

THE “MURDER SCENE EXCEPTION”—MYTH OR REALITY?
EMPIRICALLY TESTING THE INFLUENCE OF CRIME SEVERITY
IN FEDERAL SEARCH-AND-SEIZURE CASES

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Prior experimental studies suggest that judges are susceptible to cognitive biases when making legal decisions, such as being motivated by the legally irrelevant nature of a defendant's crime when determining the admissibility of challenged evidence. However, that research has been constrained to hypothetical cases, limiting the real-world conclusions that can be drawn from it. Addressing this empirical gap, we offer a novel observational analysis that tests the influence of crime severity on suppression outcomes in actual search-and-seizure cases from U.S. Courts of Appeals.

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Using legislative criminal penalties to measure crime severity, our analysis shows that as crime severity increases, judges become significantly less likely to exclude challenged evidence on Fourth Amendment grounds—even though crime severity is not a doctrinally relevant consideration. Another legally extrinsic factor, the ideology of the opinion-writing judge, is also found to exert an influence, but only in the most serious criminal cases that involve a life sentence or the death penalty. In these particularly high-stakes decisions, conservative-leaning judges are more likely to uphold the admissibility of challenged evidence, while liberal-leaning judges are more likely to suppress it. Our data also indicate that the intrusiveness of the challenged police search, a doctrinally relevant factor, independently influences admissibility judgments.

The results of our study both confirm and complicate existing understandings of judicial decision-making in the Fourth Amendment context and beyond. Furthermore, by directly building on two lines of prior experimental findings grounded in psychology theory, the “empirical triangulation” approach we operationalize here illustrates an advantageous model for optimizing the validity of empirical scholarship on judicial behavior.

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INTRODUCTION

On May 23, 1957, police officers burst into the home of Dollree Mapp,¹ looking for a man wanted in connection with a mob-related bombing. The police did not find their target, but upon searching the house they found some alleged pornography in a storage chest belonging to Mapp.² The police arrested Mapp for possession of pornography, and she was convicted at trial.³ However, when her appeal reached the U.S. Supreme Court, the Court ruled that the warrantless search of Mapp's house violated the Fourth Amendment's prohibition against unreasonable searches and seizures.⁴ The Court therefore applied the "exclusionary rule"—a judicially created doctrine that excludes the use of criminal evidence "obtained directly or derivatively from illegal searches and seizures"⁵—to suppress the evidence seized from Mapp's home.⁶

On Christmas Eve 1968, ten-year-old Pamela Powers was murdered.⁷ Two days later, Robert Williams turned himself in to the police and, in response to questioning that violated his constitutional rights, made incriminating statements that led the police to Pamela's corpse.⁸ Before

¹ See *Mapp v. Ohio*, 367 U.S. 643, 644–45 (1961).

² *Id.* at 668 (Douglas, J., concurring).

³ *Id.* at 643.

⁴ *Id.* at 660; U.S. Const. amend. IV ("The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated . . .").

⁵ Eugene R. Milhizer, *Debunking Five Great Myths About the Fourth Amendment Exclusionary Rule*, 211 *Mil. L. Rev.* 211, 215 (2012).

⁶ *Mapp*, 367 U.S. at 660 (applying the exclusionary rule to state courts); see also *Weeks v. United States*, 232 U.S. 383, 398 (1914) (first establishing the exclusionary rule in federal courts).

⁷ See *Brewer v. Williams (Williams I)*, 430 U.S. 387, 390, 393 (1977).

⁸ See *Nix v. Williams (Williams II)*, 467 U.S. 431, 435 (1984); see also Phillip E. Johnson, *The Return of the "Christian Burial Speech" Case*, 32 *Emory L.J.* 349, 351–52, 357 (1983).

trial, Williams' lawyer moved to suppress all evidence relating to the corpse, under the argument that it was "fruit of the poisonous tree"—evidence that was inadmissible under the exclusionary rule because it resulted from the illegal interrogation.⁹ However, the trial court denied the motion and a jury found Williams guilty of murder.¹⁰

Williams appealed, and this case too made its way up to the U.S. Supreme Court. The Court initially applied the exclusionary rule to overturn the conviction and remand the case,¹¹ but suggested in a footnote that the challenged evidence could have been used if it "would have been discovered in any event."¹² On retrial, the State argued that the police inevitably would have found Pamela's corpse through legal means, even without Williams' illegally obtained statements, because a search for the body was already underway.¹³ Following another jury conviction and process of appeals, the Supreme Court accepted this argument and applied the "inevitable discovery" exception to the exclusionary rule, thereby ultimately upholding Williams' conviction.¹⁴

Could the Court's application of the exclusionary rule to suppress the evidence introduced against the sympathetic defendant charged with a victimless crime in *Mapp*, and its adoption of the "inevitable discovery" exception to admit the challenged evidence relating to the heinous crime charged in *Williams*, have had something to do with the severity of the respective criminal offenses?¹⁵ The protections of Fourth Amendment law are generally understood to be "blind[]" to differences among crimes,¹⁶ either "by virtue of the Supreme Court's explicit rejection of crime severity as a valid Fourth Amendment consideration, or the Court's pointed omission of that consideration from its analysis."¹⁷ But does the

(further noting that Williams pled "not guilty" to the murder, and that his defense at trial was that "someone else had killed the girl and planted the body in Williams' room").

⁹ See *Williams II*, 467 U.S. at 436–37, 441.

¹⁰ *Id.* at 437.

¹¹ *Williams I*, 430 U.S. at 406.

¹² *Id.* at 407 n.12.

¹³ *Williams II*, 467 U.S. at 439–40.

¹⁴ *Id.*

¹⁵ See Christopher Slobogin, *The Exclusionary Rule: Is It on Its Way Out? Should It Be?*, 10 Ohio St. J. Crim. L. 341, 351–52 (2013); Avani Mehta Sood, *Cognitive Cleansing: Experimental Psychology and the Exclusionary Rule*, 103 Geo. L.J. 1543, 1553–58 (2015).

¹⁶ William J. Stuntz, O.J. Simpson, Bill Clinton, and the Transsubstantive Fourth Amendment, 114 Harv. L. Rev. 842, 843 (2001); see also *infra* Part I.

¹⁷ Jeffrey Bellin, *Crime-Severity Distinctions and the Fourth Amendment: Reassessing Reasonableness in a Changing World*, 97 Iowa L. Rev. 1, 17 (2011).

empirical reality of judicial decision-making reflect this creed of blind-folded justice?

Empirical studies have demonstrated the strongly motivating influence of crime severity, even when it is not a legally relevant factor, in other types of legal judgments. For example, one study conducted with a sample of New Jersey parole hearing officers found that although the New Jersey Parole Act of 1979 deemed crime severity to be legally irrelevant to parole determinations—i.e., “[a]n incarcerated offender could no longer be further penalized due to the nature of his criminal act alone”—parole officers nonetheless “seemed to anchor their decisions on the single issue of crime type.”¹⁸ In particular, “odds favored parole release in the nonviolent crime categories of drugs and burglaries,” whereas “[i]n the violent crime categories of robbery, assault, and sexual assault, odds favored parole denial.”¹⁹ Experiments have also demonstrated that the nature of a defendant’s alleged crime influences lay citizens’ legal judgments when doctrinally irrelevant.²⁰

Does the severity of the underlying crime in search-and-seizure cases likewise influence judges’ admissibility decisions about challenged evidence? As human decision-makers, judges may be susceptible to similar cognitive limitations as their fellow humans, including difficulties in disregarding doctrinally irrelevant but psychologically motivating information when making legal judgments. For decades, legal scholars have debated about whether the exclusionary rule *should* make an exception for severe crimes,²¹ and practitioners have *anecdotally* observed that such an exception may already be informally operating in judicial decision-

¹⁸ Carolyn Turpin-Petrosino, Are Limiting Enactments Effective? An Experimental Test of Decision Making in a Presumptive Parole State, 27 J. Crim. Just. 321, 322–23, 329 (1999) (presenting results of a twelve-month study examining whether parole officers’ “decision behavior” reflected legislative reform); see also Joel M. Caplan, What Factors Affect Parole: A Review of Empirical Research, 71 Fed. Probation, June 2007 (reviewing the results of the Turpin-Petrosino study and finding them consistent with those of other studies on crime severity, criminal history, and incarceration length).

