NEW YORK UNIVERSITY
LAW REVIEW

VOLUME 90 OCTOBER 2015 NUMBER 4

SYMPOSIUM

FOREWORD: TESTING THE CONSTITUTION

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INTRODUCTION

We live in the age of empiricism, and in that age, constitutional law is a relative backwater. Although quantitative methods have

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transformed entire fields of scholarly inquiry, reshaping what we ask and what we know, those who write about the Constitution rarely resort to quantitative methodology to test their theories. That seems unfortunate, because empirical analysis can illuminate important questions of constitutional law. Or, at least, that is the question to be tested in this Symposium.

We brought together a terrific group of scholars with a unique assignment. We paired distinguished constitutional thinkers with equally accomplished empiricists. We asked the law scholars to identify a core question, assumption, or doctrine from constitutional law, and we asked the empiricist to take a cut at answering it, or at least at figuring out how one might try to answer it. We understood that their answers might be preliminary at best, that the questions might be resistant to easy answers. This is so, in part, because empiricism is as much a means of refining questions as it is a way of answering them.

The balance of this Foreword is, in a sense, an introduction to the idea that more serious empirical analysis can further both constitutional law scholarship and constitutional law decisionmaking. Hence our title: Testing the Constitution.

Part I of this Foreword describes the empirical turn in law. We wish to make two points: (1) A lot of empirical work is coming out of law schools these days, but (2) it's not being done by constitutional law scholars.

This is unfortunate because constitutional law is shot through with empirical questions, the answers to which have the potential to influence the way we teach and write about constitutional law and the way lawyers make constitutional arguments. Drawing on the papers from our Symposium and other examples, we make these points in Part II.

The potential influence of empirical work in law also extends to judges. As we show in Part III, the Supreme Court increasingly relies on data in its constitutional jurisprudence. This suggests a role for empirical scholarship beyond the confines of the faculty commons. So too academics can and should push judges to pay more attention to the empirical assumptions underlying their opinions. Although some judges seem interested in laying an empirical foundation for their work in the realm of constitutional law, they are the exceptions.

By way of example, we consider the Supreme Court's recent decision in *Florida v. Harris*, which held that a canine alert constitutes presumptive probable cause to justify a police search, so long as the dog has a "satisfactory performance in a certification or training pro-

gram."[1] Specifically, "[i]f a bona fide organization has certified a dog after testing his reliability in a controlled setting, a court can presume (subject to any conflicting evidence offered) that the dog alert constitutes probable cause to search."[2] The decision was unanimous, and the Court was quite confident about its conclusions. Although the opinion made reference to empirical studies, the reference was glancing, and—as we show—ignored an important body of empirical work that should have given the Court pause.[3]

Which returns us to our central reason for this gathering: to uncover the use of empiricism in constitutional doctrine, with the hope of advancing legal scholarship, lawyering, and judging. We think there is much to uncover and much to advance.

Still, amid all this talk of empiricism, we want to emphasize that we are firm believers in diverse methodological approaches to constitutional law. Theoretical and doctrinal studies have long been the stuff of constitutional law scholarship, and we certainly do not disparage this work; all three of us do it! Our only point is that constitutional law would benefit from a dash of data too, in much the same way as have many other fields in law. In the Conclusion, we reiterate this message and point to some paths of inquiry for constitutional law scholars interested in moving in an empirical direction.

I
The Empirical Turn in Law (Con Law Excepted)

There has long been a connection between law and the social sciences, and law has always had at least an implicit empirical component.[4] Legal Realism was born of this union, and the Law and Society movement was premised upon it.[5]

Not until the early 2000s, though, did legal scholarship and empirical studies fully join hands. How and why is not exactly clear, but

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[1] Florida v. Harris, 133 S. Ct. 1050, 1057 (2013).

[2] *Id.* at 1057.

[3] *See infra* Part III.C (using *Harris* as a paradigm of empirics in constitutional law).

[4] For historical reviews, see Shari Seidman Diamond & Pam Mueller, *Empirical Legal Scholarship in Law Reviews*, 6 Ann. Rev. L. & Soc. Sci. 581 (2010) (finding that nearly half of the law review articles published in the years 1998 and 2008 included some empirical content); Herbert M. Kritzer, *Empirical Legal Studies Before 1940*, 6 J. of Empirical Legal Stud. 925 (2009) (discussing the range of empirical research on law prior to World War II); Christopher Tomlins, *Framing the Field of Law's Disciplinary Encounters*, 34 L. & Soc'y Rev. 911 (2000) (examining the historical interrelationship of law and social science from the late nineteenth century to the post-World War II period).

[5] *See* Kritzer, *supra* note 4, at 925-26 (citing sources providing an overview of the birth of the Legal Realism and Law and Society movements).

signs of the new alliance abound.[6] Law schools today regularly hire social science scholars with backgrounds in quantitative methods,[7] and established law professors increasingly obtain empirical training either on their own or through one of the annual training programs such as the Empirical Legal Scholarship Workshop.[8] Legal scholars who lack quantitative skills increasingly partner with empirically trained co-authors to bring social science to the law.[9]

Many scholars have documented the empirical turn in law, especially the increase in empirical articles in the law reviews. In Figure 1, we reprint two examples. The top panel, from Shari Seidman Diamond and Pam Mueller's study, shows that the percentage of articles with some empirical content has increased in the flagship law reviews ranked 1-10 (Group 1), 61-70 (Group 2), and 121-130 (Group 3).[10] The bottom panel, from Daniel E. Ho and Larry Kramer's work, documents the increase in the *Stanford Law Review*.[11] Despite this general increase in empirics in legal scholarship, Part I.A will show this trend has not extended to constitutional law.

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[6] Around this time, scholars started to document the increasing production of quantitative research. *See, e.g.*, Robert C. Ellickson, *Trends in Legal Scholarship*, 29 J. OF LEGAL STUD. 517 (2000) (documenting the growing number of law and economics articles from 1982 to 1996); Tracey E. George, *An Empirical Study of Empirical Legal Scholarship: The Top Law Schools*, 81 IND. L. J. 141 (2006) (ranking law schools based on their place in the growing empirical scholarship movement). The *University of Chicago Law Review* published Lee Epstein and Gary King's *The Rules of Inference*, 69 U. CHI. L. REV. 1 (2002), along with responses from several leading scholars, and in the mid-2000s, the annual Conference on Empirical Legal Studies and the Journal of Empirical Studies were launched. Diamond & Mueller, *supra* note 4, at 584–85 (describing the proliferation of legal empiricism at the turn of the twenty-first century).

[7] There are no recent systematic studies documenting the increase, but anecdotal evidence suggests as much. Diamond & Mueller, *supra* note 4, at 593.

[8] The Empirical Legal Scholarship Workshop is held annually by Lee Epstein and Andrew Martin at Washington University in St. Louis. THE CENTER FOR EMPIRICAL RESEARCH IN THE LAW, *Training*, http://cerl.wustl.edu/training/cels14.php (last visited Feb. 27, 2015).

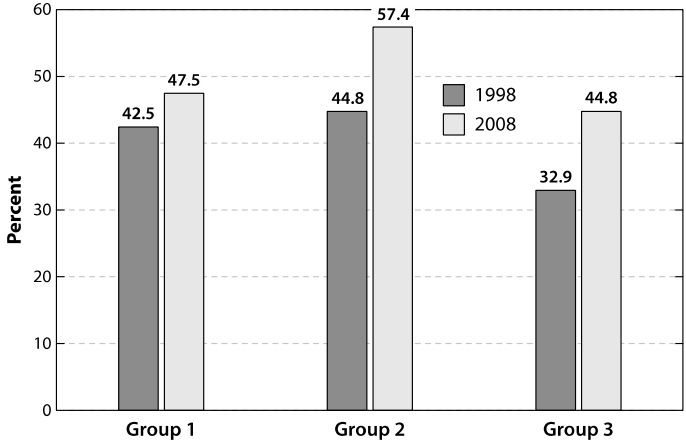
[9] *See, e.g.*, Cliff Carrubba, Barry Friedman, Andrew D. Martin & Georg Vanberg, *Who Controls the Content of Supreme Court Opinions?*, 56 AM. J. POL. SCI. 400, 400 (2012). Carruba, Martin, and Vanberg are political science professors, while Friedman is a law professor.

[10] Diamond & Mueller, *supra* note 4, at 586, 591 fig.3.

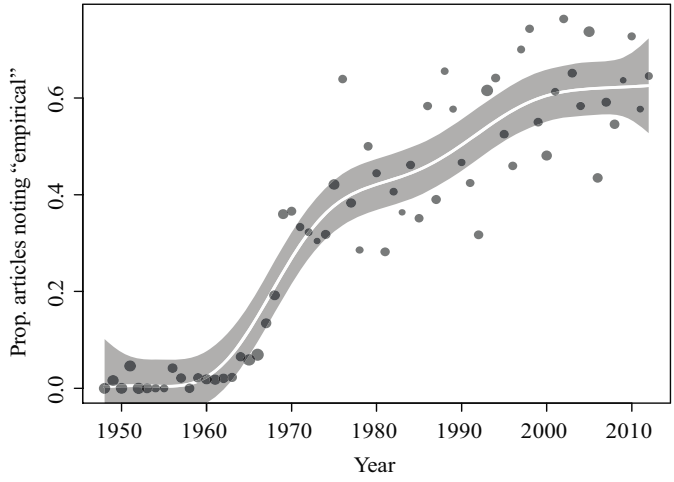
[11] Daniel E. Ho & Larry Kramer, *Introduction: The Empirical Revolution in Law*, 65 STAN. L. REV. 1195, 1196 (2013).

FIGURE 1. EXAMPLES OF THE INCREASE IN ARTICLES WITH EMPIRICAL CONTENT IN THE LAW REVIEW

A. PERCENTAGE OF ARTICLES WITH SOME EMPIRICAL CONTENT, 1998 V. 2008. GROUP 1= FLAGSHIP LAW REVIEWS RANKED 1-10; GROUP 2= FLAGSHIP LAW REVIEWS RANKED 61-70; GROUP 3= FLAGSHIP LAW REVIEWS RANKED 121-130.[12]



B. ARTICLES IN THE *STANFORD LAW REVIEW* MENTIONING THE WORD "EMPIRICAL," 1948-2012.[13] THE DOTS ARE WEIGHTED BY THE TOTAL NUMBER OF ARTICLES; THE CURVES ARE THE PREDICTED VALUES FROM A GENERALIZED ADDITIVE MODEL WITH 95% CONFIDENCE BANDS IN GREY.[14]



[12] Diamond & Mueller, *supra* note 4, at 586, 591 fig.3.
[13] Ho & Kramer, *supra* note 11, at 1196 fig.1.
[14] *Id.* at 1196.

A. Where Are the Constitutional Law Scholars?

Are constitutional scholars taking empiricism as seriously as others in the legal world? Here, we use a little empiricism of our own to suggest the answer is no. Although constitutional law is riddled with empirical judgments, this fact seems to be lost on most constitutional law scholars.

We reached this conclusion by examining articles (not essays, notes, comments, responses, or symposia papers) published in the most recent volume of each of the top ten law reviews as ranked by Google, plus the *University of Chicago Law Review* and the *NYU Law Review* (in honor of our hosts).[15] We coded each article on two variables: (1) whether it was about constitutional law and (2) whether it was empirical. Identifying the subject of the article (task 1) was reasonably straightforward, though some articles were a blend of statutory and constitutional law. In such cases, we coded the dominant theme. In determining whether the article was empirical (task 2), we counted articles as empirical if they made some use of data (facts about the world) or results from empirical studies, or included a data table or figure in the article.[16]

The results comport with what we might expect—constitutional law scholarship is significantly less empirical than most other fields of law—but they are eye opening nonetheless. Of the 161 articles in our sample, 59 addressed constitutional law issues and 102 dealt with other areas of the law. As Figure 2 shows, only 27% of the constitutional law articles (16 of 59) made use of even a modicum of data, compared with 54% of the articles in other fields (55 of 102). The difference is statistically significant.[17]

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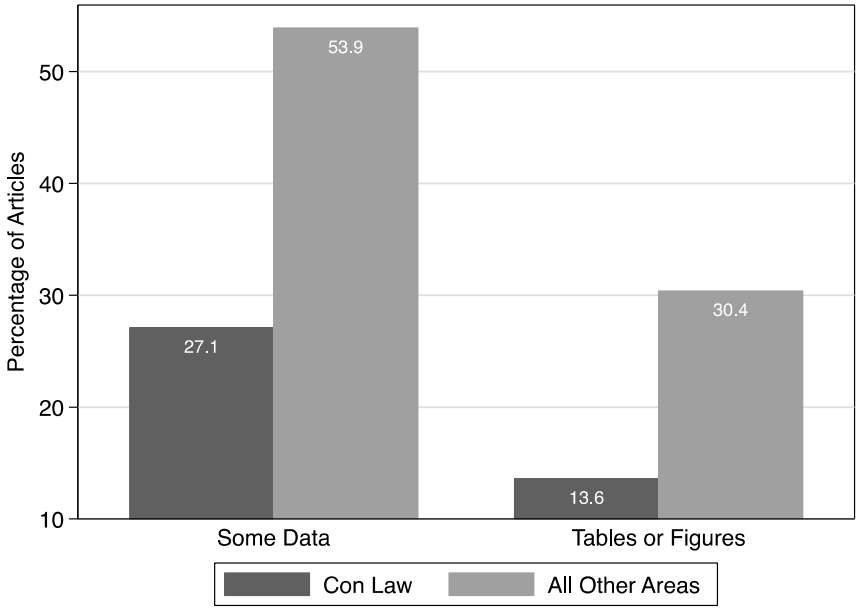
[15] *Top Publications: Law*, GOOGLE SCHOLAR, http://scholar.google.com/ (follow "metrics" hyperlink, then follow "social sciences" hyperlink, then follow "law" hyperlink) (last visited Feb. 12, 2015). The top ten of 2014 are: *Harvard Law Review* (excluding the Supreme Court Review issue), *University of Pennsylvania Law Review*, *Columbia Law Review*, *Yale Law Journal*, *Stanford Law Review*, *UCLA Law Review*, *Virginia Law Review*, *Michigan Law Review*, *Duke Law Journal*, and *Cornell Law Review*. *Id.* The *University of Chicago Law Review* is ranked 19th and the *New York University Law Review* is ranked 14th. *Id.*

[16] "Table 1" was a search term used in Ellickson, *supra* note 6, at 528. We also looked for figures that displayed data or results. In undertaking this analysis, some scholars have instead identified papers as empirical by the appearance of certain terms, such as "quantitative" or "statistical significance." *E.g.*, George, *supra* note 6, at 147.

