible predictors of false capital convictions

(i) The crime

Number of victims. Only a minority of capital murders involve more than two killings, but they are, obviously, among the most aggravated. Nineteen percent of the executions in our sample are in this group, but only 8% of the exonerations. This may be due to a difference in the available evidence: the more dead bodies, the easier it may be to identify the killer or killers, which could lead to fewer errors at trial. On the other hand, part or all of the difference may simply reflect a higher likelihood that a death-sentenced defendant who killed three or more victims will be executed relatively promptly rather than have his sentence reduced or simply remain in limbo on death row. See Table 3.

Table 3: Executions and Capital Exonerations in the United States 1973 - 2003, Number and Age of Victims

	Executions	Exonerations
More than 2 killings [a]	19% (26/137)	8% (8/105)
Victim under 12 years old [b]	5% (7/137)	14% (14/103)

[a.] $\chi^2(1, N = 242) = 6.35, p < .05$

[b.] $\chi^2(1, N = 240) = 5.30, p < .05$

Age of victims. Table 3 also shows that exonerations are more likely than executions to involve defendants who were convicted of killing children: 14% vs. 5% for victims under 12. In general, murders of children are considered more heinous than murders of adults. This could increase the number of errors if the authorities are driven to pursue weak cases – where errors are more likely – or if juries are so disturbed by child murders that they more readily convict and sentence defendants to death, even when the evidence is weak. It's also possible that homicides of children, as a group, yield weaker evidence than those with adult victims.

(ii) The investigation and the trial

Confessions. Most of the executed defendants in our sample confessed – 54% – compared to 15% of the exonerated defendants who did.[58] See Table 4.

Table 4: Executions and Capital Exonerations in the United States 1973 - 2003, Confessions and Claims of Innocence at Trial

	Executions	Exonerations
Defendant confessed[a]	**54%**	**15%**
No innocence claim at trial[b]	**38%**	**13%**

[a.] $\chi^2(1, N = 232) = 36.68, p < .001$

[b.] $\chi^2(1, N = 242) = 19.11, p < .001$

The fact that a capital defendant confessed is hard to miss; the circumstances of the confession may be great deal murkier. Some of our files, however, do include information that indicates either that the confession was volunteered, or that it was the product of police coercion. We have clear indications of voluntariness for 48% of the confessions in the execution cases (33/69), but for only 19% of the confessions by exonerated defendants (3/16). On the other hand, there are indications of coercion for almost half of the confessions by defendants who were ultimately exonerated (7/16), but for just over 4% of the confessions by those who were executed (3/69).

The data strongly suggest that capital defendants who confess, and especially those who confess voluntarily, are less likely to be innocent than those who don't. The reported differences in the rates of coerced confessions, on the other hand, should be taken with a grain of salt. It's likely that evidence of coercion is more common among the exonerations in part, if not entirely, because proof of coercion is often a step in establishing the defendant's innocence. By contrast, in execution cases where the defendant was plainly guilty (or in any event, where his guilt was not contested), there may have been no incentive to establish that a confession was coerced, regardless of what the police did to get it. As a result, our records for such cases may include no evidence of any coercion that occurred.

Innocence claims at trial. Most of the defendants in our samples claimed to be innocent at trial but a substantial minority did not, including 38% of those who were executed. See Table 4, bottom row.[59] This is not surprising. Many capital cases go to trial even though there is no doubt about the defendant's guilt. Other cases with similar evidence would generally end in plea bargains, but there is no room for bargaining when the prosecution asks for the maximum

[58] We define a confession as any inculpatory statement by the defendant (but not an inculpatory statement by an accomplice who also implicates the defendant).

[59] We coded a case as including a trial defense of innocence if the defendant claimed, in evidence or argument, that he did not commit the homicide or that he acted in self defense. We did not count as innocence defenses cases in which the defendants admitted that they did the killing but claimed that their conduct was excused or mitigated because their state of mind at the time of the act: because they killed by mistake; or while insane; or under the influence of some form of intoxication, stress or excitement that diminished their responsibility for their conduct.

penalty possible. Moreover, guilt or innocence is not the only issue in a capital trial, and frequently not the main one in dispute. A defendant who is convicted of capital murder will face a trial-like sentencing hearing, usually before the same jury that convicted him, to decide whether he should be put to death. If he is plainly guilty he may choose not to contest the inevitable finding of guilt to avoid the risk of alienating that jury.[60]