¹⁹ Turpin-Petrosino, *supra* note 18, at 327–28.

²⁰ See, e.g., Sood, *supra* note 15, at 1570–71, 1577–78 (demonstrating that crime egregiousness motivates lay applications of the exclusionary rule); Avani Mehta Sood, Attempted Justice: Misunderstanding and Bias in Psychological Constructions of Criminal Attempt, 71 Stan. L. Rev. 593, 639 (2019) (demonstrating that the doctrinally irrelevant nature of a charged attempt interacts with the defendant’s implied religion to influence lay applications of attempt law); *id.* at 650 (“Whether the proximity test’s potential priming of threat influenced lay judgments in these studies seemed to depend not on the severity of the attempted crime or the defendant’s implied religion per se, but rather on the interaction of these two variables.”).

²¹ See *infra* notes 25–26.

making.²² This Article now presents novel empirical evidence of the latter. Building upon prior experimental work showing that both lay decision-makers and actual judges are less likely to exclude illegally obtained evidence in fictional cases if the defendant's crime is more serious, we extend testing of this hypothesis to a sample of *real* federal appellate search-and-seizure decisions.

The Article proceeds as follows: Part I describes the Fourth Amendment exclusionary rule and the doctrinal irrelevance of crime severity to its judicial application. Part II reviews experimental work on judicial decision-making that has relied on hypothetical scenarios, and explains the need for validating such findings through analyses of real legal cases. Part III lays out the steps of our "empirical triangulation" approach: first, causal identification of the predicted psychological effect—i.e., crime severity motivating admissibility judgments—through randomized controlled experiments with hypothetical cases and convenience samples of lay citizens acting as judges. Second, experimental replication with samples of real judges making suppression determinations in hypothetical cases. And now, the critical third empirical leg operationalized in this study: observational analysis of actual, published search-and-seizure cases to confirm that the effect demonstrated in controlled experimental settings exists in the real world too. Parts IV and V present the methodology and results of our study. Part VI discusses the legal implications of our key findings, confronts potential alternative explanations, and identifies directions for future research. Finally, the Appendix offers details of robustness checks and distributions of the variables in our analysis.

I. THE "TRANSSUBSTANTIVE" EXCLUSIONARY RULE

The exclusionary rule, which aims to deter unreasonable searches and seizures in criminal cases,²³ calls for the suppression of illegally obtained evidence "regardless [of] whether the defendant is charged with shoplifting or skyjacking, bookmaking or bomb-throwing."²⁴ Some legal

²² See, e.g., Donald Dripps, *The Case for the Contingent Exclusionary Rule*, 38 *Am. Crim. L. Rev.* 1, 2 (2001); Yale Kamisar, "Comparative Reprehensibility" and the Fourth Amendment Exclusionary Rule, 86 *Mich. L. Rev.* 1, 18 (1987); John Kaplan, *The Limits of the Exclusionary Rule*, 26 *Stan. L. Rev.* 1027, 1036–37 (1974).

²³ See *United States v. Calandra*, 414 U.S. 338, 347 (1974) (embracing deterrence as the "prime purpose" of the exclusionary rule).

²⁴ Kamisar, *supra* note 22, at 9; see also Slobogin, *supra* note 15, at 344–45 and accompanying notes (discussing language of key Supreme Court precedents "that strongly suggested

commentators have argued that Fourth Amendment reasonableness determinations *should* take crime severity into account,²⁵ while others have defended *against* considering this factor.²⁶ Either way, the debate is based on a general understanding that "Fourth Amendment law is *transsubstantive*: it applies the same standard to [O.J.] Simpson's [double murder] case as to the case of Lance and Susan Gates, an Illinois couple who were charged with selling marijuana out of their house."²⁷ While there are some

that suppression of illegally seized evidence is constitutionally required regardless of its nature").

²⁵ See, e.g., *Brinegar v. United States*, 338 U.S. 160, 183 (1949) (Jackson, J., dissenting) (asserting that judicial exceptions to the Fourth Amendment should "depend . . . upon the gravity of the offense"); Bellin, *supra* note 17, at 1 ("[I]n evaluating contested searches and seizures, current Fourth Amendment doctrine ignores a key determinant of reasonableness, the crime under investigation."); Sherry F. Colb, *The Qualitative Dimension of Fourth Amendment "Reasonableness"*, 98 *Colum. L. Rev.* 1642, 1645 (1998) (recommending "that Supreme Court doctrine recognize that an 'unreasonable' search in violation of the Fourth Amendment occurs whenever the intrusiveness of a search outweighs the gravity of the offense being investigated"); Kaplan, *supra* note 22, at 1046 (proposing that the exclusionary rule "not apply in the most serious cases—treason, espionage, murder, armed robbery, and kidnaping [sic] by organized groups . . . [unless] the violation of civil liberties were shocking enough"); Stuntz, *supra* note 16, at 843, 869 (arguing that transsubstantive Fourth Amendment law "leads to too little protection in some cases and too much in others").

²⁶ See, e.g., Tonja Jacobi, *The Law and Economics of the Exclusionary Rule*, 87 *Notre Dame L. Rev.* 585, 652 (2011) (pointing out that "a defendant's rights [would] decrease as the length of the potential sentence he is facing increases"); Milhizer, *supra* note 5, at 232, 237 (arguing that "an approach that bases the suppression decision on a systematic comparison of the proportional reprehensibility of criminal and police misconduct would result, for all practical purposes, in an exclusionary rule in name only, as illegally obtained evidence would be rarely excluded and the police would have prior knowledge of this likely outcome").

²⁷ Stuntz, *supra* note 16, at 847 (emphasis added); see also Bellin, *supra* note 17, at 10–11 ("[T]he public interest is measured by the quantum of suspicion that a suspect has committed a crime—*any crime*. Under existing doctrine, the public interest is somehow just as compelling when the police are investigating an alleged shoplifting as an alleged murder."); Max Minzner, *Putting Probability Back into Probable Cause*, 87 *Tex. L. Rev.* 913, 940 (2009); Erin Murphy, *The Case Against the Case for Third-Party Doctrine: A Response to Epstein and Kerr*, 24 *Berkeley Tech. L.J.* 1239, 1244 (2009) ("For better or for worse, we have a trans-substantive Fourth Amendment. We do not obliterate privacy protections for the home, for instance, just because the vast majority of child sexual abuse occurs there.").

notable doctrinal exceptions,²⁸ commentators have pointed out that such divergences are “famous precisely because they are exceptional.”²⁹

So where does this general understanding come from? Legal scholars have observed: “Fourth Amendment doctrine’s transsubstantive nature is so deeply engrained that it most commonly operates by omission. In the vast majority of cases, the Supreme Court, and thus lower courts, simply ignore the underlying crime in assessing the reasonableness of a search or seizure.”³⁰ In regard to warrantless searches, the Supreme Court has more explicitly rejected the idea of a “murder scene exception,”³¹ with other