[17] When we use the term statistical significance, we refer to p values less than .05. A p value is the probability, assuming that the null hypothesis is true, that a random sample from the population would generate a test statistic as far away or further from the hypothesized value than the one observed. We can reject the null hypothesis when a p value is small. LEE EPSTEIN & ANDREW D. MARTIN, AN INTRODUCTION TO EMPIRICAL LEGAL RESEARCH 159–60 (2014).

FIGURE 2. PERCENTAGE OF ARTICLES PUBLISHED IN THE TOP LAW REVIEWS THAT INCLUDE DATA OR TABLES/FIGURES



Note: The difference between constitutional law articles and all others is statistically significant ($p < .05$) for both "Some Data" and "Tables or Figures."

Figure 2 also shows the use of tables and figures in constitutional law articles versus all others. The difference is as stark (and as statistically significant) as it is for the Some Data bars, but it may be even more revealing. Tables and figures tend to signal a proper empirical study (rather than an article that makes use of others' data or results, as, say, Justice Sotomayor did in *Schuette v. BAMN*[18]). Only eight articles fall into this category in constitutional law—or 14% of the fifty-nine in our sample. That figure is 30% (or 31/102) for all other fields.

B. Don't Dismiss It So Fast!

No doubt some of you are thinking that the constitutional law scholars are right to stick with traditional legal methods; it is all the others who are misguided. We understand that the empirical turn in law has not been universally applauded. Some of the toughest critics have been (trained) empiricists who question the quality of work pub-

[18] 134 S. Ct. 1623, 1681, 1682 n.20 (2014). In Part III, *infra*, we discuss the Justices' use of data and empirical results in their opinions.

lished by legal academics.[19] But other criticisms abound: Some in the law world regard empiricism as self-indulgent bean counting. They question whether empiricists writing about law and legal institutions know enough about or pay enough attention to how those institutions operate.[20] Empirical research is often dismissed as superficial, easily manipulated to confirm (consciously or unconsciously) the author's pre-conceived biases (ideological or otherwise), and most often useful only to prove the obvious. Moreover, critics note that, on the most important and controversial issues, the empirical work is frequently so complex, confusing, contradictory, and conflicting that it is of little use to courts. This latter point bears underscoring: Even the excellent work in this Symposium makes clear that empirical studies do not always, or even often, come up with sufficiently certain results that judges can make use of them.[21]

Empirical work can suffer from all these problems, and many others. But any methodological approach could be challenged on similar grounds. The point of empirical legal studies is not only to use data to provide answers to important questions about law and legal institutions, but also to allow us to gauge the uncertainty of our answers—and to gauge that uncertainty with some precision. Thus, it is one thing to declare, based only on anecdotal evidence, that "independent judiciaries are good for economic prosperity," and quite another to observe that "when a country's judiciary is fully independent from the government, the expected value of its GDP is 2.5 times higher than when a country's judiciary is only partially independent, controlling for all other relevant factors." And better still, "when a country's judiciary is fully independent from the government, the expected value of its GDP is 2.5 times higher [± .5] than when a country's judiciary is only partially independent, controlling for all other relevant factors." The ± .5 is a precise estimate of our uncertainty. Our best guess about GDP is 2.5, but it could be as low as 2 or as high as 3.

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[19] *See* David Freeman Engstrom, *The* Twiqbal *Puzzle and Empirical Study of Civil Procedure*, 65 STAN. L. REV. 1203, 1236–37 (2013) (describing the costs associated with the democratization of empirical legal research and critiquing unsophisticated empiricism often used in *Twiqbal* scholarship); Epstein & King, *supra* note 6, at 6 (noting that current empirical legal scholarship is flawed in that it fails to comply with the rules of inference that guide such scholarship in the social and natural sciences).

[20] *See* Barry Friedman, *Taking Law Seriously*, 4 PERSP. ON POL. 261, 262 (2006) (suggesting three common failures in empirical legal scholarship, including a general lack of attention to the "norms of law").

[21] *See, e.g.*, Daniel E. Ho & Frederick Schauer, *Testing the Marketplace of Ideas*, 90 N.Y.U. L. REV. 1160, 1214 (2015) (cautioning against any strong inference about the causal effect of a buffer zone on abortion rates given the uncertainty in weighting aspects of the model).

In short, we do not claim that empiricism is a panacea. But in a world in which readily available computing power has led to important advances in statistical methodology and in the ability of researchers to collect and analyze data, we are more able than ever before to test our assumptions. Sometimes we will come to firm conclusions. Sometimes we will learn that what we thought we knew is in fact more uncertain than we believed. In any event, to the extent that empiricism can help us get a better grip on reality, it seems useful to try to garner that understanding.

II
The Empirical Side of Constitutional Law

These are general claims about the value of empirical work. How do they apply to constitutional law? Our answer is simple: Constitutional law is chock full of questions and assumptions that beg for empirical analysis. Answering these questions and testing these assumptions has the potential to advance our knowledge, provide a basis for further inquiry, and perhaps lead to better court decisions—or at least decisions that rest on firmer ground.

In the next Part we turn to the courts. For now, we consider some of the questions with which constitutional law scholarship should but does not now grapple. You can help us out here by playing something of a parlor game—one that we hope will catch on because it would be healthy for constitutional law. Ask yourself: Can you name any constitutional law case, doctrine, or theory that rests—implicitly or explicitly—on some sort of empirical assertion for which it would be useful to say, "I have (or could get) some data on that"? Once you do, you will begin to see the gap between empiricism and constitutional law.

You don't even need to be a constitutional law scholar to play. Think of the *Miranda* rule, familiar to anyone who watches crime drama on television.[22] Here are a couple of obvious questions that arise almost instantly, and that matter to the *Miranda* doctrine, or ought to. Do people generally know those rights without being told of them? After individuals are warned of their rights, do people generally assert the right to silence or do they talk to the police? Do *Miranda* warnings reduce the number of confessions? Do they reduce the number of false confessions?

[22] Miranda v. Arizona, 384 U.S. 436, 467–68 (1966) (elaborating, most famously, on the right to remain silent). Recently one of us asked a visiting foreign student if she knew about the *Miranda* rule. She replied, "Well, I watch it on television." Which brings to mind the story—apocryphal or not, it makes the same point—of the person arrested in a jurisdiction outside the United States who, having watched a great deal of American television, asserted his *Miranda* rights, only to learn he did not have them.

Even this simple set of inquiries rapidly leads to more questions, including one of the most perplexing: How many confessions are false? (Let alone: Why do people give false confessions to the police?) Lawyers and judges assume that jurors are deeply influenced by confessions, but are they? If this assumption is correct, and if some percentage of confessions are false, what can or should constitutional law do to address this problem? Anyone familiar with the doctrine of *Miranda*, and with the constitutional law of confessions more generally, knows that while societal attention to false confessions grows, the doctrine becomes more forgiving of police conduct in the interrogation room. [23] Are the facts we are learning and the direction of the law at loggerheads?

Just from this simple exercise, you can begin to see the potential for empirics in constitutional law scholarship, and other examples abound. A number of papers in this Symposium deal with issues of campaign finance,[24] or with elections generally,[25] matters that are hotly contested these days, both politically and constitutionally. And they bring us closer to addressing matters that are central to understanding the effect of legal doctrine. Brown and Martin, for example, put to the test Justice Kennedy's assumption that "[t]he appearance of influence or access . . . will not cause the electorate to lose faith in our

[23] *See, e.g.*, Berghuis v. Thompkins, 560 U.S. 370, 380–81, 385–86 (2010) (holding that a defendant's silence during the first two hours and forty-five minutes of a three hour interrogation did not invoke his right to remain silent and that he waived his right to remain silent right when he responded to an interrogating officer's question); Colorado v. Connelly, 479 U.S. 157, 161–62, 167 (1986) (holding that coercive police activity is a requirement in determining that a confession is not "voluntary" under the Due Process Clause of the Fourteenth Amendment, and further holding that admitting into evidence a defendant's confession made while suffering from psychosis did violate the Constitution); New York v. Quarles, 467 U.S. 649, 657–58 (1984) (declining to extend Fifth Amendment protections to a defendant where the need for answers in a situation posing a threat to public safety outweighs the need for *Miranda*'s "prophylactic" rule protecting the privilege against self-incrimination); Harris v. New York, 401 U.S. 222, 226 (1971) ("The shield provided by *Miranda* cannot be perverted into a license to use perjury by way of a defense, free from the risk of confrontation with prior inconsistent utterances."); Barry Friedman, *The Wages of Stealth Overruling (With Particular Attention to* Miranda v. Arizona*)*, 99 GEO. L.J. 1, 16–25 (2010) (charting the Court's incremental "dismantling" of *Miranda*).

[24] *E.g.*, Rebecca L. Brown & Andrew D. Martin, *"Rhetoric and Reality": Testing the Harm of Campaign Spending*, 90 N.Y.U. L. REV. 1066, 1069–70 (2015) (testing three of the Supreme Court's assumptions about the effects of campaign spending).

[25] *E.g.*, Ho & Schauer, *supra* note 21, at 1163 (testing the effects of restrictions on campaign activity within 100 feet of polling places on election day).

democracy."[26] Their experiments find Justice Kennedy's assumption wanting in important ways.[27]

None of the papers address another controversial issue related to elections: voter ID laws.[28] But these restrictive laws also cry out for empirical analysis: Do they reduce voter fraud, their ostensible purpose? Do they substantially burden the right to vote; that is, do they substantially reduce turnout?

Similarly, on the campaign finance side: Do large campaign contributions and expenditures "corrupt" politicians? Do large campaign contributions and expenditures affect campaign and legislative outcomes? Does the very existence of such contributions and expenditures disillusion citizens and therefore reduce the public's confidence in democracy? If so, does this matter? Does this disillusion, if it exists, reduce voter turnout? Among all voters, or only some groups in particular?[29]

The past few months have seen numerous challenges to state bans on same-sex marriage—culminating in the Supreme Court's decision in *Obergefell v. Hodges*—the litigation of which involved a number of empirical questions.[30] States have attempted to justify these laws in ways that evoke skepticism from some courts.[31] One argument, for

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[26] Citizens United v. FEC, 558 U.S. 310, 360 (2010).

[27] *See* Brown & Martin, *supra* note 24, at 1074–78 (suggesting that injury to the electorate's faith in democracy occurs far more widely than Justice Kennedy assumed, and that using corruption to demarcate the point of injury is largely arbitrary).

[28] *See* Crawford v. Marion Cty. Election Bd., 553 U.S. 181, 185 (2008) (deciding the constitutionality of an Indiana statute that required citizens to present photo identification before voting in person on election day, or before casting a ballot in person at the office of the circuit court clerk in advance of election day); *see also* Adam Liptak, *Supreme Court Allows Texas to Use Strict Voter ID Law in Coming Election,* N.Y. TIMES, Oct. 19, 2014, at N19 (noting disagreement among the Justices over the constitutionality of Texas's voter ID law).

[29] *See* Citizens United, 558 U.S. at 470 (Stevens, J., dissenting) (noting that corporate electioneering would result in cynicism and disenchantment among the voting public); McCutcheon v. FEC, 134 S. Ct. 1434, 1468 (2014) (Breyer, J., dissenting) (arguing that corruption also leads to loss of interest in political participation).

[30] *See, e.g.*, Bostic v. Schaefer, 760 F.3d 352, 383 (4th Cir. 2014) (raising the question of whether there is correlation between a parent's sexual orientation and parental effectiveness); Baskin v. Bogan, 766 F.3d 648, 660 (7th Cir. 2014) (rejecting Indiana's argument that refusing same-sex marriage channels procreation into marriage); Kitchen v. Herbert, 755 F.3d 1193, 1222–23 (10th Cir. 2014) (rejecting appellant's conclusion that permitting same-sex marriage would unduly burden Utah's opposite-sex couples).

[31] *See Bostic*, 760 F.3d at 383 (noting that the studies that the proponents of the same-sex marriage ban rely on do not align with current scientific research); *Bogan*, 766 F.3d at 664 (chastising the lack of a valid justification for banning same-sex marriage); *Kitchen*, 755 F.3d at 1220 (characterizing the plaintiff's justifications for why same-sex marriage is undesirable as resting on a "sleight of hand").

example, is that children raised by same-sex couples do not fare well.[32] Is that true? Do we know?

Abortion is another hot-button issue. A wave of new state laws restrict abortion or regulate the procedure, such as laws requiring abortion providers to have admitting privileges at local hospitals or requiring abortion facilities to meet certain requirements.[33] Are such laws in fact necessary to assure the health of the woman undergoing the procedure?[34] Do they serve this interest at all? On the other side, to what extent do these and other restrictions on abortion clinics and procedures actually reduce the number of abortions? Is this changing in light of "mail order" abortions, and how should the law account for this?[35] In a similar vein, in the so-called "partial birth" abortion case, *Gonzales v. Carhart*, Justice Kennedy observed that "it seems unexceptionable to conclude some women come to regret their choice to abort the infant life they once created and sustained."[36] He conceded, though, that "we find no reliable data to measure the phenomenon."[37] The question is one of intense debate. Is his assertion true?