On the other hand, as with confessions, a far smaller proportion of the exonerated defendants failed to claim innocence at trial: 13%, about a third the rate for those who were executed. This is what one would expect. Those who are innocent are more likely to insist on their innocence, and not just out of a sense of injustice. They are more likely to *have* credible evidence of innocence to offer, and such evidence (if plausible) can be helpful at both phases of a capital trial. Rather than undermining the defendant's position on penalty, it can persuade jurors to sentence the defendant to life imprisonment rather than death even if it fails to persuade them to acquit.[61] Of course, as our exoneration cases illustrate, it doesn't always work. Some innocent defendants are both convicted and sentenced to death. What these data show is that among defendants who *are* sentenced to death, those who actively contested their guilt at trial are more likely to be innocent than those who did not.[62] All the same, it's noteworthy that a substantial minority of exonerated capital defendants did *not* actively dispute their guilt at trial.

Defendant's criminal record. Most of the defendants – exonerated or executed – had criminal records, but the exonerated rather less so than the executed. Over half of the executed capital defendants had been convicted of violent felonies – homicide, rape, robbery, arson, felonious assault – but only a third of the exonerated defendants. On the other hand, over a third of the exonerated had no criminal record at all when they were arrested, compared to 9% of the executed. See Table 5.

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[60] See, e.g., Florida v. Nixon, 543 U.S. 175, 191 (2004) (citations omitted, brackets in original): "Attorneys representing capital defendants face daunting challenges in developing trial strategies, not least because the defendant's guilt is often clear. Prosecutors are more likely to seek the death penalty, and to refuse to accept a plea to a life sentence, when the evidence is overwhelming and the crime heinous. … In such cases, 'avoiding execution [may be] the best and only realistic result possible.' … Counsel therefore may reasonably decide to focus on the trial's penalty phase, at which time counsel's mission is to persuade the trier that his client's life should be spared. Unable to negotiate a guilty plea in exchange for a life sentence, defense counsel must strive at the guilt phase to avoid a counterproductive course."

[61] Thus, for example, in a major study of decision making by capital sentencing juries, William Bowers and colleagues found that even after conviction, doubt about the defendant's guilt was the most influential factor in persuading juries to not sentence the defendant to death. J. Bowers, et al., Jurors' Predispositions, Guilt-Trial Experience, and Premature Decision Making, 83 Cornell L. Rev. 1476, 1534 (1998) ("By far, the strongest mitigating factor was lingering doubt, the one that read, 'Although the evidence was sufficient for a capital murder conviction, you had some lingering doubt that (the defendant) was the actual killer.'")

[62] Among the executed defendants, 49% of those who confessed claimed to be innocent at trial, compared to 76% of those who did not confess ($\chi^2(1, N = 128) = 9.81, p < .01$). Among the exonerated defendants in our sample this relationship is weaker and could be due to chance: 75% of those who confessed put on a defense of innocence at trial, compared to 90% of those who did not confess ($\chi^2(1, N = 102) = 1.42, p = .23$, corrected for continuity). This difference is not surprising, since the confessions by those who were later exonerated are now known to be false.

Table 5: Executions and Capital Exonerations in the United States 1973 - 2003, Defendant's Criminal Record

	Executions (133)	Exonerations (96)
None	9%	38%
Misdemeanors or non-violent felonies	38%	30%
Violent felonies	53%	32%
TOTAL	100%	100%

$\chi^2(2, N = 229) = 28.02, p < .001$

Time from crime to arrest. The first task in the investigation of a murder is to identify the person who did it. Sometimes it takes no time at all; the police may answer a 911 call and find the killer on the scene with a knife in his hand. And sometimes the criminal is never identified. When a killer has been identified the legal process swings into play. Typically he will be arrested in short order; interrogated, perhaps not for the first time (unless he refuses to answer questions or asks for a lawyer); brought before a judge; and charged with murder. The case is transformed from the investigation of the death of the victim to the prosecution of the arrested defendant.

For the great majority of our cases we were able to gather data on the length of this initial investigation, from the crime itself until the identification of the defendant. In all but a few the defendant was arrested almost as soon as he was identified as the killer, so we refer to this variable as the time from the crime to the arrest. In several cases, however, the actual arrest occurred days or even months later because the defendant, although identified, could not immediately be located.

On average, these initial investigations were much longer for the exonerations than for the executions, 7 1/2 months (230 days) compared to 3 months (93 days).[63] These averages are disproportionately influenced by a comparatively small number of cases with very long investigations, but the same difference shows up if we look at the length of the investigations across the entire range. See Table 6.[64]

[63] This difference is statistically significant, $t(221) = 3.85$, $p < .001$. Before conducting this test, we applied a logarithmic transformation to make the data suitable for a t-test. The raw data included several outliers—extremely high values—which skewed the distributions of each sample's data. The statistical test for significance that we performed (t-test) requires normally distributed data; adding one to the number of days to arrest for each case and then applying a logarithmic transformation made the distribution of data on this variable sufficiently normal to conduct a valid t-test.