²⁸ For example, in *Welsh v. Wisconsin*, a case involving the “exigent circumstances” exception—which arises when “[t]he need to protect or preserve life or avoid serious injury is justification for what would be otherwise illegal,” *Mincey v. Arizona*, 437 U.S. 385, 392–93 (1978) (quoting *Wayne v. United States*, 318 F.2d 205, 212 (D.C. Cir. 1963))—the Supreme Court considered “the gravity of the underlying offense for which the arrest is being made” as an “important factor to be considered when determining whether any exigency exists.” 466 U.S. 740, 753 (1984). But the Court has “decline[d] to hold that the seriousness of the offense under investigation *itself* creates exigent circumstances of the kind that under the Fourth Amendment justify a warrantless search.” *Mincey*, 437 U.S. at 394 (emphasis added). Notably, the *Welsh* Court highlighted that the offense at issue in that case was a “*noncriminal*, civil forfeiture offense . . . that can be *easily identified* both by the courts and by officers faced with a decision to arrest.” *Welsh*, 466 U.S. at 754 (emphasis added) (citations omitted). The Supreme Court has also recognized crime severity as a relevant factor when determining the reasonableness of deadly force used by the police in pursuit of a suspected felon. See *Scott v. Harris*, 550 U.S. 372, 382 n.9 (2007); *Graham v. Connor*, 490 U.S. 386, 396 (1989); *Tennessee v. Garner*, 471 U.S. 1, 11 (1985).

²⁹ Stuntz, *supra* note 16, at 847 n.16 (referring to *Welsh*, 466 U.S. 740, and *People v. Sirhan*, 497 P.2d 1121 (Cal. 1972)); see also Bellin, *supra* note 17, at 13, 16–17 (discussing how *Welsh* and *Garner*, 471 U.S. 1, are inconsistent with the “bulk” of transsubstantive Fourth Amendment doctrine, which generally “neither impos[es] additional limits on searches or seizures aimed at minor offenses, nor afford[s] greater latitude in investigations of the most serious crimes, such as murder”); Colb, *supra* note 25, at 1647, 1673, 1682–83 (discussing why *Garner* and *Welsh* are “exceptional,” and noting that “[t]he Court in *Welsh* did something it has usually refused to do” in considering “the gravity of the offense in question”).

³⁰ Bellin, *supra* note 17 at 11; see also Colb, *supra* note 25, at 1660 (“The Court has chosen to stay out of the area of substance in evaluating most searches and seizures partly because of the subjectivity that seems to be an inevitable component of nonquantitative reasonableness analysis.”).

³¹ See *Mincey*, 437 U.S. at 395. Justice Rehnquist dissented in part on other grounds, but agreed that “the Court, for the reasons stated in its opinion, correctly rejects this invitation” to adopt a “murder scene exception.” *Id.* at 406 (Rehnquist, J., dissenting in part, concurring in part); see also *Thompson v. Louisiana*, 469 U.S. 17, 21 (1984) (reiterating that the *Mincey* Court had unanimously rejected a “murder scene exception”); *Flippo v. West Virginia*, 528 U.S. 11, 14 (1999) (reiterating the Court’s rejection of a “murder scene exception”); Bryan Lemons, Federal Law Enforcement Training Center, A “Murder Scene” Exception to the 4th Amendment Warrant Requirement? 4–5, https://www.fletc.gov/sites/default/files/imported_files/training/programs/legal-division/downloads-articles-and-faqs/research-by-

courts following suit.³² In addition, at the opposite end of the crime severity spectrum, the Court has held that the Fourth Amendment does *not* "forbid[] a warrantless arrest for a minor criminal offense" as per se unreasonable.³³

Explaining its reluctance to adopt a "murder scene exception" to Fourth Amendment protections, the Court has said: "If the warrantless search of a homicide scene is reasonable, why not the warrantless search of the scene of a rape, a robbery, or a burglary? 'No consideration relevant to the Fourth Amendment suggests any point of rational limitation' of such a doctrine."³⁴ This point echoes slippery-slope concerns that legal commentators have raised about whether a shortlist of severe criminal offenses that are exempt from the exclusionary rule will actually remain short.³⁵ The Court has also highlighted the following practical concerns:

It is not merely that we cannot expect every police officer to know the details of frequently complex penalty schemes ("[O]fficers in the field frequently 'have neither the time nor the competence to determine' the severity of the offense . . ."), but that penalties for ostensibly identical conduct can vary on account of facts difficult (if not impossible) to know at the scene of an arrest.³⁶

But does judicial practice actually embody the doctrinally transsubstantive ideal of the exclusionary rule, or do courts' search-and-seizure decisions better reflect the common intuition that the nature of the

subject/4th-amendment/murdersceneexception.pdf [https://perma.cc/Q2HZ-3DXY] (noting that "the Court has emphatically rejected the notion that such an exception exists").

³² See, e.g., *United States v. Beaudoin*, 362 F.3d 60, 71 (1st Cir. 2004); *id.* at 84 (Lipez, J. dissenting); *United States v. Brooks*, 2008 U.S. Dist. LEXIS 91616, at *14 (W.D. Mo. 2008); *Grant v. State*, 374 So. 2d 630, 631 (Fla. Dist. Ct. App. 1979); *State v. Rogers*, 573 S.W.2d 710, 714 (Mo. Ct. App. 1978).

³³ *Atwater v. City of Lago Vista*, 532 U.S. 318, 323 (2001) (upholding as reasonable a warrantless arrest for a misdemeanor seatbelt violation punishable only by a fine).

³⁴ *Mincey*, 437 U.S. at 393 (quoting *Chimel v. California*, 395 U.S. 752, 766 (1969)).

³⁵ *Kamisar*, *supra* note 22, at 23; see also *Milhizer*, *supra* note 5, at 236 (suggesting that a crime severity exception may "result in a symbolic but impotent exclusionary rule").

³⁶ *Atwater*, 532 U.S. at 348 (citation omitted) (quoting *Berkemer v. McCarty*, 468 U.S. 420, 431 n.13 (1984) (alteration in original)); see also *Mincey*, 437 U.S. at 395 (noting that conferring "unbridled discretion upon the individual officer to interpret such terms as 'reasonable [] search' . . . is precisely this kind of judgmental assessment of the reasonableness and scope of a proposed search that the Fourth Amendment requires be made by a neutral and objective magistrate, not a police officer").

underlying crime matters?³⁷ Legal scholars have asserted that “by opening a gulf between actual ‘reasonableness’ and doctrinal ‘reasonableness,’ transsubstantive doctrine fosters artificially permissive Fourth Amendment rules.”³⁸ If “[j]udges do not like excluding bloody knives,”³⁹ they may “often stretch and strain in serious cases to avoid applying the exclusionary rule.”⁴⁰ Empirically demonstrating this potential effect through analysis of real admissibility outcomes could hold significant implications for the legal legitimacy and cognitive realities of not only Fourth Amendment doctrine but also judicial decision-making more broadly.

II. JUDGES AS HUMAN DECISION-MAKERS

The acknowledgement that judicial decision-making is susceptible to ordinary human fallibilities⁴¹ has emerged in legal literature at cross-sections with other disciplines in multiple ways. Political scientists have employed regression analyses of court cases to show the influence of political ideology on judicial opinions.⁴² The law-and-economics rational choice model predicts that judges may make decisions that maximize the utility of various conflicting goals beyond just neutrally interpreting and

³⁷ See Sood, *supra* note 15, at 1580–81 (experimentally showing that lay decision-makers are influenced by crime egregiousness in suppression judgments); Bellin, *supra* note 17, at 4 (suggesting that crime severity is “a variable that nonjudicial decision-makers routinely rely on” in the context of criminal investigations); Michael M. Berlin, *Crime Scene Searches and the Fourth Amendment*, 3 *Investigative Sci. J.* 4, 18–19 (2011) (discussing “[w]hy, despite the fact that the U.S. Supreme Court has explicitly held that on three separate occasions over a twenty year period that there is no crime scene or murder scene exception to the Fourth Amendment search & seizure warrant requirement rule, . . . there appear[s] to be confusion among experienced law enforcement and legal professionals”).