These examples are in the civil rights-liberties realm, but structural constitutional law raises its own questions. The Justices are fond of talking about "the States" or "state interests."[38] But is there such a thing as "the States" any more than there is "the Congress"?[39] We can all name plenty of high-profile cases in which States divided by filing

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[32] *Bostic*, 760 F.3d at 383.

[33] *See, e.g.*, GUTTMACHER INST., STATE POLICIES IN BRIEF: OVERVIEW OF ABORTION LAWS 1 (2015); GUTTMACHER INST., STATE POLICIES IN BRIEF: TARGETED REGULATION OF ABORTION PROVIDERS 1 (2015).

[34] *See, e.g.*, Whole Woman's Health v. Lakey, No. 1:14-CV-284-LY, slip op. at 14 (W.D. Tex. Aug. 29, 2014) (noting that before the statute at issue became law, abortion in Texas was "extremely" safe).

[35] This refers to the availability of drugs that act as abortifacients. *See* Emily Bazelon, *The Post-Clinic Abortion*, N.Y. TIMES MAG., Aug. 28, 2014, at 22 (reporting on a medical practitioner providing abortifacient pills from international waters and later by way of the Internet).

[36] 550 U.S. 124, 132, 159 (2007).

[37] *Id*. at 159.

[38] *See, e.g.*, Printz v. United States, 521 U.S. 898, 933–34 (1997) (holding it unconstitutional for the Congress to compel the state governments to internalize the financial burdens of implementing a federal regulatory program for the purchase of handguns); United States v. Lopez, 514 U.S. 549, 610 (1995) ("[T]he Federal Government . . . may override countervailing state interests.") (Souter, J., dissenting) (quoting Maryland v. Wirtz, 392 U.S. 183, 195 (1968)); Younger v. Harris, 401 U.S. 37, 44 (1971) ("[T]he National Government, anxious though it may be to vindicate and protect federal rights and federal interests, always endeavors to do so in ways that will not unduly interfere with the legitimate activities of the States.").

[39] *See generally* Kenneth A. Shepsle, *Congress is a "They," Not an "It": Legislative Intent as Oxymoron*, 12 INT'L REV. L. & ECON. 239, 239 (1992) (arguing that legislative intent is an "insecure" basis for statutory interpretation).

amicus curiae briefs on opposing sides.[40] Are these examples the rule or the exception? Empirical work of the sort undertaken by Lemos and Quinn[41] for our Symposium is a great start to answering this question, but much more work is needed.

Then there is the *Printz* line of commandeering cases, in which the majority decisions operate under empirical assumptions about accountability—notably that if commandeering occurs, citizens are unable to know whether to hold the states or the federal government accountable for the government action.[42] Is that true? What does it mean for federalism doctrine if it is or is not?

Cases implicating executive, legislative, and judicial powers are equally chock full of claims and questions awaiting empirical analysis. Dissenting in *Boumediene v. Bush*,[43] Justice Scalia claimed, "[t]he game of bait-and-switch that today's opinion plays upon the Nation's Commander in Chief will make the war harder on us. It will almost certainly cause more Americans to be killed."[44] Has this happened? Recent litigation about the National Security Agency bulk-collecting Americans' phone metadata has led to a debate about the program's efficacy, including claims about the number of terrorist incidents thwarted.[45] Can we identify a way to test the efficaciousness of this and similar programs? In the realm of judicial power, there is the question of whether the political preferences of the other branches of

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[40] *See, e.g.*, District of Columbia v. Heller, 554 U.S. 570, 573 (2008) (deciding whether the District's total ban on handguns offends the Second Amendment); Brief of the States of Texas, Alabama, Alaska, Arkansas, Colorado, Florida, Georgia, Idaho, Indiana, Kansas, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Utah, Virginia, Washington, West Virginia, and Wyoming as *Amici Curiae* in Support of Respondent, District of Columbia v. Heller, 554 U.S. 570 (2008) (No. 07-290); Brief for New York, Hawaii, Maryland, Massachusetts, New Jersey, and Puerto Rico as Amici Curiae in Support of Petitioners, District of Columbia v. Heller, 554 U.S. 570 (2008) (No. 07-290).

[41] Margaret H. Lemos & Kevin M. Quinn, *Litigating State Interests: Attorneys General as Amici*, 90 N.Y.U. L. REV. 1229 (2015).

[42] *Printz*, 521 U.S. at 929–30; *see also*, Vicki C. Jackson, *Federalism and the Uses and Limits of Law:* Printz *and Principle?*, 111 HARV. L. REV. 2180, 2200–05 (1998) (describing how federal commandeering of states causes problems with respect to political accountability); Ernest A. Young, *Two Cheers for Process Federalism*, 46 VILL. L. REV. 1349, 1360–61 (2001) (arguing that the background checks in *Printz* caused problems with accountability by requiring state officials to enforce federal law).

[43] 553 U.S. 723 (2008).

[44] *Id.* at 827–28 (Scalia, J., dissenting).

[45] *See, e.g.*, Klayman v. Obama, 957 F. Supp. 2d 1, 40–41 (doubting the efficacy of the metadata collection program because of the "utter lack of evidence that a terrorist attack has even been prevented because searching the NSA database was faster than other investigative tactics").

government affect judicial review; [46] theory would suggest this is inappropriate for a supreme and independent judiciary, but so far answers from empirical research are mixed,[47] suggesting room for more research.

Finally, we can imagine an entire empirical research agenda devoted to various aspects of judging—call it judicial behavior—in the constitutional law context. The paper by Epstein, Landes, and Liptak provides one example.[48] They test the long-embedded assumption that adherence to stare decisis is supposed to be more flexible in constitutional cases.[49]

There are many other directions in which empirical work could head. Political scientists have long explored whether legally relevant facts affect constitutional decisions—for example, does it really matter to the judge whether a search takes place in a home or a car? With a valid search warrant? Incident to a lawful arrest?[50] Constitutional law scholars not only could join in on the fun; they also could improve existing models because of their specialized knowledge of particular areas of the law.

Along somewhat different lines, we could imagine a series of empirical projects near and dear to the hearts of many constitutional law schools: the seemingly endless number of methods of interpreta-

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[46] For a fuller discussion of what factors guide judicial review, see *infra* note 50 and accompanying text.

[47] *Compare* Anna Harvey & Barry Friedman, *Pulling Punches: Congressional Constraints on the Supreme Court's Constitutional Rulings, 1987–2000*, 31 LEGIS. STUD. Q. 533, 534 (2006) (arguing that the Court is constrained by congressional preferences in its constitutional decisions), *with* Jeffrey A. Segal, Chad Westerland & Stefanie A. Lindquist, *Congress, the Supreme Court, and Judicial Review: Testing a Constitutional Separation of Powers Model*, 55 AM. J. POL. SCI. 89, 90 (2011) (finding that the Court is not influenced by the likelihood of congressional override in constitutional cases).

[48] Lee Epstein, William M. Landes & Adam Liptak, *The Decision to Depart (or Not) from Constitutional Precedent: An Empirical Study of the Roberts Court*, 90 N.Y.U. L. REV. 1115 (2015).

[49] *Id.* at 1117 .

[50] On the Fourth Amendment, see Jeffrey A. Segal's classic paper, *Predicting Supreme Court Cases Probabilistically: The Search and Seizure Cases, 1962-1981*, 78 AM. POL. SCI. REV. 891 (1984) (arguing that "[a]lthough one's home seems to have more protection than one's business, which in turn has slightly more protection than one's car, the differences are not as substantial as one might have supposed."). Other work has explored the death penalty, *e.g.*, Tracey E. George & Lee Epstein, *On the Nature of Supreme Court Decision Making*, 86 AM. POL. SCI. REV. 323 (1992) (arguing that, in death penalty cases, an integrated model based on extralegal and legal considerations provides a better explanation of Supreme Court decisionmaking when compared to models based on either consideration individually), and religious establishment, *e.g.*, Jeffrey R. Lax & Kelly T. Rader, *Legal Constraints on Supreme Court Decision Making: Do Jurisprudential Regimes Exist?*, 72 J. OF POL. 273, 279 tbl.1 (2010) (stating that changes to the membership of the Supreme Court effect Court decisionmaking in Establishment Clause cases), among other areas.

tion: "originalism," "textualism," "the Constitution as common law," "the living Constitution," "active liberty," and on and on. Invariably, adherents claim that their own approach is best (or at least better than the alternatives). But what does "best" mean? This is where a dose of empiricism would be informative because scholars could put some flesh on "best." There are yardsticks here. For example:

(i) *Durability*. All else being equal, are subsequent courts or even Congress less likely to overturn certain kinds of decisions—originalist, textualist, pragmatic, and so on?

(ii) *Efficacy*. Which types of decisions are courts, other institutions, and the people more likely to follow?

(iii) *Neutrality*. Proponents of the different methods argue that theirs produces more neutral outcomes. True?[51]

These are just a few examples; there are many more. Constitutional scholarship is relentlessly normative. Scholars regularly argue their approach is the best. But rarely are the best approaches assessed rigorously against the alternatives. Empirical analysis is the solution to the need for actual assessment.

III
The Constitution in Court

We have just laid out what amounts to a career's worth of questions and assumptions that empirical work can help address. We have little doubt that the answers would inform our writing and teaching on matters of constitutional law. We also have little doubt that the research might help lawyers craft better arguments.

But what of judges? Perhaps more so than most, constitutional law scholars aim their theoretical and doctrinal work at the judiciary—especially the Supreme Court. Is there a market there for empirical work? As we demonstrate directly below, the answer is yes. The current Court, in particular, seems to be quite interested in data and empirical studies. We also show that sometimes, the Justices get it quite wrong. All this suggests a role for empirical work in helping them move toward better answers.

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[51] We adapt this material from Lee Epstein, Jack Knight & Andrew D. Martin, *Some Ideas on How Political Scientists Can Develop Real-World Implications from Their Research*, *in* Making Law and Courts Research Relevant: The Normative Implications of Empirical Research 14, 21 (Brandon L. Bartels & Chris W. Bonneau eds., 2015) (offering endurance, efficacy, impact, and neutrality as four possible yardsticks for deciding what "best" means).

A. The Empirical Court

Let's start with the Court's interest in empirical evidence in constitutional law cases. If you open almost any book on social science and the law, you will find numerous examples drawn from constitutional law cases. Those books reveal two things: First, the Supreme Court has made forays into empiricism for some time. Second, the relationship between constitutional law and social science has not been without controversy.[52]

Though neither John Monahan nor Laurens Walker is a constitutional law specialist, they devote a key chapter in their classic *Social Science in Law* to the subject.[53] The chapter covers one of the early, notable, and much-criticized uses of social science in constitutional law: *Brown v. Board of Education*.[54] In *Brown,* the Court relied upon a number of studies, including Kenneth Clark's famous doll studies, to conclude that segregation "with the sanction of law, . . . has a tendency to [retard] the educational and mental development of negro children and to deprive them of some of the benefits they would receive in a racial[ly] integrated school system."[55] In a related context, Monahan and Walker show that empirical evidence figured prominently in all stages of the litigation[56] culminating in the landmark sex-discrimination case, *United States v. Virginia*.[57] They also document the use of empirical evidence in cases involving obscene and violent "entertainment," beginning with the relationship between crime and

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[52] *See infra* notes 53–64 and accompanying text (describing the use of social science in decisions regarding the First, Fourth, Sixth, Eighth, and Fourteenth Amendments).

[53] JOHN MONAHAN & LAURENS WALKER, SOCIAL SCIENCE IN LAW xviii–xx (8th ed. 2014). Both are law professors at the University of Virginia. Monahan is a psychologist who specializes in mental health law, among other fields. *Faculty: John Monahan*, UNIV. OF VA. SCH. OF LAW, http://www.law.virginia.edu/lawweb/faculty.nsf/439f126dc6096a13852566d7007b5063/891e1c748c78d481852566dc00517b8e?OpenDocument (last visited Feb. 28, 2015). Walker's primary fields are civil procedure and complex civil litigation. *Faculty: W. Laurens Walker*, UNIV. OF VA. SCH. OF LAW, http://www.law.virginia.edu/lawweb/faculty.nsf/439f126dc6096a13852566d7007b5063/29623668beda3b8185257333004ad3d7?OpenDocument (last visited Feb. 28, 2015).

[54] 347 U.S. 483 (1954).

[55] *Id.* at 494 & n.11; *see also* MONAHAN & WALKER, *supra* note 53, at 175–76, 179–80 (discussing Clark's doll studies).

[56] MONAHAN & WALKER, *supra* note 53, at 210–22.

[57] United States v. Virginia, 518 U.S. 515, 550 (1996) (using data to call into question the importance of VMI's "entirely militaristic" program), *aff'g* 976 F.2d 890 (4th Cir. 1992), *vacating* 766 F. Supp. 1407 (W.D. Va. 1991); *Virginia*, 976 F.2d at 897 (referencing empirical pedagogical studies as part of the opinion); *Virginia*, 766 F. Supp. at 1412 (discussing an empirical study showing that single sex colleges have higher levels of academic involvement, more student faculty interaction, and students with higher levels of intellectual self-esteem).

obscenity in *Roth v. United States*,[58] and ending with the link between video games and violence in *Brown v. Entertainment Merchants Association*.[59] Their book also explores the role of social science in constitutional criminal procedure, from the Fourth Amendment's protection against unreasonable searches,[60] to the Sixth Amendment's guarantee of a jury trial,[61] to the Eighth Amendment's prohibition against cruel and unusual punishment.[62] Wallace Loh's *Social Research in the Judicial Process*[63] and Rosemary Erickson and Rita Simon's *The Use of Social Science Data in Supreme Court Decisions*[64] similarly document the use of social science research across a range of constitutional law issues.