[64] The difference holds if we eliminate those who were caught virtually red handed: 40% (53) of the executed defendants in our sample were arrested within one day of the crime, compared to 25% (23) of the exonerated. The mean time to arrest among the remaining 68 execution cases was 181 days, and among the remaining 64 exoneration cases 327 days, $t(130) = 2.55$, $p < .05$ (using the logarithmic transformation described supra, note____).

Table 6: Executions and Capital Exonerations in the United States 1973 - 2003, Time from Crime to Arrest

	Executions (132)	Exonerations (91)
0 – 10 Days	64%	36%
11 – 30 days	14%	22%
31 – 120 days	11%	17%
121 – 365 days	7%	12%
More than 365 days	4%	13%
TOTAL	100%	100%

Quick – or relatively quick – investigations are common for both types of cases, but not to the same extent. Nearly two thirds of the executed defendants were arrested within ten days of the crime, but only 36% of those who were exonerated. At the other end of the scale, compared to executions, nearly twice as many of the investigations leading to exonerations lasted over a month – 42% vs. 22% – and more than three times as many lasted over a year, 13% vs. 4%.

III. Conclusion: Some Early Findings

Our main message is gloomy. We don't know much about false convictions, and it will be difficult to learn more. Almost everything that we do know is based on information about exonerations, and it's clear that exonerations are highly unrepresentative of wrongful convictions in general. The main thing we can safely conclude from exonerations is that there are many other false convictions that we have not discovered. In addition, a couple of strong demographic patterns appear to be reliable: black men accused of raping white women face a greater risk of false conviction than other rape defendants; and young suspects, those under 18, are at greater risk of false confession than other suspects.

Since 1989, almost all the exonerations that we know about have been in three categories: rape convictions, because of post-conviction DNA testing; murder convictions – and especially death sentences – which are sometimes subjected to detailed post-conviction reinvestigation; and drug and gun possession convictions that were produced by concerted programs of police perjury that later unraveled. At least two of these categories present possibilities for useful research on wrongful convictions.

Rape cases offer the most promising opportunity. The Virginia Department of Forensic Science is in the process of conducting DNA tests on hundreds of untested biological samples from closed rape files from the 1970s and early 1980s.[65] That project may provide the first data ever

[65] See supra, note___.

on the frequency and characteristics of false convictions in a reasonably representative sample of investigations of a particular crime. If other DNA archives are found elsewhere, it may be possible to extend that research beyond Virginia.

We can also learn something about false convictions by carefully examining data on death sentences, which are much better documented than most other criminal cases, and for which it appears that a substantial proportion of all false convictions are discovered. We attempt to do that in this paper, and have a modest collection of findings to report.

First, we calculate that approximately 2.3% of death sentenced defendants in America are exonerated. The rate of wrongful convictions among death sentences is almost certainly greater than 2.3%, but that figure is already far higher than the rate of exoneration for any other category of criminal conviction. If defendants who were sentenced to prison had been exonerated at the same rate as those who were sentenced to death, there would have been nearly 87,000 non-death row exonerations in the United States from 1989 through 2003 rather than the 266 that were actually reported.

Second, we compare capital exonerations to executions, and attempt to identify predictors of wrongful capital conviction. We recognize the limitations of these comparisons, both because we have incomplete and uneven data on the cases we consider, and because we have no data whatever on suspects who were not charged with capital crimes, or capital defendants who were not sentenced to death, or those who were sentenced to death but who, as of the end 2003, had neither been executed nor exonerated but remained on death row or in prison under reduced sentences. Nonetheless, we found a few patterns worth reporting.

By comparison to executions, capital exonerations are less common for defendants convicted of murdering more than two victims, and more common for those convicted of murdering children. These patterns could reflect real differences in the quality of the evidence and the likelihood of error based on the age and number of victims, or they could be artifacts of other differences. For example, the comparatively lower exoneration rate among multiple murder cases may simply mean that defendants who killed more than two victims are less likely than others to linger on death row or have their death sentences reduced.

Capital exonerations appear to be more common among cases in which the investigation of the crime was unusually difficult, or where common items of direct or circumstantial evidence of guilt were missing. We see this pattern for several items:

- Exonerated defendants were much less likely than executed defendants to have serious criminal records. We might well have predicted the opposite: that the police would attach too much weight to a suspect's violent history and pursue weak and sometimes false cases against plausible seeming suspects who had committed other crimes. That probably happens in some cases, but proceeding against a capital defendant with no criminal history appears to a greater danger: such cases are much more common among exonerations than executions, 38% vs. 9%.