³⁸ Bellin, *supra* note 17, at 5.

³⁹ Akhil Reed Amar, *Fourth Amendment First Principles*, 107 *Harv. L. Rev.* 757, 799 (1994).

⁴⁰ Kaplan, *supra* note 22, at 1037.

⁴¹ See Jerome Frank, *Law & The Modern Mind* 110–11 (1930); Terry A. Maroney, *The Persistent Cultural Script of Judicial Dispassion*, 99 *Calif. L. Rev.* 629, 631 (2011).

⁴² See, e.g., David W. Rohde & Harold J. Spaeth, *Supreme Court Decision Making* (1976); Glendon Schubert, *The Judicial Mind: The Attitudes and Ideologies of Supreme Court Justices, 1946–1963*, at 37–39 (1965); Glendon Schubert, *The Judicial Mind Revisited: Psychometric Analysis of Supreme Court Ideology* 17–18 (1974); Glendon Schubert, *Quantitative Analysis of Judicial Behavior* 10–20 (1959); Jeffrey A. Segal & Harold J. Spaeth, *The Supreme Court and the Attitudinal Model Revisited* 29 (2002); Jeffrey A. Segal & Harold J. Spaeth, *The Supreme Court and the Attitudinal Model* 65–70 (1993); Jeffrey A. Segal, *Supreme Court Justices as Human Decision Makers: An Individual-Level Analysis of the Search and Seizure Cases*, 48 *J. Pol.* 938, 939 (1986); Jeffrey A. Segal & Albert D. Cover, *Ideological Values and the Votes of U.S. Supreme Court Justices*, 83 *Am. Pol. Sci. Rev.* 557, 557 (1989).

applying the law.⁴³ Meanwhile, psychologists have highlighted judicial vulnerabilities to cognitive forces operating below the level of consciousness, as described below.

A. Experimental Studies on Judicial Behavior

Experimental psychology studies with judicial samples have shown that judges fall prey to common cognitive biases and "heuristics" (mental shortcuts),⁴⁴ though potentially less so than lay decision-makers in regard to some effects.⁴⁵ Leading judicial scholars Jeffrey Rachlinski, Chris Guthrie, and Magistrate Judge Andrew Wistrich tested the following "common cognitive illusions" on both lay participants and judges: anchoring,⁴⁶ framing,⁴⁷ hindsight bias,⁴⁸ the representativeness heuristic,⁴⁹

⁴³ See, e.g., Lee Epstein & Jack Knight, *The Choices Justices Make* (1998); Lee Epstein, William M. Landes & Richard A. Posner, *The Behavior of Federal Judges: A Theoretical and Empirical Study of Rational Choice* (2013); Thomas H. Hammond, Chris W. Bonneau & Reginald S. Sheehan, *Strategic Behavior and Policy Choice on the U.S. Supreme Court* (2005); Forrest Maltzman, James F. Spriggs II & Paul J. Wahlbeck, *Crafting Law on the Supreme Court: The Collegial Game* (2000).

⁴⁴ See Chris Guthrie, Jeffrey J. Rachlinski & Andrew J. Wistrich, *Blinking on the Bench: How Judges Decide Cases*, 93 *Cornell L. Rev.* 1, 28 (2007) (reporting results suggesting "that judges are inclined, at least when presented with certain stimuli, to make intuitive decisions, but that they have the capacity to override intuition with deliberative thinking"). See generally Thomas Gilovich, Dale Griffin & Daniel Kahneman, *Heuristics and Biases: The Psychology of Intuitive Judgment* (2002) (presenting research on human judgment); Daniel Kahneman, *A Perspective on Judgment and Choice: Mapping Bounded Rationality*, 58 *Am. Psychologist* 697, 697 (2003) (arguing that thoughts are influenced by "heuristics of judgment, risky choice, and framing effects," especially thoughts that "come to mind quickly and without much reflection").

⁴⁵ See Chris Guthrie, Jeffrey J. Rachlinski & Andrew J. Wistrich, *Inside the Judicial Mind*, 86 *Cornell L. Rev.* 777, 784 (2001).

⁴⁶ *Id.* at 787–88 ("When people make numerical estimates . . . , they commonly rely on the initial value available to them That initial value tends to 'anchor' their final estimates.").

⁴⁷ *Id.* at 794 ("When people confront risky decisions . . . they categorize their decision options as potential gains or losses from a salient reference point such as the status quo. This categorization, or 'framing,' of decision options influences the way people evaluate options and affects their willingness to incur risk." (footnote omitted)).

⁴⁸ *Id.* at 799 ("People overstate their own ability to have predicted the past and believe that others should have been able to predict events better than was possible.").

⁴⁹ *Id.* at 805 ("When people make categorical judgments (e.g., assessing the likelihood that a criminal defendant is guilty), they tend to base their judgments on the extent to which the evidence being analyzed (e.g., the defendant's demeanor) is representative of the category. When the evidence appears representative of, or similar to, the category (e.g., defendant is nervous and shifty), people judge the likelihood that the evidence is a product of that category as high (i.e., evidence of guilt)." (footnote omitted)).

and egocentric biases.⁵⁰ They found that all five cognitive biases had a significant impact on both lay and judicial decision-making, but judges exhibited a smaller effect when it came to framing and the representativeness heuristic.⁵¹ In other experimental research, psychologist Daniel Lassiter and colleagues demonstrated that the expertise of judges provided “no defense” against the “camera perspective effect,” which makes people more likely to assess videotaped confessions as voluntary when the camera focuses on the suspect rather than recording from other angles.⁵²

Experiments have also shown that judges are often unable to disregard various types of legally irrelevant or inadmissible information.⁵³ Through a series of studies with multiple groups of judges, Wistrich, Guthrie, and Rachlinski demonstrated that inadmissible information—including “demands disclosed during a settlement conference, conversation protected by the attorney-client privilege, prior sexual history of an alleged rape victim, prior criminal convictions of a plaintiff, and information the government had promised not to rely upon at sentencing”⁵⁴—significantly affected judicial decision-making in hypothetical cases. The judges were able to resist information that implicated a criminal defendant’s constitutional rights, such as an illegally obtained confession.⁵⁵ However, a follow-up experiment uncovered that while judges generally suppressed inadmissible confessions as required by law, they were nevertheless ultimately more likely to convict the confessing defendant if the case involved a more severe crime (a murder rather than a robbery).⁵⁶ Other

⁵⁰ *Id.* at 811 (“People tend to make judgments about themselves and their abilities that are ‘egocentric’ or ‘self-serving.’ People routinely estimate, for example, that they are above average on a variety of desirable characteristics . . .”).

⁵¹ *Id.* at 778.

⁵² G. Daniel Lassiter et al., *Evaluating Videotaped Confessions: Expertise Provides No Defense Against the Camera-Perspective Effect*, 18 *Psychol. Sci.* 224, 224–25 (2007).

⁵³ See, e.g., Stephan Landsman & Richard F. Rakos, *A Preliminary Inquiry into the Effect of Potentially Biasing Information on Judges and Jurors in Civil Litigation*, 12 *Behav. Sci. & L.* 113 (1994); Andrew J. Wistrich, Jeffrey J. Rachlinski & Chris Guthrie, *Heart Versus Head: Do Judges Follow the Law or Follow Their Feelings?*, 93 *Tex. L. Rev.* 855, 879–80 (2015).