Whether the emphasis on constitutional law in these works is proportionate to the Court's use of social science in its constitutional law cases (or whether social science is more or less prominent in other areas of the law), we can't say without conducting a full-blown study. But it does appear that the use of social science is on the rise. At least this is the story that emerges from data collected by Lee Epstein, William Landes, and Richard Posner for another project. [65] For each constitutional law case in the U.S. Supreme Court Database (n=2136),[66] they counted the number of citations to articles in tradi-

[58] MONAHAN & WALKER, *supra* note 53, at 225–29; *see also* Roth v. United States, 354 U.S. 476, 510–11 (1957) (Douglas, J., dissenting) (arguing that there is no clear evidence supporting the idea that obscenity leads to antisocial behavior); United States v. Roth, 237 F.2d 796, 813 (2d Cir. 1956) (discussing the alleged link between obscenity and juvenile delinquency).

[59] MONAHAN & WALKER, *supra* note 53, at 244–48; *see also* Brown v. Entm't Merchants Ass'n, 131 S. Ct. 2729, 2739 (2011) (rejecting studies that claim to show a connection between violent video games and aggressive behavior in children).

[60] MONAHAN & WALKER, *supra* note 53, at 248–59.

[61] *Id.* at 266–94.

[62] *Id.* at 295–327.

[63] WALLACE D. LOH, SOCIAL RESEARCH IN THE JUDICIAL PROCESS (1984). Loh, now the President of the University of Maryland, is a psychologist by training—with expertise in the criminal justice system. That specialization shows throughout *Social Research*, in which examples drawn from constitutional criminal procedure predominate. *Wallace D. Loh: President, University of Maryland*, UNIV. OF MD., http://www.president.umd.edu/president_info.cfm (last visited Feb. 25, 2015).

[64] ROSEMARY J. ERICKSON & RITA J. SIMON, THE USE OF SOCIAL SCIENCE DATA IN SUPREME COURT DECISIONS (1998).

[65] LEE EPSTEIN, WILLIAM M. LANDES & RICHARD A. POSNER, THE BEHAVIOR OF FEDERAL JUDGES: A THEORETICAL AND EMPIRICAL STUDY OF RATIONAL CHOICE 1–2 (2013) (noting the recent acceleration in the trend of social scientists analyzing judicial behavior and rhetoric).

[66] THE SUPREME COURT DATABASE, http://supremecourtdatabase.org (last visited Feb. 25, 2015). We use a subset of their data (1953-2012 terms) and only cases decided by a signed majority or plurality opinion (we exclude per curiam decisions) in the Database, decisionType=1 or 7. Constitutional law cases are those in which lawType=1 (the Constitution) or lawType=2 (constitutional amendments).

tional law reviews and many other kinds of journals (science, social science, humanist, etc.).

There are many ways to splice and dice their data but, for our purposes, we simply compare the traditional law reviews and social science journals in criminology, business/economics, education, environment/urban studies, family, political science, psychology, public/mental health, social work, and sociology. We present the comparison in two ways: Figure 3 shows the fraction of decisions citing at least one law review or one social science journal article by Chief Justice era; Figure 4 shows the mean number of citations to the articles.

Taking the two figures together, there are two interesting patterns. First, the traditional law reviews, relative to the social science journals, serve as the Court's primary source of information. This was true during the Warren years and continues to this day. Across the six decades in our sample, 45.5% of constitutional law decisions cited at least one law review article, whereas only 5.1% cited articles in social science journals.[67] This is a statistically significant difference,[68] as is the difference in the average number of articles cited[69]: 1.6 for the law reviews and 0.13 for the social science journals.[70]

Second, and equally obvious from the figures, there has been a clear uptick in citations to social science journals. The percentage of cases citing at least one social science article increased (in a statistically significant way) from the Warren Court (2.5%) to the Burger Court (4.0%) to the Rehnquist Court (7.6%) to the Roberts Court (13.3%).[71] The percentage of cases citing to at least one law review article also increased, but the mean number of law review articles cited has remained stable, whereas the mean number of social science articles cited has increased—also with statistical significance.

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[67] The 95% confidence intervals are, respectively, [43.4, 47.6] and [4.2, 6.1].

[68] $t=36.7$ ($p < .05$).

[69] $t=18.6$ ($p < .05$).

[70] The 95% confidence intervals are, respectively, [1.5, 1.8] and [.05, .22].

[71] A regression of the fraction of cases with one or more cites to social science articles, whether by Chief Justice era or term, produces a statistically significant coefficient on the time variable. For example, with each passing Chief Justice era, we expect the fraction to increase by about .033 [0.021, 0.046].

FIGURE 3. FRACTION OF THE SUPREME COURT'S CONSTITUTIONAL LAW DECISIONS CITING AT LEAST ONE LAW OR SOCIAL SCIENCE ARTICLE, BY CHIEF JUSTICE ERA, 1953-2012 TERMS

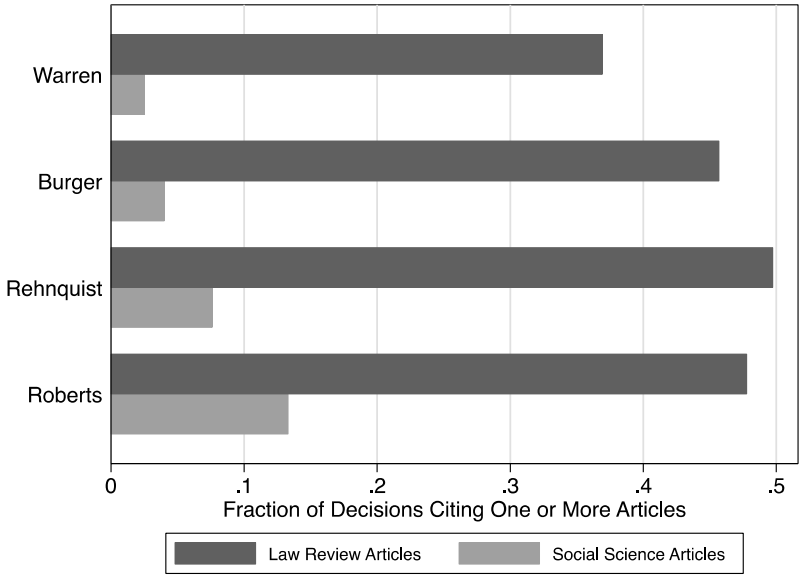
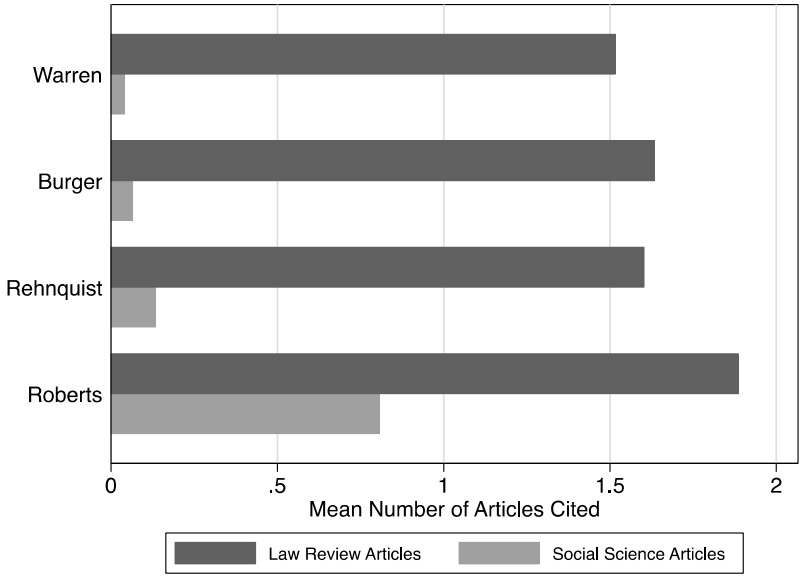


FIGURE 4. MEAN NUMBER OF SOCIAL SCIENCE AND LAW REVIEW ARTICLES CITED IN SUPREME COURT'S CONSTITUTIONAL LAW DECISIONS, BY CHIEF JUSTICE ERA, 1953-2012 TERMS



We don't want to make too much out of this mini-test; it is far from definitive (and we leave the task of a full-blown analysis to Epstein, Landes, and Posner). But it seems fair to say that despite, or perhaps along with, the move toward methodology in constitutional law,[72] the Court's interest in social science has only grown. In fact, during the 2013–14 Term, every Justice made some use of empirical evidence—whether data or results—in a constitutional law opinion.[73] This may come as no surprise for the pragmatists on the Court, such as Justice Breyer, but it holds true across the board.

In *Hall v. Florida*, for example, the question was whether a Florida law that foreclosed further exploration of intellectual disability for prisoners sentenced to death with an IQ above 70, could pass constitutional muster.[74] Writing for the majority, Justice Kennedy said: "The professionals who design, administer, and interpret IQ tests have agreed, for years now, that IQ test scores should be read not as a single fixed number but as a range."[75] He followed that statement with a detailed discussion, citing several social science papers.[76] In dissent, Justice Alito responded with some studies of his own. [77]

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[72] *See* EPSTEIN, LANDES & POSNER, *supra* note 65, at 2 (describing the methodology judges apply—"originalism, textualism, the Constitution in exile, the Constitution as common law, the living Constitution, active liberty," etc.—in constitutional cases to make "objective" decisions (internal quotation marks omitted)).

[73] *See, e.g.*, *infra* notes 74–96 and accompanying text (providing examples from the opinions of Chief Justice Roberts and Justices Scalia, Kennedy, Thomas, Breyer, Alito, Sotomayor, and Kagan). As for Justice Ginsburg, see, for example, her dissent in *Fernandez v. California*, 134 S. Ct. 1126, 1143–44 & n.6 (2014) (Ginsburg, J., dissenting) ("[A]ppropriate policy responses to this scourge [of domestic abuse] may include fostering effective counseling, providing public information about, and ready access to, protective orders, and enforcing such orders diligently." (citing EMILIE MEYER, NAT'L COUNCIL OF JUVENILE AND FAMILY COURT JUDGES, CIVIL PROTECTION ORDERS: A GUIDE FOR IMPROVING PRACTICE (2010), *available at* http://www.ncjfcj.org/sites/default/files/cpo_guide.pdf)). *See generally* EPIDEMIOLOGY AND PREVENTION FOR INJURY CONTROL BRANCH, CAL. DEP'T OF HEALTH SERVS., CALIFORNIA STATEWIDE POLICY RECOMMENDATIONS FOR THE PREVENTION OF VIOLENCE AGAINST WOMEN (2006), *available at* http://www.cdph.ca.gov/programs/Documents/VAWSPP-EPIC.pdf)).

[74] 134 S. Ct. 1986, 1990 (2014).

[75] *Id.* at 1995.

[76] Justice Kennedy cited DAVID WECHSLER, THE MEASUREMENT OF ADULT INTELLIGENCE 133 (3d ed. 1944); R. MICHAEL FURR & VERNE R. BACHARACH, PSYCHOMETRICS: AN INTRODUCTION 118 (2d ed. 2014); ROBERT L. SCHALOCK ET AL., AM. ASS'N ON INTELLECTUAL AND DEVELOPMENTAL DISABILITIES, USER'S GUIDE TO ACCOMPANY THE 11TH EDITION OF INTELLECTUAL DISABILITY: DEFINITION, CLASSIFICATION, AND SYSTEMS OF SUPPORTS 22 (2012); ALAN S. KAUFMAN, IQ TESTING 101, 138–39 (2009). *Hall*, 134 S. Ct. at 1995.

[77] According to Justice Alito, the Court neglects to explain "why its criticisms of the uncertainty resulting from the use of a *single* IQ score apply when a defendant consistently scores above 70 on *multiple* tests. Contrary to the Court's evident assumption, the well-accepted view is that multiple consistent scores establish a much higher degree of confidence." *Hall*, 134 S. Ct. at 2011 (Alito, J., dissenting). Justice Alito supported his

In *Riley v. California*, the question was whether cell phones could be searched without a warrant as part of a search incident to a lawful arrest.[78] Chief Justice Roberts, a self-proclaimed "legalist,"[79] answered no for the Court, relying heavily on data in stressing the importance to individuals of their phones: "According to one poll, nearly three-quarters of smart phone users report being within five feet of their phones most of the time, with 12% admitting that they even use their phones in the shower."[80]

Interestingly, the "originalists" on the Court went after each other with data in another criminal procedure case, *Navarette v. California*, which dealt with whether an anonymous tip could justify a traffic stop.[81] Writing for the majority, Justice Thomas used data to justify the connection between erratic and drunk driving,[82] to which Justice Scalia responded in dissent by citing competing studies.[83]

These are examples of the Justices relying on studies done by others. Last term, several Justices conducted empirical studies of their own. The most elaborate example appears in Justice Breyer's majority

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assertion that this view was "well-accepted" by citing THE OXFORD HANDBOOK OF CHILD PSYCHOLOGICAL ASSESSMENT 291 (Donald H. Saklofske, Cecil R. Reynolds, & Vicki Schwean eds. 2013), and ALLEN FRANCES, ESSENTIALS OF PSYCHIATRIC DIAGNOSIS: RESPONDING TO THE CHALLENGE OF DSM-5, at 31 (rev. ed. 2013). *Hall*, 134 S. Ct. at 2011 n.13 (Alito, J., dissenting).

[78] 134 S. Ct. 2473, 2480 (2014).

[79] As the Chief Justice said in his confirmation hearings: "I will remember that it's my job to call balls and strikes and not to pitch or bat." *Confirmation Hearing on the Nomination of John G. Roberts, Jr. to Be Chief Justice of the United States*: *Hearing Before the Subcomm. on the Judiciary*, 109th Cong. 56 (2005).

[80] *Riley*, 134 S. Ct. at 2490 (citing HARRIS INTERACTIVE, 2013 MOBILE CONSUMER HABITS STUDY (2013)). Another example of Roberts's use of empirical evidence is found in his opinion for the Court in the campaign finance case, *McCutcheon v. Fed. Election Comm'n*, 134 S. Ct. 1434 (2014). He writes: "A review of FEC data of Republican and Democratic state party committees for the 2012 election cycle reveals just 12 total instances in which a state party committee contributed to a House or Senate candidate in another State. No surprise there." 134 S. Ct. at 1455.