- Confessions are three-and-a-half times as common among the executed as the exonerated, 54% to 15%. This is no surprise. Most murder defendants confess, and most confessions are true. (The problem with false confessions is just that: Precisely because most

confessions are true – and exceptionally powerful evidence of guilt – those that are false are devastating.) In the absence of a confession, and especially a voluntary confession, the risk of false conviction increases.

- The pattern for confessions is repeated at trial. Whether or not they confess, some capital defendants do not actively contest their guilt in court. These tacit admissions of guilt are much more common among executed than exonerated defendants who were sentenced to death, 38% to 13%. In other words, among death sentenced inmates the risk that a conviction was an error is greater in cases in which the defendants actively asserted their innocence at trial.

- The clearest evidence that a difficult investigation increases the risk of error is the length of time from the crime to the defendant's arrest. On average, pre–arrest investigations in death sentence cases that led to exoneration were two-and-a-half times as long as in those that ended in execution. This is not a finding we had predicted; it seemed equally likely that mistakes would be caused by investigators quickly jumping to the wrong conclusion and failing to revise it. That does happen – in 36% of capital exonerations the initial investigation lasted 10 days or less – but long, frustrating searches pose a higher risk of wrongful conviction.

Appendix: Characteristics of the Data

Table A(1): Executions and Exonerations By Year of Crime

	Executions (137)	Exonerations (105)
1971-1977	19.0%	20.0%
1978-1984	47.4%	41.9%
1985-1991	23.4%	25.7%
1992-1998	10.2%	12.4%

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Table A(2): Executions and Exonerations By Year of Conviction

	Executions (137)	Exonerations (105)
1973-1979	22.8%	23.8%
1980-1986	48.5%	39.1%
1987-1993	19.9%	27.6%
1994-1999	8.8%	9.5%

Table A(3): Executions and Exonerations by State

	Executions (137)	Exonerations (105)
Alabama	2.9%	4.8%
Arkansas	3.6%	0%
Arizona	2.9%	7.6%
California	1.5%	2.9%
Delaware	0.7%	0%
Florida	11.7%	16.2%
Georgia	1.5%	3.8%
Idaho	0%	1%
Illinois	0.7%	16.2%
Indiana	2.2%	1.9%
Kentucky	0%	1%
Louisiana	2.2%	4.8%
Maryland	0%	1%
Missouri	8.8%	2.9%
Mississippi	0%	1.9%
Montana	0.7%	0%
North Carolina	3.6%	2.9%
Nebraska	0.7%	1%
New Mexico	0%	3.8%
Nevada	0.7%	1%
Ohio	0%	3.8%
Oklahoma	5.8%	6.7
Oregon	0.7%	0%
Pennsylvania	0%	4.8%
South Carolina	2.9%	1.9%
Texas	37.2%	6.7%
Utah	0.7%	0%
Virginia	7.3%	1%
Washington	0.7%	1%

Table A(4): Executions and Exonerations By Race of Defendant and Victim

	Executions[66] (135)	Exonerations (90)
White Defendant White Victim	46% (62)	37% (33)
White Defendant Non-White Victim	5% (7)	1% (1)
Non-White Defendant White Victim	27% (37)	40% (36)
Non-White Defendant Non-White Victim	22% (29)	22% (20)
All White Defendants*	50% (69)	39% (41)
All Non-White Defendants*	50% (68)	61% (64)
All White Victims	73% (99)	77% (69)
All Non-White Victims	27% (36)	23% (21)

* Includes some cases in which the race of the victim is unknown.

[66] Data on the race of executed defendants and their victims are also available from Death Row USA, a periodic census of death row inmates in the United States that is conducted by the NAACP Legal Defense and Educational Fund and available at: http://www.naacpldf.org/content.aspx?article=297. Death Row USA for the Winter of 2004 provides the following data on defendants executed in the United State in our study period, 1973 through the end of 2003:

Table A(5): Executions by Race of Defendant and Victim, 1973 From Death Row USA

	Executions (867)
White Defendant White Victim	55% (477)
White Defendant Non-White Victim	2% (19)
Non-White Defendant White Victim	26% (227)
Non-White Defendant Non-White Victim	17% (144)
All White Defendants	57% (496)
All Non-White Defendants	43% (371)
All White Victims	81% (704)
All Non- White Victims	19% (163)