⁵⁴ Andrew J. Wistrich, Chris Guthrie & Jeffrey J. Rachlinski, *Can Judges Ignore Inadmissible Information? The Difficulty of Deliberately Disregarding*, 153 *U. Pa. L. Rev.* 1251, 1251 (2005).

⁵⁵ *Id.* at 1259.

⁵⁶ Jeffrey J. Rachlinski, Andrew J. Wistrich & Chris Guthrie, *Altering Attention in Adjudication*, 60 *UCLA L. Rev.* 1586, 1614 (2013) (“When the defendant had committed murder . . . the judges who had heard confessions, however obtained, were consistently more willing to convict . . . [even when] the judges recognized that the confessions were clearly illegally obtained and suppressed them.”).

experimental research has also shown that judges do not entirely disregard coerced confessions.⁵⁷

Furthermore, in a recent experiment with U.S. federal judges, law scholars Holger Spamann and Lars Klöhn showed that legally irrelevant characteristics of a defendant influenced appellate decisions more than legal precedent did, contrary to the results of a pre-test survey in which law professors predicted that precedent would have a stronger effect.⁵⁸ The experimental findings revealed that 87% of judges upheld a conviction when the case involved "a nationalist, hateful Serb defendant," while only 41% of judges upheld the conviction of "a conciliatory, regretful Croat defendant," even though the cases were otherwise identical.⁵⁹ The authors noted that "[t]he judges' written reasons show no awareness of this effect."⁶⁰

Experimentally testing the motivating effects of ideology on legal decision-making, psychologists Richard Redding and N. Dickon Reppucci found that both law students' and judges' ratings of social science evidence in a death penalty case depended on whether the evidence was consistent with their own attitudes on capital punishment.⁶¹ However, this effect held different legal implications for the different types of decision-makers:

The law students' bias pervaded all their legal judgments about the evidence. For judges, it only significantly affected their judgment about what weight to give the evidence once it was admitted. Here, the far greater legal experience of the judges is evident [in l]egal judgments about relevance and admissibility. . . . But in the much more subjective and value-laden judgment about what weight to accord that evidence once it is admitted, a critically important decision that often affects the outcome of cases, the judges are biased just like the less experienced law students.⁶²

⁵⁷ See D. Brian Wallace & Saul M. Kassin, *Harmless Error Analysis: How Do Judges Respond to Confession Errors?*, 36 *Law & Hum. Behav.* 151, 152 (2012).

⁵⁸ Holger Spamann & Lars Klöhn, *Justice is Less Blind, and Less Legalistic, than We Thought: Evidence from an Experiment with Real Judges*, 45 *J. Legal Stud.* 255 (2016).

⁵⁹ *Id.* at 256.

⁶⁰ *Id.*

⁶¹ Richard E. Redding & N. Dickon Reppucci, *Effects of Lawyers' Socio-Political Attitudes on Their Judgments of Social Science in Legal Decision Making*, 23 *Law & Hum. Behav.* 31, 47-48 (1999).

⁶² *Id.* at 48.

Notably, the judges in the study were more confident than the lay participants that other lawyers would agree with their judgments, even though there was actually greater variability among the judicial ratings as compared with the lay ratings.⁶³

More recently, in a series of experiments conducted with a wider variety of decision-makers, legal scholar Dan Kahan and colleagues found that political predispositions on ideologically charged issues like climate change and marijuana legalization influenced the judgments of ordinary citizens and law students, but *not* judges and lawyers, in hypothetical statutory interpretation cases.⁶⁴ Kahan et al. suggested that “professional judgment imparted by legal training and experience confers resistance of identity-protective cognition—a dynamic associated with politically biased information processing generally—but only for decisions that involve *legal* reasoning.”⁶⁵

B. The Need for Observational Confirmation

The above-described experimental research on judicial decision-making has generally relied on surveys that ask judges to make legal judgments about controlled, fictional scenarios, thereby leaving open the possibility that in real legal cases, professional judges may be more (or perhaps less) able to overcome the cognitive shortcomings they exhibit in experimental settings. Experiments can be designed to have high “internal validity”—the ability to demonstrate that a particular variable causes a predicted effect⁶⁶—by randomly assigning participants to conditions that manipulate only the variable of interest (e.g., the nature of the defendant’s crime), while keeping all other details about the case the same to control for potentially confounding factors. But this generally presents a trade-off with two other types of validity necessary to draw confident conclusions about real-world implications: “external validity,” the generalizability of the demonstrated effect beyond the experimental circumstances, and

⁶³ *Id.*

⁶⁴ Dan M. Kahan et al., “Ideology” or “Situation Sense”? An Experimental Investigation of Motivated Reasoning and Professional Judgment, 164 U. Pa. L. Rev. 349, 410–13 (2016).

⁶⁵ *Id.* at 350; see also Wistrich et al., *supra* note 53, at 880, 899 (finding “lack of a political influence” on judges’ trial-level decision-making in hypothetical cases).

⁶⁶ See Elliot Aronson, Timothy D. Wilson & Marilyn B. Brewer, Experimentation in Social Psychology, in 1 Handbook of Social Psychology 99, 129 (Daniel T. Gilbert, Susan T. Fiske, & Gardner Lindzey eds., 1998).

"ecological validity," the extent to which the effect has been shown to occur under "real-life" conditions.⁶⁷

Naturalistic or nonparticipant "observational" analysis of existing legal opinions (known in some fields as "archival" analysis) can work toward addressing these shortcomings of the experimental method by allowing for empirical investigation of judicial decision-making in its natural context. However, this methodology presents its own set of limitations.⁶⁸ For example, there may be potential selection biases and informational deficits in the published cases under observation, and it is impossible to entirely isolate variables and pinpoint causality in real-life cases.⁶⁹ Indeed, it is implausible for any one study examining judicial behavior to precisely identify the causal mechanism underlying a hypothesized effect while testing for the effect in actual legal decisions.

We therefore pursue an "empirical triangulation" that enables more nuanced and confident insights into judicial decision-making than any one methodology in isolation can provide. Our approach draws upon both experimental and observational research, thus combining the internal, external, and ecological forms of validity discussed above, while also offering a form of cross-study "convergent validity"—consistent evidence through different measures.⁷⁰

III. THE EMPIRICAL TRIANGULATION

Among the array of quantitative and qualitative techniques that could be triangulated to study judicial decision-making, we rely on two dominant methods from our fields of psychology and political science—experiments and observational analysis, respectively—to test whether judges actually apply the exclusionary rule in a transsubstantive manner. The experimental method can first causally identify whether, when, and why a legally irrelevant variable (e.g., the nature of a defendant's crime) influences legal judgments (e.g., suppression determinations). This can be efficiently pursued through multiple studies with accessible samples of lay citizens who take on the role of judges, which is known as "convenience sampling." If the predicted effect (e.g., motivated admissibility decisions)

⁶⁷ See *id.* at 130; Marilyn B. Brewer, Research Design and Issues of Validity, *in* Handbook of Research Methods in Social and Personality Psychology 3, 12–13 (Harry T. Reis & Charles M. Judd eds., 2000).

⁶⁸ See, e.g., Kahan et al., *supra* note 64, at 357–63.

⁶⁹ See *infra* Part VI.D.