[81] 134 S. Ct. 1683, 1687–88 (2014).

[82] Thomas noted: "Indeed, the accumulated experience of thousands of officers suggests that these sorts of erratic behaviors are strongly correlated with drunk driving." 134 S. Ct. at 1691. Justice Thomas cited NAT. HIGHWAY TRAFFIC SAFETY ADMIN., THE VISUAL DETECTION OF DWI MOTORISTS 4–5 (2010), *available at* http://nhtsa.gov/staticfiles/nti/pdf/808677.pdf, for support. 134 S. Ct. at 1691.

[83] Scalia argued: "[L]et us assume the worst of the many possibilities: that it was a careless, reckless, or even intentional maneuver that forced the tipster off the road. Lorenzo might have been distracted by his use of a hands-free cell phone, . . . or distracted by an intense sports argument with Jose . . . ." 134 S. Ct. at 1695 (Scalia, J., dissenting) (citing DAVID L. STRAYER ET AL., AAA FOUND. FOR TRAFFIC SAFETY, MEASURING COGNITIVE DISTRACTION IN THE AUTOMOBILE 28 (2013); David L. Strayer, Frank A. Drews, & Dennis J. Crouch, *A Comparison of the Cell Phone Driver and the Drunk Driver*, 48 HUM. FACTORS 381, 388 (2006)).

opinion in *Nat'l Labor Relations Bd. v. Noel Canning.*[84] Breyer drew a "random sample" of President George W. Bush and President Obama's recess appointments to explore whether the vacancy arose before or during the recess.[85] A simpler version is the (Frankfurter-esque) poll of jurisdictions that Justice Alito took for his dissent in *Hall v. Florida*, the sort the Court commonly relies upon in due process cases, and especially in death penalty cases.[86] He wrote:

> To begin, in addition to the 8 other States that the Court recognizes as having rules similar to Florida's, 1 more, Idaho, does not appear to require courts to take the SEM into account in rejecting a claim of intellectual disability. And of the remaining 21 States with the death penalty, 9 have either said nothing about the SEM or have not clarified whether they require its use. Accordingly, of the death-penalty states, 10 (including Florida) do not require that the SEM be taken into account, 12 consider the SEM, and 9 have not taken a definitive position on this question. These statistics cannot be regarded as establishing a national consensus against Florida's approach.[87]

Some of the Justices have even adopted the social scientists' *modus operandi* of displaying data in tables or graphs.[88] Justice Breyer's table of the appointees in his sample runs three pages in the U.S. Reports and even includes explanatory notes.[89] His other table in *Noel Canning*, depicting all of the intra-session and inter-session recesses since the founding, takes up ten pages.[90] Justice Sotomayor has upped the ante, using figures instead of tables (social scientists

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[84] 134 S. Ct. 2550 (2014).

[85] See *Canning*, which contains the following caption:

> The following table shows the proportion of recent appointments that have filled pre-recess vacancies. It was compiled with research assistance from the Supreme Court Library. It contains a random sample of the recess appointments by President George W. Bush and President Barack Obama. The last column indicates whether the vacancy arose during the recess in which it was filled. "A" indicates a vacancy that arose during the recess, "P" indicates a vacancy that arose before the recess, and "U" indicates that the vacancy date could not be ascertained.

134 S. Ct. app. B at 2589.

[86] 134 S. Ct. 1986, 2004 (2014) (Alito, J., dissenting). Along similar lines, see Breyer's dissent in *McCutcheon*, in which he counted cases: "I have found nine FEC cases decided since the year 2000 that refer to this regulation. In all but one, the FEC failed to find the requisite 'knowledge'—despite the presence of *Example Two* or *Example Three* circumstances." 134 S. Ct. 1434, 1477 (2014).

[87] *Hall*, 134 S. Ct. at 2004 (citations omitted).

[88] *See* EPSTEIN & MARTIN, *supra* note 17, at 231 (citing the use of graphs as a general principle for presenting data and results).

[89] *Canning*, 134 S. Ct. app. B. at 2589–91.

[90] *Id.* app. A at 2579–88.

almost always prefer graphs to tables[91]). In *Schuette v. BAMN*, for example, she reproduced several figures showing declines in Hispanic and Black student admittance to UCLA and Berkeley.[92] Next Term, who knows? Perhaps the Justices will make their own graphs now that reliable and easy-to-use software is readily available.

The *coup de grâce*, though, may be instances in which the Justices criticize previous constitutional law decisions or their colleagues' opinions because they are not sufficiently backed by data. For example, as part of his barrage of "potshots"[93] at *Abood v. Detroit Board of Education*[94] in *Harris v. Quinn*, Justice Alito noted, "[A] critical pillar of the *Abood* Court's analysis rests on an unsupported empirical assumption, namely, that the principle of exclusive representation in the public sector is dependent on a union or agency shop. As we will explain, this assumption is unwarranted."[95] Justice Kagan then turned the tables on Alito when she accused him of doing precisely the same thing as the *Abood* Court: making unjustified assumptions. She wrote:

> [T]he majority too quickly says[ ] it has no worries in this case: Given that Illinois's caregivers voted to unionize, "it may be presumed that a high percentage of [them] became union members and are willingly paying union dues." But in fact nothing of the sort may be so presumed, given that union supporters (no less than union detractors) have an economic incentive to free ride.[96]

B. Constitutional Law in Need of Empirical Help

Based on the above, it seems fair to say that, whatever the Court's history, it is trying to take seriously the turn to empiricism—or at least more so than constitutional law scholars. At present, the Court is not getting much help from them. The lack of involvement on the

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91 EPSTEIN & MARTIN, *supra* note 17, at 224 ("[M]any (social) scientists have 'declared a war' on tables, expressing a strong preference for graphs.").

92 134 S. Ct. 1623, 1680–82 (2014).

93 *Harris v. Quinn*, 134 S. Ct. 2618, 2645 (2014) (Kagan, J., dissenting) ("Today's majority cannot resist taking potshots at *Abood*.").

94 431 U.S. 209 (1977).

95 134 S. Ct. 2618, 2634 (2014) (internal citation omitted).

96 *Id.* at 2657 (Kagan, J., dissenting) (quoting *id.* at 2641 (majority opinion)). For another use of empirical evidence by Justice Kagan see, for example, *id.* ("The federal workforce, on which the majority relies, provides a case in point. There many fewer employees pay dues than have voted for a union to represent them."); *id.* at 2657 n.7 ("[O]ut of the approximately 1.9 million full-time federal wage system (blue-collar) and General Schedule (white-collar) employees who are represented by a collective bargaining contract, only one-third actually belong to the union and pay dues." (quoting RICHARD C. KEARNEY & PATRICE M. MARESCHAL, LABOR RELATIONS IN THE PUBLIC SECTOR 26 (5th ed. 2014))).

part of scholars is unfortunate, because to say that the Justices are making an effort to integrate empiricism, and particularly social science, into constitutional law is not to say they are succeeding. Two recent law review articles make the point well. In *The Trouble with Amicus Facts*, Allison Orr Larsen addresses the Justices' reliance on amicus briefs to find legislative facts and identifies a number of ways that such reliance goes astray.[97] As she demonstrates, the Justices too often rely on bad empiricism.[98] In *Policing Facts*, Seth Stoughton plays our parlor game on steroids in the specific context of criminal procedure.[99] Stoughton, a former police officer turned law professor,[100] demonstrates that many of the doctrines regulating policing are built on empirical assumptions that are sharply at odds with reality. [101]

C. A Case Study: Florida v. Harris

We see similar problems in the Supreme Court's unanimous decision in *Florida v. Harris.*[102] The Justices spoke with great certainty, but they might have reached a different conclusion had they considered the relevant empirical evidence.

1. How the Court Sees Dog Sniffs

Florida v. Harris was one of two dog-sniff cases in the 2012 Term.[103] *Harris* presented the question of when a drug dog's alert to the presence of drugs constitutes probable cause.[104] The Florida Supreme Court had held that, in deciding whether a dog alert constitutes probable cause to search for drugs, the issue should turn not only on whether the dog was trained to detect drugs, but also on the dog's actual performance in the field.[105] The Supreme Court of the United

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97 Allison Orr Larsen, *The Trouble with Amicus Facts*, 100 VA. L. REV. 1757 (2014).

98 *See id.* at 1784–1800 (identifying problems with factual data presented in amicus briefs).

99 Seth W. Stoughton, *Policing Facts*, 88 TUL. L. REV. 847 (2014).

100 *Seth W. Stoughton*, UNIV. OF S.C. SCH. OF L., http://www.law.sc.edu/faculty/stoughton (last visited Feb. 21, 2015).

101 *See* Stoughton, *supra* note 99, at 875–82 (discussing how the policy rationale that undergirds the exclusionary rule, namely deterrence, fails to account for officers' actual conduct).

102 133 S. Ct. 1050 (2013).

103 The other case, *Florida v. Jardines*, asked whether taking a drug-sniffing canine to the front porch of an individual's home to sniff for drugs within the home constitutes a search. 133 S. Ct. 1409, 1413 (2013). The Court held that it does. *Id.* at 1417–18.

104 While Harris asked this question in the context of a vehicle stop, *Harris*, 133 S. Ct. at 1053, nothing in the decision suggests the Court's standards regarding when the alert of a drug dog constitutes probable cause would not apply elsewhere.

105 Harris v. State, 71 So. 3d 756, 775 (Fla. 2011).

States reversed, holding that a dog's satisfactory completion of a training program conducted by a "bona fide organization" is sufficient in itself to establish a presumption that the dog's alert constitutes probable cause.[106]

The facts of *Harris* are these: On two occasions, Officer William Wheetley of the Florida Sheriff's Office stopped Clayton Harris's truck.[107] On both occasions, Wheetley's canine companion, the German Shepherd Aldo, alerted, indicating that there were drugs in Harris's truck.[108] Aldo had been trained to detect methamphetamine, marijuana, cocaine, heroin, and ecstasy (MDMA).[109] On both occasions, none of these substances were found in the truck.[110] In the first instance, however, Wheetley found in the truck materials necessary to manufacture methamphetamine.[111] He arrested Harris, and Harris then confessed that he was an addict who made the drug in his house.[112] While Harris was out on bail, Wheetley stopped his truck again, and again Aldo alerted to indicate the presence of drugs.[113] For the second time, no drugs were found.[114]

The testimony at the suppression hearing focused on Aldo's training and performance.[115] Harris moved to suppress the evidence on the ground that Aldo's alert did not constitute probable cause.[116] Wheetley testified that in 2004, he had completed a 160-hour narcotics detection course with another dog, and Aldo completed a 120-hour course with another officer.[117] Aldo received a one-year certificate that year from a private company that specializes in certifying K-9 dogs.[118] The next year, when Aldo and Wheetley teamed up for police work, they completed a 40-hour refresher course together.[119] Wheetley also testified that he and Aldo did four hours of training exercises on their own each week, and that in those exercises Aldo did

106 *Harris*, 133 S. Ct. at 1057, 1059.

107 *Id.* at 1053–54.

108 *Id.* at 1054.

109 *Id.* at 1053.

110 *Id.* at 1054.

111 *Id*. Specifically, the search revealed "200 loose pseudoephedrine pills, 8,000 matches, a bottle of hydrochloric acid, two containers of antifreeze, and a coffee filter full of iodine crystals—all ingredients for making methamphetamine." *Id.*

112 Harris pled "no contest" to possessing pseudoephedrine for use in manufacturing methamphetamine. *Id.* at 1054.

113 *Id.*

114 *Id.*

115 *Id.*

116 *Id.*

117 *Id.*

118 *Id.*

119 *Id.*

"really good."[120] According to the training logs, Aldo got satisfactory ratings in these exercises, and Aldo always found the hidden drugs.[121] Aldo's certification had expired the year before Harris was searched, however, and Wheetley conceded on cross-examination that he kept no records of traffic stops and fieldwork other than when the alerts resulted in arrest.[122] Wheetley defended Aldo's inaccurate alerts of Harris's truck, explaining that Aldo responded to the "residual odor" that Harris probably transferred to the door handle.[123]

The Florida Supreme Court found that Aldo's alerts did not constitute probable cause.[124] The court held that, in order to establish probable cause at a suppression hearing:

> [T]he State must present . . . the dog's training and certification records, an explanation of the meaning of the particular training and certification, field performance records (including any unverified alerts), and evidence concerning the experience and training of the officer handling the dog, as well as any other objective evidence known to the officer about the dog's reliability.[125]

Of special concern to the Florida Supreme Court were the results of in-the-field alerts, and particularly the lack of recordings of the number of false positives.[126] The Florida Supreme Court stressed the need for such evidence in order to address potential problems, like a handler cuing the dog or the dog's inability to distinguish residual odors from the actual presence of drugs.[127] Without such information, the court concluded, it was impossible to establish probable cause.[128]

The United States Supreme Court reversed, holding instead that "[i]f a bona fide organization has certified a dog after testing his reliability in a controlled setting," then an alert is sufficient to establish a presumption of probable cause.[129] The same presumption attaches "even in the absence of formal certification, if the dog has recently and successfully completed a training program that evaluated his pro-

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120 *Id.*

121 *Id.*

122 *Id.* Of course, a failure to keep records of instances in which alerts did not result in arrests meant there could have been a huge number of instances of false positives, i.e., the dog alerted when no drugs were present.

123 *Id.*

124 Harris v. State, 71 So. 3d 756, 775 (Fla. 2011).

125 *Id.*

126 *Id.* at 768.

127 *Id.* at 768–69.

128 *Id.* at 769. The Court said: "[A] necessary part of the totality of the circumstances analysis . . . is an evaluation of the evidence concerning whether the dog in the past has falsely alerted . . . or whether the alerts indicate a dog who is alerting on a consistent basis to residual odors . . . ." *Id.*

129 Florida v. Harris, 133 S. Ct. 1050, 1057 (2013).

ficiency in locating drugs."[130] The Court acknowledged that a defendant could overcome that presumption by presenting actual evidence of unreliability at the suppression hearing. For example, a defendant might show that a particular certification or training program was inadequate, that the specific dog's field performance demonstrated its unreliability, that "the officer cued the dog (consciously or not)," or that "the team was working under unfamiliar conditions."[131] The key point, though, was that the alert itself was sufficient to establish a presumption of probable cause.

The Court's conclusion on this question was not entirely devoid of social science. For the essential proposition that "[t]he better measure of a dog's reliability" comes from "controlled testing environments" (and not from evidence of its performance in the field), the Court cited a study concluding that reliability "should be assessed" based on certification rather than experience in the field, because with certification "'you should know whether you have a false positive,' unlike in 'most operational situations.'"[132] The Court also rested its conclusion in part on rational choice theory, stating: "[L]aw enforcement units have their own strong incentive to use effective training and certification programs, because only accurate drug-detection dogs enable officers to locate contraband without incurring unnecessary risks or wasting limited time and resources."[133]

The problem is that the Court seriously overestimated the value of certification.

2. *Why Empirical Studies Might Have Given the Court Pause in* Harris

There is, in fact, a host of empirical evidence suggesting that the Court's central conclusion was dubious, at best. The Court concluded that a dog's alert presumptively establishes probable cause if the dog completed a training course.[134] Empirical evidence indicates, however, that this should not be sufficient, standing alone, to establish probable

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[130] *Id.* at 1057–58.

[131] *Id.* at 1057.

[132] *Id.* at 1057 & n.3. The Court also cited two other sources for its point about residual odors: a U.S. Army Military Working Dog Program pamphlet, which cautions that just because no drugs or explosives are found, you should not assume the dog is wrong, *id.* at 1056–57 n.2 (citing U.S. DEP'T OF THE ARMY, MILITARY WORKING DOG PROGRAM 30 (1993), *available at* http://armypubs.army.mil/epubs/pdf/p190_12.pdf, and a book called *Police Dog Tactics*, for some common wisdom: "Four skiers toke up in the parking lot before going up the mountain. Five minutes later a narcotic detector dog alerts to the car. There is no dope inside. However, the dog has performed correctly." *Id.* (citing SANDY BRYSON, POLICE DOG TACTICS 257 (2d ed. 2000)).

[133] *Harris*, 133 S. Ct. at 1057.

[134] *Id.*

cause. A dog, in a sense, is like an anonymous tip to the police: It could be right; it could be wrong. What is needed in both cases is something to establish that the indication—whether the anonymous tip or the dog's alert—in fact signals the existence of contraband.[135] A dog's performance in the field might do this, although it also could undercut the dog's reliability. But training alone should be deemed insufficient; empirical evidence presents four reasons why.

First, not all certification and training programs are the same. At present, there are more than fifty different K-9 associations,[136] with many different standards for certification. Some programs let the handlers know whether drugs are present during training; others do not.[137] The amount and purity of drugs used in tests often varies widely.[138] These differences matter because what the dog is trained on

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[135] *See* Illinois v. Gates, 462 U.S. 213, 230–33 (1983) (adopting a "totality-of-the-circumstances" test for assessing an informant's tip, yet noting the need to pay attention to both "reliability" of the informant and her "basis of knowledge").

[136] For a partial list of K-9 associations, see *Associations*, EDEN CONSULTING GRP., http://www.policek9.com/html/associations.html (last visited Feb. 15, 2015) (listing over thirty state police K-9 associations and over twenty regional and national level police dog associations). A simple internet search turns up various other private organizations that provide narcotics detection training and/or certification, including DRUGBEAT, Metro Dade K-9, National Narcotics Detector Dog Association, USK9, K9 Solutions Center, Leerburg (online training), Excel K-9 Services, National Center for K-9 Training, Falco K-9 Academy, Olive Branch K9, and so on.

[137] Some programs let handlers know the minimum amount of the drug used and the minimum number of hides but not the location of the hides, such as North American Police Work Dog Association ("NAPWDA"), National Police Canine Association ("NPCA"), and Scientific Working Group on Dog and Orthogonal Detector Guidelines ("SWGDOG"). N. AM. POLICE WORK DOG ASS'N, BYLAWS AND CERTIFICATION RULES 20 (2014), *available at* http://www.napwda.com/uploads/bylaws-cert-rules-october-25-2014.pdf; NAT'L POLICE CANINE ASS'N, STANDARDS FOR TRAINING & CERTIFICATIONS MANUAL 6 (2014), *available at* http://old.npca.net/Files/Standards/Standards.pdf; SCI. WORKING GRP. DOG AND ORTHOGONAL DETECTOR GUIDELINES, SWGDOG SC8—SUBSTANCE DOG: NARCOTICS SECTION 3 (2007), *available at* http://swgdog.fiu.edu/approved-guidelines/sc8_narcotics.pdf.

Some programs do not let handlers know the number or the location of the hides. *E.g.*, *Certification Rules*, HEART AM. POLICE DOG ASS'N, http://kk8a427x.myutilitydomain.com/index.php?page=certification-rules (last visited Feb. 15, 2015); *Scent Detection Certification Test*, WORLD DETECTOR DOG ORG., http://www.wddo.org/scent-detection-certification-test (last visited Feb. 15, 2015) (describing a method to randomly allocate zero to four hides in three vehicles and three rooms).

[138] NAPWDA uses no less than one gram of narcotics for certification tests. N. AM. POLICE WORK DOG ASS'N, *supra* note 137, at 20. United States Police Canine Association, Inc. ("USPCA") and SWGDOG both use a minimum of five grams of narcotics. U.S. POLICE CANINE ASS'N, CERTIFICATION RULES AND REGULATIONS 17 (2014), http://www.uspcak9.com/certification/USPCARulebook2014.pdf; *SWGDOG SC8—Substance Dog: Narcotics Section*, *supra* note 137, at 1. National Narcotic Detector Dog Association ("NNDDA") uses an amount between ten and twenty-eight grams for cocaine and between one-quarter and two ounces for marijuana. *Narcotic Detection Standards*, NAT'L NARCOTIC DETECTOR DOG ASS'N, http://www.nndda.org/add/doc_view/2-narcotics-

determines what it will alert to.[139] The executive director of the United States Police Canine Association has conceded that there are "no standards . . . generally accepted for" dog certification and that "[i]n many cases . . . qualifications are so minimal that they lack credibility."[140] There is a great demand for trained K-9s,[141] with the inevitable effect of blossoming training organizations and lowered standards. Indeed, in the face of budget shortages, some police forces have to limit training time.[142] There is good reason to be skeptical that completion of a training program means as much as the Justices think.

Second, the best practice is for handlers and dogs to be trained together. Almost all certification programs certify the handler and dog in teams, requiring recertification if the dog changes handler.[143] This

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detection-standard (last visited Feb. 27, 2015). NPCA uses between eight and twenty-eight grams of narcotics. NAT'L POLICE CANINE ASS'N, *supra* note 137, at 6. National Tactic Police Dog Association ("NTPDA") requires at least eighty percent purity. *Certification Standards*, NAT'L TACTICAL POLICE DOG ASS'N, http://www.tacticalcanine.com/certification-standards/ (last visited Feb. 27, 2015). International Forensic Research Institute & National Forensic Science Technology Center ("IFRI/NFSTC") Detector Dog Team Certification Program recommends at least eighty-five percent purity. INT'L FORENSIC RES. INST., IFRI/NFSTC CERTIFICATION GUIDELINES 1 (n.d.), *available at* http://ifri.fiu.edu/partnerships/ifrinfstc-detector-dog-research/ifri_k9_certification_guidelines.pdf. Plymouth County's K-9 unit trains dogs with "narcotics of varying purity and quantity." Jessica Trufant, *Police Dogs in Big Demand in MetroWest Forces*, METROWEST DAILY NEWS (May 19, 2013, 12:01 AM), http://www.metrowestdailynews.com/x1409971715/Police-dogs-in-big-demand-in-MetroWest-forces?template=printart.

139 *See* Norma Lorenzo et al., *Laboratory and Field Experiments Used to Identify* Canis lupus *var.* familiaris *Active Odor Signature Chemicals from Drugs, Explosives, and Humans*, 376 ANALYTICAL & BIOANALYTICAL CHEMISTRY 1212, 1219–20 (2003) (finding that dogs that were trained to detect street quality drugs did not alert to pharmaceutical quality drugs).

140 Leslie A. Shoebotham, *Off the Fourth Amendment Leash?: Law Enforcement Incentives to Use Unreliable Drug-Detection Dogs*, 14 LOY. J. PUB. INT. L. 251, 253 n.13 (2012) (citing Jeffrey Robb, *Despite Training for Police Work, Dogs Are Still Dogs*, OMAHA WORLD HERALD, Jun. 4, 2002, at 1a (attributing statements to the executive director of the USPCA)).

141 *See, e.g.*, Stephanie Chen, *Puppies Train to Smell Bombs, Narcotics and Missing People*, CNN (Mar. 28, 2009, 12:40 PM), http://www.cnn.com/2009/CRIME/05/28/police.dogs.smell.detection/index.html ("Demand for these detection canines . . . has surged as homeland security and drug crackdowns become a bigger priority for government and law enforcement."); Trufant, *supra* note 138 (relying on interviews with Ken Ballinger, lead of K-9 unit of Plymouth County Sheriff's Office, and Dwane Foisy, president of the Massachusetts Police Work Dog Association, both of whom expected a greater use of detection dogs).

142 Lawrence Budd, *Lack of Training Comes Back to Bite Police K-9 Units*, DAYTON DAILY NEWS, May 23, 2011, at A4, http://www.daytondailynews.com/news/news/crime-law/lack-of-training-comes-back-to-bite-police-k-9-u-1/nMrgP/ (reporting that because of budget cuts some Ohio police officers had to miss some maintenance training or perform the training in their own time).

143 *E.g.*, CONN. POLICE WORK DOG ASS'N, CERTIFICATION TEST STANDARDS 12 (n.d.), *available at* http://www.cpwda.com/docs/cert.pdf.

makes sense. After all, dogs do not speak human and humans do not speak dog: The handler must interpret what the dog does.[144] The trainer must take the dog through an established routine with which both are familiar[145] and then the handler must—without cuing—accurately understand the dog's behavior.[146] Recall, in this regard, that only some of Aldo's training was with Officer Wheetley (and that Aldo's certification, which was done with another handler, had expired).[147] Simply put, when the dog and handler have not trained together, the risk of error is high, even if the dog itself is certified.[148]

Third, there is the question of recertification. Like continuing legal education, many training and certification organizations require periodic reassessment.[149] Dogs that test well at initial certification do not necessarily remain accurate over time.[150] This makes sense, especially if the dog learns over time to respond to cues. While certification agencies require recertification, it is not clear police forces do. The officer in *Harris*, for example, testified that certification for drug dogs was not necessary in Florida.[151] The absence of systematic recertification undermines the Court's casual assumption of accuracy.

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144 *See* Robert C. Bird, *An Examination of the Training and Reliability of the Narcotics Detection Dog*, 85 KY. L.J. 405, 425 (1997) ("Handlers interpret their dogs' signals, and the handler alone makes the final decision whether a dog has detected narcotics.").

145 *See* U.S. DEP'T OF AGRIC., NAT'L DETECTOR DOG MANUAL 4-1-6 (2012), *available at* http://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/detector_dog.pdf (stating that handlers are trained on how to use their voice and various techniques including search patterns, breathing bags, tap backs, and pinpointing); Melanie Basich, *How to . . . Start a K-9 Unit*, POLICE (Feb. 1, 2003), http://www.policemag.com/channel/patrol/articles/2003/02/how-to-start-a-k-9-unit/page/2.aspx ("Working together from the start of the handler-canine relationship builds a bond between the two and makes sure both completely understand all steps involved in the procedures necessary for working on the street.").

146 *See* JOHN J. ENSMINGER, POLICE AND MILITARY DOGS 9 (2012) (asserting that handlers must learn the dog's alerting behavior, as well as many other things such as what motivates the dog and when the dog is fatigued).

147 Florida v. Harris, 133 S. Ct. 1050, 1054 (2013).

148 *But see* Bird, *supra* note 144, at 425 (recommending less handler scrutiny when a handler is paired with a dog for a long time because "[s]uch a pairing allows a handler to know her dog well, and thus be able to interpret her dog's subtle signals").

149 Most certifications are valid for only one year. *E.g.*, N. AM. POLICE WORK DOG ASS'N, *supra* note 137, at 21; CHATHAM CNTY SHERIFF'S OFFICE, NARCOTICS CANINE TEAM CERTIFICATION STANDARD 1 (n.d.), *available at* http://www.chathamsheriff.org/Portals/Sheriff/K-9/Narcotics%20Canine%20Team%20Certification%20Standards.pdf; HEART AM. POLICE DOG ASS'N, *supra* note 137; *see also* Bird, *supra* note 144, at 421 & n.120 (citing interview with Bob Greutter for statement that U.S. Customs Service required annual recertification).

150 *See* Bird, *supra* note 144, at 415 ("[A] dog's ability can change over a short period of time, thus old records become less probative of skill.").

151 *Harris*, 133 S. Ct. at 1054.

Finally, in order to understand canine accuracy, it is important to consider what sorts of errors a dog team might make. When a dog alerts, there are four possibilities: (1) The dog alerts to drugs when they are present (success); (2) the dog alerts when drugs are not present (false positive); (3) the dog fails to alert when they are absent (success); and (4) the dog fails to alert when drugs are present (false negative).[152] In the lingo of the trade, the dog's chance of alerting when drugs are present is called "sensitivity," and the dog's chance of alerting to drugs when they are not present is called "specificity."[153]

Some certifications do not measure all of these outcomes, and some certifications consider not only these possibilities but also subjective factors that are irrelevant to probable cause. The gold standard of dog testing is the U.S. Customs Service, which—it is reported—demands both 100% accuracy on sensitivity (accuracy when drugs are present) and 100% accuracy on specificity (when drugs are absent).[154] In contrast, the National Police Canine Association requires 75% accuracy in finding drugs that are present, but its certification does not consider false positives—the very error we should be most concerned about in determining probable cause.[155] The United States Police Canine Association requires only a 70% rating.[156] Its rating includes grades on a range of subjective factors like "enthusiasm" and behavior on the leash.[157] While these factors might be relevant in deciding whether the dog is good to work with, these are irrelevant to whether there is probable cause. The 70% score, in other words, does not necessarily establish probable cause.