⁷⁰ See Brewer, *supra* note 67, at 9.

is observed among lay participants, similar experiments can then be conducted with actual judges to test whether they cognitively respond in the same manner. Finally, observational analysis of real legal cases can be deployed to examine whether the effect seen when lay people and judges make decisions in hypothetical experimental scenarios also manifests in published judicial opinions. This combination of methodologies can thus provide the internal validity needed to demonstrate the causal role of crime severity in suppression determinations, as well as the external and ecological validity needed to determine whether the predicted effect is observable in the real legal world too.

A. Step 1: Causally Identifying the Psychological Effect

To investigate whether and how the nature of a defendant's crime may influence judgments about the admissibility of illegally obtained evidence, law and psychology scholar (and a co-author of this Article) Avani Mehta Sood designed and conducted a series of experiments to test for "motivated cognition" in hypothetical search-and-seizure cases.⁷¹ Motivated cognition is a psychological phenomenon whereby decision-makers process information in a skewed manner that leads them to their preferred outcomes.⁷² This effect is not intentional; it occurs under an "illusion of objectivity"⁷³ whereby "people do not realize that [their decision-making] process is biased by their goals."⁷⁴ Furthermore, motivated cognition is subject to "reasonableness constraints"⁷⁵—decision-makers "draw the

⁷¹ See Sood, *supra* note 15.

⁷² See generally Milton Lodge & Charles S. Taber, *The Rationalizing Voter* 149 (2013) (stating that already-held attitudes and beliefs influence how people process information and later thoughts); Ziva Kunda, *The Case for Motivated Reasoning*, 108 *Psychol. Bull.* 480, 483, 495 (1990) (concluding that "directional goals" affect people's reasoning and that "[p]eople are more likely to arrive at those conclusions that they want to arrive at").

⁷³ Tom Pyszczynski & Jeff Greenberg, *Toward an Integration of Cognitive and Motivational Perspectives on Social Inference: A Biased Hypothesis-Testing Model*, in 20 *Advances in Experimental Social Psychology* 297, 302 (Leonard Berkowitz ed., 1987).

⁷⁴ Kunda, *supra* note 72, at 483; see also Eileen Braman, *Law, Politics, & Perception: How Policy Preferences Influence Legal Reasoning* 19 (2009) (emphasizing that judges believe they are using "appropriate legal criteria to reach decisions" even while operating under motivated cognition).

⁷⁵ Lindsley G. Boiney, Jane Kennedy & Pete Nye, *Instrumental Bias in Motivated Reasoning: More When More is Needed*, 72 *Organizational Behav. & Hum. Decision Processes* 1, 1 (1997) (internal quotation marks omitted).

desired conclusion only if they can muster up the evidence necessary to support it," and not if there is clear evidence to the contrary.⁷⁶

Applying this psychological theory to decision-making in the legal arena, Sood proposed a "motivated justice" hypothesis: Even though lay and judicial decision-makers generally have strong internal and external incentives to render legally accurate decisions,⁷⁷ they may be susceptible to motivated cognition when the dictates of the law clash with their personal intuitions about the morally "right" outcome in a case.⁷⁸ Applying this to the exclusionary context: when judges are confronted with challenged evidence in a case involving an egregious crime, they may experience a strong "directional" goal to punish⁷⁹ that is at odds with the exclusionary rule's directive to suppress unlawfully obtained evidence no matter the underlying crime. In such circumstances, judges may less-than-consciously construe the case in a motivated manner that enables them to admit the evidence without explicitly violating the legal doctrine.⁸⁰

In particular, Sood proposed that the open-ended doctrinal exceptions to the exclusionary rule present fertile entry points for motivated cognition.⁸¹ These judicially created exceptions permit the use of illegally obtained evidence in criminal cases if judges find, for instance, that the chain of causation between the challenged search and the evidence is too "attenuated,"⁸² or that the police relied in "good faith" on an invalid search warrant.⁸³ In addition, the "inevitable discovery" exception allows judges

⁷⁶ Kunda, *supra* note 72, at 482–83; see also Eileen Braman, Reasoning on the Threshold: Testing the Separability of Preferences on Legal Decision Making, 68 J. Pol. Sci. 308, 319 (2006) ("[W]e saw the influence of attitudes on legal reasoning processes was real—but not without boundaries."); Eileen Braman & Thomas E. Nelson, Mechanism of Motivated Reasoning? Analogical Perception in Discrimination Disputes, 51 Am. J. Pol. Sci. 940, 954 (2007) (finding that "[o]bjective case facts constrained motivated perception as predicted . . . for law student participants").

⁷⁷ See Tom R. Tyler, Why People Obey the Law 31 (1990) (discussing lay people's "strong obligation to obey the law"); Braman & Nelson, *supra* note 76, at 941–42 (describing "individually based checks" and "a number of institutional protections" against biased judicial decision-making).

⁷⁸ Sood, *supra* note 15, at 1562; Avani Mehta Sood & John M. Darley, The Plasticity of Harm in the Service of Criminalization Goals, 100 Calif. L. Rev. 1313, 1324–25 (2012).

⁷⁹ See Kunda, *supra* note 72, at 482–83. See generally Kevin M. Carlsmith, The Roles of Retribution and Utility in Determining Punishment, 42 J. Experimental Soc. Psychol. 437, 439 (2006) (describing behavioral research results indicating that "people punish out of a desire to give perpetrators their just deserts, not a desire for future utility").

⁸⁰ See Sood, *supra* note 15, at 1563–64.

⁸¹ *Id.*

⁸² See *Wong Sun v. United States*, 371 U.S. 471, 487 (1963).

⁸³ See *United States v. Leon*, 468 U.S. 897, 913 (1984).

to admit unlawfully obtained evidence if they determine it would have been otherwise discovered through lawful means.⁸⁴

Applications of the inevitable discovery exception are especially speculative, for there is no provable right or wrong answer to the question of what *would have* happened if not for the challenged search.⁸⁵ Judges who are motivated to see a morally repugnant crime punished may be cognitively susceptible to construing the case before them in a manner that convinces themselves and others that lawful discovery of the challenged evidence was inevitable. The motivated cognition process operating through the exclusionary rule's malleable exceptions may thus enable judges to resolve their competing drives for both legality and justice in cases of egregious crime, thereby unconsciously circumventing Judge Benjamin Cardozo's oft-quoted concern about the exclusionary rule: "The criminal is to go free because the constable has blundered."⁸⁶

Given that motivated cognition operates under an "illusion of objectivity" and is subject to "reasonableness constraints" as described above,⁸⁷ it is likely that the motivation to punish a defendant would need to be particularly strong to override judges' trained understanding that there is no "murder scene exception" to the exclusionary rule.⁸⁸ As reflected in *Mapp* and *Williams II*,⁸⁹ judges and the public they serve may be content to see illegally obtained evidence suppressed in the case of a woman charged with possessing a few allegedly pornographic pamphlets and photos in

⁸⁴ See *Williams II*, 467 U.S. 431, 441 (1984).

⁸⁵ See *id.* at 459 (Brennan, J., dissenting) ("The inevitable discovery exception necessarily implicates a hypothetical finding . . ."); see also *United States v. Leake*, 95 F.3d 409, 412 (6th Cir. 1996); *United States v. Eng*, 971 F.2d 854, 861 (2d Cir. 1992); Robert M. Bloom, *Inevitable Discovery: An Exception Beyond the Fruits*, 20 *Am. J. Crim. L.* 79, 81 (1992).

⁸⁶ *People v. Defore*, 150 N.E. 585, 587 (N.Y. 1926).

⁸⁷ See *supra* notes 73–76 and accompanying text.