In short, whether certification should be deemed sufficient to establish a presumption of probable cause turns on the nature and standards of the certification process, including regular recertification. Certification itself, without more, is insufficient to establish a presumption that any particular dog is likely to be reliable.

The Court was similarly off the mark in discounting field data. The Court did so on the grounds that field data may reveal only false positives, not false negatives,[158] and that false positives might not be

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[152] William S. Helton, *Overview of Scent Detection Work*, *in* CANINE ERGONOMICS 83, 88 (William S. Helton ed., 2009).

[153] *Id.* at 88–89.

[154] Bird, *supra* note 144, at 414 & nn.68–75 (citing an interview with Bob Gruetter, then program officer of the canine training program).

[155] *See* NAT'L POLICE CANINE ASS'N, *supra* note 137, at 6 (failing to mention false positives).

[156] U.S. POLICE CANINE ASS'N, *supra* note 138, at 26.

[157] *Id.* at 5–6 (2014).

[158] Florida v. Harris, 133 S. Ct. 1050, 1056 (2013).

evidence of inaccuracy in any event.[159] Both these conclusions were mistaken.

The Court is of course correct that, in the field, false negatives may well occur and never be discovered.[160] That is, a trained dog may fail to alert to contraband. In such circumstances, there usually will not be probable cause to search, no search will occur, and the contraband—assuming it was there—will not be discovered. Thus, false negatives in the field will usually be invisible. But it is difficult to see what this point adds to the Court's analysis. The central issue in establishing probable cause is the percentage of alerts that are accurate.[161] What matters in determining whether there is probable cause is the rate of false positives, not the number of false negatives. If a dog's alerts are accurate eighty percent of the time, its bark might establish probable cause even though it has a high rate of false negatives, which proves only that the dog has been trained to be very careful about making alerts. Thus, although knowing about a dog's rate of false negatives might be useful to the police in deciding whether the dog is doing its job well, that information is not relevant in assessing whether a dog alert is sufficient to make out probable cause. The absence of information about false negatives is therefore not a problem in using field experience to assess a dog's reliability when it alerts to the presence of drugs. The Court was simply confused.

On the other hand, empirical studies suggest that false positives in the field are relevant in deciding whether a dog's alert should be thought sufficient to establish probable cause. Dog alerts frequently misidentify the presence of drugs.[162] One of the largest studies—a

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[159] *See id.* (pointing out that dogs may have detected residual odors or substances that are too well hidden or present in too small quantities).

[160] A false negative happens when "the target is physically present and the detector reports it is not present." Helton, *supra* note 152, at 88. "If a dog commits a false negative and fails to alert to a person with drugs, the smuggler or other person in possession of drugs gets away." Bird, *supra* note 144, at 427.

[161] *See Harris*, 133 S. Ct. at 1055 ("A police officer has probable cause to conduct a search when the facts . . . would warrant a [person] of reasonable caution in the belief that *contraband or evidence of a crime is present*." (emphasis added) (internal quotation marks omitted)).

[162] *See, e.g.*, United States v. Green, No. 7:11CR00057, 2012 WL 2924055, at *4 (W.D. Va. June 28, 2012), *aff'd*, 740 F.3d 275 (4th Cir. 2014), *cert. denied*, 135 S. Ct. 207 (2014) (noting that a Virginia State Police dog's field record between October 2007 and March 2011 showed a success rate of 26%: drugs were found in twenty-two out of eighty-five occasions); AM. CIVIL LIBERTIES UNION OF ILL., RACIAL DISPARITY IN CONSENT SEARCHES AND DOG SNIFF SEARCHES ex. 17 (2014), *available at* http://www.aclu-il.org/wp-content/uploads/2014/08/Exhibit-17-Statewide-dog-sniff-hit-rates-2012-2013.pdf (noting canine alerts had a success rate of 61.29% and 60.09% in 2012 and 2013 respectively for traffic stops statewide); *id.* at exhibit 19, *available at* http://www.aclu-il.org/wp-content/uploads/2014/08/Exhibit-19-ISP-dog-sniff-hit-rates-2012-2013.pdf (noting canine alerts had

two-year controlled experiment commissioned by the Parliament of New South Wales, Australia—discovered that, on average, of the occasions on which the trained dogs in the study alerted for drugs, they were correct only 26% of the time.[163] Perhaps even more importantly, the false positive varied among the dogs in the study from a low of 44%—a number that likely supports probable cause—to as high as 93%.[164] Clearly, no one should credit the latter dog's alert as sufficient to establish probable cause. A recent study of certified Illinois police dogs discovered their alerts were right only 44% of the time, and when the dog's target was Latino, the accuracy rate fell to only 27%.[165]

The Court's primary reason for dismissing evidence of these false positives is the assumption that the dog in such situations is alerting to "residual odor," which itself might be evidence of a crime.[166] But it is not at all clear that this logic justifies disregarding the field data. When a dog alert is used to establish probable cause, the inference is that the search will in fact turn up illegal drugs.[167] A "residual odor" may be suspicious, but the presence of a residual odor does not in

a success rate of 52.13% in year 2012 and 49.87% in 2013 for Illinois State Police traffic stops); KELLY J. GARNER ET AL., INST. FOR BIOLOGICAL DETECTION SYS., DUTY CYCLE OF THE DETECTOR DOG 3, 6, 12 fig.3, 34 (2001), http://info.dsiiti.com/Portals/40565/docs/6-8-09%20dutycycle%20of%20police%20dog.pdf (presenting data from a study of four law enforcement dogs in 1998 that showed false alarm rates from 12.5% to 60% and hit rates ranging from 67% to 77%); NSW OMBUDSMAN, REVIEW OF THE POLICE POWERS (DRUG DETECTION DOGS) ACT 2001, at iii, 1 (2006), http://www.ombo.nsw.gov.au/__data/assets/pdf_file/0020/4457/Review-of-the-Police-Powers-Drug-Detection-Dogs-Part-1_October-2006.pdf (summarizing data about Australian New South Wales Police's drug detection dogs who in February 2002 through February 2004 showed a 26% success rate, but 70% if counting previous drug contact as a success); Radley Balko, *Illinois State Police Drug Dog Unit Analysis Shows Error Rate Between 28 and 74 Percent*, HUFFINGTON POST (Mar. 31, 2012, 3:31 PM (updated)), http://www.huffingtonpost.com/2012/03/31/drug-dog-illinois-state-police_n_1376091.html (reviewing reports of an Illinois State Police K-9 unit over a period of eleven months in 2007 and 2008 showing that 25.7% of the alerts resulted in police actually finding drugs); Dan Hinkel & Joe Mahr, *Tribune Analysis: Drug-Sniffing Dogs in Traffic Stops Often Wrong*, CHI. TRIB., Jan. 06, 2011, http://articles.chicagotribune.com/2011-01-06/news/ct-met-canine-officers-20110105_1_drug-sniffing-dogs-alex-rothacker-drug-dog (analyzing traffic stop data of suburban Chicago police from 2007 through 2009 that showed a 44% success rate of all canine alerts and 27% success rate for Latino drivers).

163 NSW OMBUDSMAN, *supra* note 162, at iii, 1.

164 *See id.* at ii ("Prohibited drugs were only located in 26% of the searches following an indication. . . . The rate of finding drugs varied from dog to dog, ranging from 7% (of all indications) to 56%.").

165 Hinkel & Mahr, *supra* note 162. See *infra* notes 182–83 and accompanying text for a discussion of why canine alerts may vary by the race of the target.

166 *See Harris*, 133 S. Ct. at 1056 ("[T]he dog may have smelled the residual odor of drugs previously in the vehicle or on the driver's person.").

167 *See* Illinois v. Caballes, 543 U.S. 405, 411 (2005) (Souter, J., dissenting) ("At the heart of . . . the Court's opinion today is the proposition that sniffs by a trained dog are *sui*

itself establish probable cause to believe that there are *currently* drugs in the location: The problem is that studies show that trained dogs can smell drugs that were present a day or two earlier—and sometimes longer than that.[168] Moreover, it is not clear that dogs can be trained to reliably distinguish residual odors.[169] In any event, a dog that regularly alerts when drugs are not present, even if it correctly discerns that they were once present, does not establish probable cause to search.

Even worse, false positives often occur because a dog alerts to a lawful substance that has the same scent as unlawful drugs. Dogs trained to alert to cocaine, for example, will often alert to methyl benzoate,[170] a perfectly legal substance found in some perfumes.[171] Another example is piperonal, a compound that can be found in MDMA.[172] Piperonal, which has a cherry or vanilla scent,[173] is also

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generis because a reaction by the dog in going alert is a response to nothing but the presence of contraband.").

168 Jennings v. Joshua Indep. Sch. Dist., 877 F.2d 313, 317 (5th Cir. 1989) ("The dog . . . was capable of reacting to . . . residual scents lingering for up to four to six weeks."); State v. Cabral, 859 A.2d 285, 294 (Md. Ct. Spec. App. 2004) (detailing a canine handler's testimony that a trained drug dog "'would detect if there had been drugs in the car or on someone in the car up to 72 hours [before] the sniff'"). It is hard to say conclusively for how long dogs can smell residual odors. For example, the signature smell in cocaine, methyl benzoate, dissipates quickly and cannot be detected in several hours. United States v. $60,020.00 U.S. Currency, No. 08-CV-6286, 2011 WL 4720741, at *8–9 (W.D.N.Y. Sept. 12, 2011) (citing research of Dr. Kenneth Furton, a professor in chemistry). But if there is cocaine residue trapped on currency, "the cocaine will continue to generate methyl benzoate and replenish the methyl benzoate lost to evaporation." United States v. Funds in the Amount of One Hundred Thousand One Hundred & Twenty Dollars ($100,120.00), 730 F.3d 711, 720 (7th Cir. 2013) (testimony of Sanford A. Angelos, a forensic chemist).

169 In theory there are ways to train dogs to distinguish residual odors. *See* NSW OMBUDSMAN, *supra* note 162, at iv (recommending that the New South Wales police refine drug detection dog training to exclude, among other things, residual scent); Bird, *supra* note 144, at 414 (stating that the U.S. Customs Service trains its dogs not to alert to residual odors); *A K9 Nose Work Conundrum: Is It Residual or Lingering Odor My Dog's Sniffing?*, K9 NOSE WORK (June 21, 2013), http://k9noseworkblog.blogspot.com/2013/06/a-k9-nose-work-conundrum-is-it-residual.html (providing tips for training dogs to interpret residual odor). However, trainers are concerned that such training may confuse the dog, *see* NSW OMBUDSMAN, *supra* note 162, at 46 (noting possible confusion on the part of the dog after the handler changed feeding practices to reduce the frequency of residual indications), and dogs may have to learn to interpret residual odors not in lab trainings, but in real world searches, K9 NOSE WORK, *supra*.

170 Lorenzo et al., *supra* note 139, at 1213.

171 P. Aggarwal et al., *The Use of Thermogravimetry to Follow the Rate of Evaporation of an Ingredient Used in Perfumes*, 49 J. THERMAL ANALYSIS 595, 596 (1997).

172 Lorenzo et al., *supra* note 139, at 1217–19 (concluding that piperonal is one of the volatile compounds that are usually found in the headspace of MDMA and is likely the dominant signature odor for dogs that are trained with large samples, e.g., thirty-five grams of MDMA).

found in many lawful substances, including perfumes.[174] Indeed, in one study, more than 80% of the dogs in the study alerted to piperonal in lawful substances.[175]

There is also the serious problem of handlers cuing or misreading their dogs because of their own preconceptions.[176] In one study, teams searched a room in which there were in fact no drugs.[177] In some of the trials, the handlers were told that a certain marker meant drugs were present.[178] The number of false alerts increased notably when the handlers thought that drugs were present.[179] The authors of the study concluded that the problem was either that the handlers misread the dogs' reactions or that they cued the dogs to alert.[180] Indeed, several of the handlers admitted that they had cued their dogs.[181]

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173 NLM, *Toxnet Toxicology Data Network*, Piperonal (May 8, 2015, 11:10 AM), http://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+581 (noting that uses of piperonal include cherry and vanilla flavoring, perfume, and insecticide).

174 Tadeusz Jezierski et al., *Efficacy of Drug Detection by Fully-Trained Police Dogs Varies by Breed, Training Level, Type of Drug and Search Environment*, 237 FORENSIC SCI. INT'L 112, 116 (2014); NAT'L INST. FOR OCCUPATIONAL SAFETY & HEALTH, NIOSH HEALTH HAZARD EVALUATION REPORT 4 (2004), http://www.cdc.gov/niosh/hhe/reports/pdfs/2004-0012-2948.pdf ("[P]iperonal [is] widely used as a flavoring and odorant agent[ ].").

175 Lorenzo et al., *supra* note 139, at 1213, 1219, 1220 tbl.3.

176 *E.g.*, DOUGLAS P. HELLER ET AL., OBSERVATIONS AND RECOMMENDATIONS REGARDING TRAINING, RECORD KEEPING, AND DEPLOYMENT OF EXPLOSIVE DETECTION CANINE TEAMS, INT'L FORENSIC RES. INST. 5 (n.d.), *available at* https://web.archive.org/web/20060902201727/http://www.fiu.edu/~ifri/Observations%20and%20Recommendations.pdf (accessed by entering original URL in the Internet Archive index) ("[H]esitation and/or backtracking on the part of the handler may . . . unintentionally cue[ ] the canine to alert . . . ."); John J. Ensminger & L.E. Papet, *Cueing and Probable Cause: Research May Increase Defense Attacks on and Judicial Skepticism of Detection Dog Evidence*, ANIMAL LEGAL & HISTORICAL CTR. (2011), https://www.animallaw.info/article/cueing-and-probable-cause-research-may-increase-defense-attacks-and-judicial-skepticism (listing cases and research studies of handlers cueing dogs); Jezierski et al., *supra* note 174, at 117 ("[H]andlers' intrinsic state (stress) may influence dogs' performance: when the handlers knew that trials were certification trials, the dogs made more false alerts . . . ."); Lisa Lit et al., *Handler Beliefs Affect Scent Detection Dog Outcomes*, 14 ANIMAL COGNITION 387, 387 (2011) (documenting an experiment conducted on certified handler/detection dog teams and "confirm[ing] that handler beliefs affect outcomes of scent detection" by dogs). For a video of handlers cueing dogs, see Terrance Huff, *Breakfast in Collinsville (with Michael Reichert)*, YOUTUBE (Mar. 14, 2012), http://www.youtube.com/watch?v=rJqq6KCOkdM.

177 The experiment is documented in Lit et al., *supra* note 176.

178 *Id.* at 389.

179 *Id.* at 391.

180 Specifically, the author concluded that the problem could be that (1) handlers' belief that drugs were present motivated them to call alerts even when they were clearly aware that the dog had not alerted; (2) handlers' belief that drugs were present contributed to confidence in handlers' beliefs of dogs' perceived responses, i.e., misreading the dog; or (3) handlers' belief that drugs were present affected dogs' alert behavior. *Id.* at 392.

181 *Id.*

Cuing is all the more problematic in the face of overwhelming evidence that police officers have biases—conscious or unconscious—against certain racial or ethnic groups.[182] The result is a disproportionate number of searches of minority drivers for drugs, justified by dog alerts, when in fact these alerts might be the product of the handler's own biases. In the Illinois study discussed above, for example, the false positive rate was 73% when the target of the dog sniff was Hispanic, as compared to 56% for all drivers.[183]

Finally, the Court suggested in *Harris* that it makes sense to trust dog alerts because the police have every incentive to ensure their dogs are accurate.[184] But the Court cited no evidence to support this claim, and there is, in fact, significant evidence that the police may actually benefit from false alerts. The most obvious evidence of this is cuing. The handler has a hunch that drugs might be present, so he cues the dog to alert, thus "establishing" probable cause.[185] In such situations, the incentive of the officer is not accuracy, but justification. Moreover, forfeiture laws provide a special incentive for police officers to cue the dog to alert. Police officers know that if a dog alerts, the officer conducts a "legal" search, and money is found, that money can be seized and the police force will retain some percentage of the cash—even if

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[182] *See, e.g.*, AM. CIVIL LIBERTIES UNION, BLACK, BROWN AND TARGETED 1 (2014), https://www.aclum.org/sites/all/files/images/education/stopandfrisk/black_brown_and_targeted_online.pdf (finding racial profiling in Boston police's stop-and-frisk practices); AM. CIVIL LIBERTIES UNION OF ILL., *supra* note 162, at 1, *available at* http://www.aclu-il.org/wp-content/uploads/2014/08/ACLU-IL-report-re-ITSSSA-data-in-2013.pdf (analyzing Illinois traffic stop data for 2012 and 2013 and finding that minority motorists are more likely than white motorists to be subjected to a dog sniff, and the false positive rate for minority motorists is higher than for white motorists); Samuel R. Gross & Katherine Y. Barnes, *Road Work: Racial Profiling and Drug Interdiction on the Highway*, 101 MICH. L. REV. 651, 721–22 (2002) (finding clear racial profiling in Maryland police's stop and search practice from 1995–2000).

[183] *See* Hinkel & Mahr, *supra* note 162 (noting that the dogs were correct in only 44% of all alerts, and only 27% of alerts where the driver was Hispanic).

[184] Florida v. Harris, 133 S. Ct. 1050, 1057 (2013).

[185] *See supra* note 180–181 and accompanying text.

no drugs are ever located.[186] The widespread abuse of forfeiture laws has been much in the news.[187]

For all of these reasons, the Court's assumption in *Harris* that a trained dog's alert is sufficient to establish probable cause seems naïve, at best.

3. The Meaning of Harris

As noted earlier, dog alerts are analogous to anonymous tips. Some dog alerts, like some informants' tips, may be spot on; some may be false alerts. With informants, we require additional evidence of reliability.[188] With dogs, it should now be clear that the certification should not in itself be sufficient to establish probable cause, and that the actual field performance of the dog and its handler provides important additional information in undertaking this inquiry.

What is interesting about *Harris* is that this information was available to the Court. The briefs in the case—including many amicus briefs filed by respected organizations—laid out the facts and the state

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[186] *See, e.g.*, 21 U.S.C. § 881(a) (2012) (providing basis for forfeiture of property to the United States). *See generally*, MARIAN R. WILLIAMS ET AL., INST. FOR JUSTICE, POLICING FOR PROFIT: THE ABUSE OF CIVIL ASSET FORFEITURE 45–104(2010), *available at* http://www.ij.org/images/pdf_folder/other_pubs/assetforfeituretoemail.pdf (reporting the percentage of forfeiture revenues each state and the federal government retain). On January 16, 2015, the Attorney General of the United States announced an end to profit-sharing with state and local governments for certain forfeitures. OFFICE OF ATT'Y GEN., PROHIBITION ON CERTAIN FEDERAL ADOPTIONS OF SEIZURES BY STATE AND LOCAL LAW ENFORCEMENT AGENCIES 1 (2015), *available at* http://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/01/16/attorney_general_order_prohibiting_adoptions.pdf.

[187] *See*, *e.g.*, Shaila Dewan, *Police Use Department Wish List When Deciding Which Assets to Seize*, N.Y. TIMES, Nov. 9, 2014, at A12 (noting establishment and expansion of civil forfeiture practices and documenting authorities using seized money for expenses such as sports tickets, office parties, a home security system, and a $90,000 sports car); Radley Balko, *Under Asset Forfeiture Law, Wisconsin Cops Confiscate Families' Bail Money*, HUFFINGTON POST (May 21, 2012, 2:53 PM (updated)), http://www.huffingtonpost.com/2012/05/20/asset-forfeiture-wisconsin-bail-confiscated_n_1522328.html (stating that findings confirming that "traces of cocaine" can be found on most U.S. currency, raising concerns over the civil forfeiture of bail money); Robert O'Harrow Jr., *Highway Seizure in Iowa Fuels Debate About Asset-Forfeiture Laws*, WASH. POST, Nov. 10, 2014, http://www.washingtonpost.com/investigations/highway-seizure-in-iowa-fuels-debate-about-asset-forfeiture-laws/2014/11/10/10f725fc-5ec3-11e4-8b9e-2ccdac31a031_story.html (detailing the strategic traffic stop of a gambler by an Iowa trooper that led to the seizure of $100,000); Van Smith, *Faked Drug-Dog Certification Puts Baltimore Drug-Money Forfeiture at Risk*, CITYPAPER (July 23, 2014, 1:52 PM), http://www.citypaper.com/blogs/the-news-hole/bcp-faked-drugdog-certification-puts-baltimore-drugmoney-forfeiture-at-risk-20140723,0,610347.story (reporting on proceedings to reclaim $122,640 in seized cash).

[188] *See* United States v. Hendrix, 664 F.3d 1334, 1338 (10th Cir. 2011) ("Where . . . probable cause is based on an informant's tip, the court makes a probable cause determination based on the totality of the circumstances, including the informant's veracity, reliability, and basis of knowledge.").

of the knowledge about dog alerts.[189] The Justices in *Harris* chose to ignore those facts. [190]

Most likely they did this because they wanted to keep the probable cause determination simple: If the dog was certified, there is presumptive probable cause.[191] If this was borne out by the data, it might make sense. But it is not. The plain and simple fact is that certification is not an adequate proxy for reliability. It is of course true that it com-

[189] Nor was this a case in which amici or the parties presented dueling facts. Although the two sides disagreed about the desired result—whether field results should be required, or whether training and certification was itself sufficient to establish probable cause—the briefs on the state's side were devoid of any studies showing dog sniffs to be accurate most of the time, demonstrating that false positives were irrelevant, or discounting the facts about such matters such as cuing. At most, there was one sentence—quoted by the Solicitor General—from the Scientific Working Group on Dog and Orthogonal Detector Guidelines to the effect that field observations should not count against a dog team's accuracy. Brief for the United States as Amici Curiae Supporting Petitioner at 20, Florida v. Harris, 133 S. Ct. 1050 (2013) (No. 11-817) ("'[U]nconfirmed operational outcomes shall not be used to determine capability in that they do not correctly evaluate a canine/handler team's performance (i.e. residual odor can be present or concealment may preclude discovery).'" (alteration in original and emphasis omitted) (quoting KENNETH FURTON ET AL., THE SCIENTIFIC WORKING GROUP ON DOG AND ORTHOGONAL DETECTOR GUIDELINES 66 (2010), *available at* https://www.ncjrs.gov/pdffiles1/nij/grants/231952.pdf). But even that sentence is obscure, saying nothing about probable cause findings; and, SWGDOG, granting its commendable effort to develop uniform standards, is an entity driven almost entirely by law enforcement. FURTON ET AL., *supra*, at 3 ("[SWGDOG] is a partnership of local, state, federal and international agencies including law enforcement and first responders."); *see also* SCI. WORKING GROUP DOG AND ORTHOGONAL DETECTOR GUIDELINES, SWGDOG UPDATE, MARCH 2010, at 6, *available at* http://swgdog.fiu.edu/about-us/history__goals_of_swgdog.pdf ("SWGDOG is a collaboratively funded effort of the FBI, NIJ and DHS[.]"). Besides, the relevant SWGDOG report itself speaks to the need for uniform standards in the fact of controversy over dog accuracy. FURTON ET AL., *supra*, at 1 (describing the adoption of "best practice guidelines" by multiple national canine organizations as a "positive change").

[190] Telling is the point about police incentives. Justice Scalia made this point at oral argument, asking, "[W]hat are the incentives here? Why would a police department want to use an incompetent dog? Is that any more likely than that a medical school would want to certify an incompetent doctor?" Transcript of Oral Argument at 34, Florida v. Harris, 133 S. Ct. 1050 (No. 11-817). Counsel for Harris responded, albeit somewhat incompletely: "The incentive of the officer to be able to conduct a search when he doesn't otherwise have probable cause is a powerful incentive." *Id.* at 35.

But Justice Scalia was simply unconvinced; it made no sense to him. He replied: "Willy-nilly. Officers just like to search. They don't particularly want to search where they're likely to find something. They just like to search. So let's get dogs that, you know, smell drugs when there are no drugs. You really think that that's what's going on here?" *Id.* at 35. But sometimes there are explanations outside our innate intuition. There was an entire brief, filed by the Institute for Justice exploring the forfeiture point at length. Brief of Amicus Curiae Institute of Justice in Support of Respondent at 15–41, Florida v. Harris, 133 S. Ct. 1050 (No. 11-817). The Court's opinion, though, goes with Justice Scalia's intuitive point, ignoring entirely the evidence to the contrary. *See Harris*, 133 S. Ct. at 1057 ("[E]vidence of a dog's satisfactory performance in a certification or training program can itself provide sufficient reason to trust his alert.").

[191] *Harris,* 133 S. Ct. at 1057.

plicates things considerably to have to take into account the actual field experience of each dog, but simplicity is not a substitute for actual probable cause. The Court did acknowledge that in a suppression hearing the defendant can introduce evidence of the dog's actual unreliability to demonstrate that probable cause did not exist,[192] but this is messy in the extreme and, in any event, puts the burden on the wrong party. What the Court should have done—taking the empirical evidence into account—was to hold that dog alerts do not constitute probable cause without something more than mere proof of certification or training. Satisfactory field records could easily be the something more, but such a holding would have left it to police forces to solve the problem themselves in some sufficient way.

IV
Moving Forward?

Characterizing *Harris* in these terms might lead some of you to wonder why we should bother with empirical work if judges will simply ignore it. There are several responses. First, we might ask the same of theoretical and doctrinal work, the vast majority of which likely goes uncited and otherwise ignored. Acceptance from a court isn't the only or even primary reason we do research. Second, even if speaking to judges is of great value, in the coming decades, decisions like *Harris* may be a thing of the past. More and more of our current undergraduates (read: future judges) are trained in and skilled at empirical analysis. Even in the humanities, students are becoming versed in statistics. It is only a matter of time before data and the results of empirical studies become facts that judges will not only cite, but also refuse to ignore.

Again, none of this is to demean the role of traditional methods in constitutional law scholarship; to the contrary, we are proponents of methodological diversity. It is rather to say that presently there is, in fact, little methodological diversity in constitutional law scholarship. That is what we hope to change, and that is why we organized this Symposium.

How might other legal scholars join in the effort? By following the lead of this Symposium and collaborating across disciplines. Social scientists bring to the table a set of specialized empirical skills, and legal academics possess a set of specialized substantive knowledge. Judging by the Essays here, this can be a very fruitful way to go. The other route is for legal academics to obtain the empirical skills themselves. Professor Epstein has been teaching an annual workshop on

[192] *Id.* at 1057–58.

empirical methods for over a decade now and has recently published a book that draws on notes from the workshop.[193] Then there are courses in virtually every social science department. Legal scholars could start with a basic introduction to research methods and continue from there.

Even if scholars choose to watch from the sidelines, we hope to have convinced them of the possibilities that empirical work presents for constitutional law scholarship. For us, the inevitable reliance of constitutional law on facts, the variety of tools available to bring empiricism to constitutional law, and the potential for collaboration to move constitutional law in fruitful directions are demonstrated by the Essays included in this Symposium.

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[193] LEE EPSTEIN & ANDREW D. MARTIN, AN INTRODUCTION TO EMPIRICAL LEGAL RESEARCH ix (2014); *supra* note 8 (providing information on the workshop, which will be held for its thirteenth year in 2014).