⁸⁸ See *infra* note 104 and accompanying parenthetical. See generally Carlsmith, *supra* note 79, at 437 (discussing motives underlying people's desire to punish); Linda J. Skitka & Faye J. Crosby, *Trends in the Social Psychological Study of Justice*, 7 *Personality & Soc. Psychol. Rev.* 282, 283 (2003) ("High levels of moral outrage lead people to feel that justice requires not only compensation, but also retribution . . .").

⁸⁹ See *supra* Introduction.

her home,⁹⁰ but not when it comes to crucial evidence against an alleged child murderer.⁹¹

To empirically explore the motivating effect of crime severity in admissibility decisions, Sood first conducted a series of experiments with lay decision-makers acting as judges.⁹² She presented the participants with hypothetical cases in which police officers unlawfully searched a car and thereby stumbled upon evidence of a crime: either a large quantity of heroin being sold to high school students for financial profit *or* marijuana being sold to terminally ill cancer patients to ease their suffering.⁹³ Although the police searches were exactly the same (and unambiguously illegal) in both cases, participants who were randomly assigned to judge the heroin case were significantly more likely to construe lawful discovery of the tainted evidence as inevitable, and to recommend admitting it within the exception to the exclusionary rule.⁹⁴ Participants judging the marijuana case, on the other hand, were significantly more likely to construe the same facts about the police search as supporting suppression of the evidence, and to assert that they did *not* see grounds for invoking the inevitable discovery exception.⁹⁵

Using mediation analysis,⁹⁶ Sood showed that this difference in cognitive processing of facts appeared to be driven by the participants' stronger

⁹⁰ *Mapp v. Ohio*, 367 U.S. 643, 668 (1961) (Douglas, J., concurring); see also Bradley C. Canon, *Is the Exclusionary Rule in Failing Health? Some New Data and a Plea Against a Precipitous Conclusion*, 62 Ky. L.J. 681, 696 (1974) (noting that *Mapp* was "rather calmly accepted if not universally applauded").

⁹¹ See Sood, *supra* note 15, at 1555–57; see also *Coolidge v. New Hampshire*, 403 U.S. 443, 493 (1971) (Burger, C.J., dissenting in part and concurring in part) (asserting that a case involving the brutal murder of a teenager, in which applying the exclusionary rule led to the reversal of a conviction, "illustrates graphically the monstrous price we pay for the exclusionary rule in which we seem to have imprisoned ourselves").

⁹² Sood, *supra* note 15, at 1564–80.

⁹³ *Id.* at 1566–67.

⁹⁴ *Id.* at 1570–71, 1577–78.

⁹⁵ *Id.*

⁹⁶ *Id.* at 1572. A mediator is a middle variable that "represents the generative mechanism through which the focal independent variable [IV] is able to influence the dependent variable [DV] of interest." Reuben M. Baron & David A. Kenny, *The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations*, 51 *J. Personality & Soc. Psychol.* 1173, 1173 (1986); see also Barbara G. Tabachnick & Linda S. Fidell, *Using Multivariate Statistics* 160 (5th ed. 2007) ("[A] variable is confirmed as a mediator if (1) there is a significant relationship between the IV and the DV, (2) there is a significant relationship between the IV and the mediator, (3) the mediator still predicts the DV after controlling for the IV, and (4) the relationship between the IV and the DV is reduced when the mediator is in the equation.").

desire to punish the defendant in the heroin case than in the marijuana case.⁹⁷ Further consistent with the theory of motivated cognition, the participants' written explanations about their admissibility decisions across both cases illustrated how they employed information about the same unlawful police search to support opposite conclusions about inevitable discovery, depending on which crime the search happened to uncover.⁹⁸

In sum, although there was little evidence provided in these experimental scenarios to support a finding of inevitable discovery, the availability of this legal exception and the participants' motivated construal of facts to invoke it in the case involving a more egregious crime enabled the decision-makers to pursue their punishment goals without explicitly violating the exclusionary doctrine. But while these admissibility judgments were ostensibly made within the boundaries of an exception to the rule, the experimental design and data showed that motivated cognition ultimately led to different outcomes for identical police searches based on a doctrinally irrelevant factor.

Sood's experimental results provide evidence for a decision-making process that, if borne out in real judicial determinations, could have vast and important implications for the rights of the criminally accused and the legitimacy of the criminal justice system.⁹⁹ Just as the Supreme Court has already created several exceptions to the exclusionary rule,¹⁰⁰ it could choose to explicitly adopt a "murder scene exception" for particularly reprehensible crimes. However, if Sood's findings are applicable to judges in real cases, an exception of this kind may already be evident in the law—not through formal and transparent legal channels, but rather, through covert processes of human cognition.

B. Step 2: Replicating the Effect with Judicial Samples

The above-described experimental illustration of crime severity motivating lay judgments about challenged evidence raises the question of whether the real legal decision-makers who apply the exclusionary rule—actual judges—exhibit the same effect. Some researchers have suggested that the training and repeat experience of professional judges may render them more resistant to motivated legal decision-making than lay

⁹⁷ Sood, *supra* note 15, at 1569–72.

⁹⁸ *Id.* at 1579–80.

⁹⁹ *Id.* at 1580–87, 1599–603.

¹⁰⁰ See *supra* notes 82–85 and accompanying text.

citizens.¹⁰¹ Others have observed that sophisticated decision-makers (i.e., those with highly relevant knowledge) may actually be more susceptible to motivated cognition because they are better equipped to "denigrate[] challenging arguments and bolster[] supportive ones."¹⁰²

Addressing this question in the search-and-seizure context, Wistrich, Rachlinski, and Guthrie experimentally tested a variation of Sood's heroin-marijuana hypothetical paradigm with professional judge participants.¹⁰³ Consistent with Sood's results, they found that three different groups of judges (from benches in Connecticut, Nevada, and New York) making decisions about a challenged search that uncovered a large quantity of heroin and "a list of contacts at a local high school" were significantly more likely to admit the evidence than when the same search uncovered marijuana.¹⁰⁴ Wistrich et al. concluded:

The judges responded as if there is a Fourth Amendment for marijuana that is different than the Fourth Amendment for heroin. . . . In effect, even though the exclusionary rule does not permit judges to consider the gravity of the offense, judges nevertheless seem to use a sliding scale that takes it into account.¹⁰⁵

Wistrich et al. noted, however, that questions remain about how their findings extend to the real world:

[O]ur experiments are unavoidably artificial. They did not involve real cases or take place in a courtroom. It is possible that a judge presiding over a real case might not be as influenced by affect as our experimental subjects were. . . . On the other hand, a real case simply raises the stakes; it does not necessarily trigger a different way of thinking.

¹⁰¹ See, e.g., Kahan et al., *supra* note 64, at 410–12 (finding that "judges can be expected to display at least some measure of immunity to cognitive biases thought to interfere with the performance of their jobs").

¹⁰² See, e.g., Charles S. Taber, Damon Cann & Simona Kucsova, *The Motivated Processing of Political Arguments*, 31 *Pol. Behav.* 137, 148 (2009).

¹⁰³ See Wistrich et al., *supra* note 53, at 890–93.

¹⁰⁴ *Id.* at 892 (also discussing an earlier version of the study with New York administrative law judges, in which the heroin offense involved a lower quantity of drugs and no list of high school contacts; the results did not reach statistical significance, and judges indicated that this less egregious heroin evidence did "not seem remarkably more troublesome than finding marijuana"); see *supra* note 88 and accompanying text.

¹⁰⁵ *Id.* at 893.

Moreover, real litigants will obviously provoke more emotional responses than hypothetical ones.¹⁰⁶

Along the same lines, Sood's experimental work on the exclusionary rule also highlighted the need for multiple stages of empirical research to connect findings from the lab to the realities of the courtroom.¹⁰⁷

C. Step 3: Confirming the Effect with Real Cases

While necessary for identifying psychological processes underlying legal decision-making and judicial behavior, the hypothetical contexts of the experiments discussed above present unavoidable limitations in regard to external and ecological validity. Testing whether judges with professional training and experience exhibit the motivated cognition effects demonstrated among lay people is an important step toward addressing these limitations, but it is also important to determine how the effects of motivating variables differ in hypothetical versus actual legal cases. So, the critical next inquiry is whether judicial decisions reflect a similar relationship between crime severity and evidentiary suppression when judges are faced with *real* facts, feelings, and consequences of a severe crime.

To this end, we now present the third leg of the empirical triangulation: an original analysis of real search-and-seizure cases that tests whether published judicial opinions manifest the motivated admissibility effect observed in the "lab." Based on the prior experimental findings, our hypothesis is that judges will be more likely to uphold the admissibility of challenged evidence in search-and-seizure cases involving more serious crimes, which we measure by the maximum penalties of the offenses.

Our study also includes two control variables that previous research has shown to affect judicial decision-making: the intrusiveness of the police search and the ideology of the opinion-writing judge. The intrusiveness of a police search that uncovers challenged evidence is doctrinally relevant to judgments about the admissibility of that evidence,¹⁰⁸ and a long line of political science work shows that this variable does indeed

¹⁰⁶ *Id.* at 900–01.

¹⁰⁷ Sood, *supra* note 15, at 1565.

¹⁰⁸ See *Davis v. United States*, 564 U.S. 229, 238 (2011); *Herring v. United States*, 555 U.S. 135, 143 (2009); Kamisar, *supra* note 22, at 2–3.

strongly influence suppression decisions.¹⁰⁹ A judge's political ideology, on the other hand, is legally irrelevant to admissibility judgments, but prior empirical findings on the influence of ideology on judicial decision-making have been mixed. Much observational work in political science has shown that judicial ideology *does* matter in legal decision-making,¹¹⁰ but some experimental work has shown circumstances in which it does *not*.¹¹¹ Thus, to obtain a fuller understanding of how judicial applications of the exclusionary rule operate in the real world, our study will investigate not only the effect of crime severity while controlling for search intrusiveness and judicial ideology, but also the direct and interaction effects of search intrusiveness and judicial ideology in search-and-seizure cases.

IV. METHODOLOGY

A. The Dataset

Our dataset was initially gathered for use in a prior study that collected the universe of criminal search-and-seizure cases from U.S. Courts of Appeals from 1961 through 1990 for a different project.¹¹² From this, a random sample of forty cases was selected for each year. The sample was then constricted to the last three natural courts (a court with the same set of justices) of the Burger Court, to control for doctrinal preferences of the Supreme Court. Following this process, the sample consisted of 610 federal search-and-seizure decisions from 1972 to 1986.¹¹³

¹⁰⁹ See, e.g., Jeffrey A. Segal, *Measuring Change on the Supreme Court: Examining Alternative Models*, 29 *Am. J. Pol. Sci.* 461, 469 (1985); Jeffrey A. Segal, *Predicting Supreme Court Cases Probabilistically: The Search and Seizure Cases, 1962–1981*, 78 *Am. Pol. Sci. Rev.* 891, 895–97 (1984); Donald R. Songer, Sue Davis, & Susan Haire, *A Reappraisal of Diversification in the Federal Courts: Gender Effects in the Court of Appeals*, 56 *J. Pol.* 425, 432–35 (1994).

¹¹⁰ See *supra* note 42.

¹¹¹ See *supra* notes 61, 64–65.

¹¹² See Charles M. Cameron, Jeffrey A. Segal & Donald R. Songer, *Strategic Auditing in Political Hierarchy: An Informational Model of the Supreme Court's Certiorari Decisions*, 94 *Am. Pol. Sci. Rev.* 101, 108 (2000).

¹¹³ Although we did not have access to more recent cases for our sample, we are confident that our findings are relevant to current day search-and-seizure judgments because the predicted motivated cognition effect is a basic feature of human psychology that has been studied for decades. See Kunda, *supra* note 72 (explaining psychological phenomenon of motivated reasoning); Avani Mehta Sood, *Motivated Cognition in Legal Judgments—An Analytic Review*, 9 *Ann. Rev. L. & Soc. Sci.* 307 (2013) (reviewing literature on motivated cognition in legal decision-making). Furthermore, Wistrich et al.'s experiments demonstrating the

For our study, we excluded fifty-six of these cases for one or more of the following reasons: the court decision did not include a clear description of the crime, the cases were state habeas petitions (for which the Supreme Court removed post-conviction federal review in *Stone v. Powell*),¹¹⁴ or they were *Bivens* cases (*civil* actions in which a petitioner files a lawsuit to recover damages due to an allegedly unlawful search).¹¹⁵ Observations that were missing data on the legislative penalty, search intrusiveness, or judge ideology variables were also excluded from the analysis. Our final sample consisted of 495 federal appellate search-and-seizure cases.

The outcome variable we measured—the courts' suppression decisions—indicated that judges upheld admission of challenged evidence in 83% of the cases and excluded challenged evidence in 17% of the cases. A much larger number of suppression determinations occur at the trial level; most of them are denied, only a small number of the denials are appealed, and the majority of such appeals are decided in favor of the government in unpublished decisions. Our sample of published search-and-seizure decisions at the federal appellate level thus potentially reflects a category of "close" and arguably important cases that not only made it up to a Court of Appeals but also merited a written decision. However, Fourth Amendment claims in Courts of Appeals may include not only strong claims from conditional plea cases but also weaker claims from trial conviction cases, so there is unavoidably a degree of "messiness" in the data.

influence of crime severity on real judges' admissibility judgments in hypothetical cases, and Spamann and Klöhn's study on motivated decision-making among judges in appellate decision-making, were conducted relatively recently. See Wistrich et al., *supra* note 54; Spamann & Klöhn, *supra* note 58. The growth of empirical research on cognitive biases in judicial decision-making, and the dissemination of such information to the bench, may hopefully make judges more aware of such influences and therefore better able to guard against them, but "debiasing" of any kind is notoriously difficult to achieve and efforts to this end are still in their infancy in the judicial arena. See Jerry Kang et al., *Implicit Bias in the Courtroom*, 59 *UCLA L. Rev.* 1124, 1126, 1172 (2012); Avani Mehta Sood, *Applying Empirical Psychology to Inform Courtroom Adjudication—Potential Contributions and Challenges*, 130 *Harv. L. Rev. Forum* 301, 313–15 (2017).

¹¹⁴ See *Stone v. Powell*, 428 U.S. 465, 494–95 (1976).

¹¹⁵ See *Bivens v. Six Unknown Named Agents*, 403 U.S. 388 (1971).

B. The Variables

The variables we investigated in our analysis of search-and-seizure cases were: (1) the severity of the defendant's crime, (2) the intrusiveness of the police search, and (3) the ideology of the opinion-writing judge. A table containing the distributions and means of every variable, including these predictor variables and the outcome variable described above, is provided in the Appendix.

1. Crime Severity

The severity of the defendant's underlying crime was the primary independent variable of interest in our study. Our measure of crime severity used the maximum legislative penalties for each of the offenses in our sample of cases as a proxy for criminal gravity, because the judicial opinions generally did not include information about the specific sentences assigned to the defendants. If a case involved multiple offenses, we coded it using the offense with the longest maximum penalty. It bears noting, however, that federal appellate courts see a relatively small set of violent crimes; the largest category of cases in their dockets tend to involve drug crimes,¹¹⁶ which judges may not consider to be as "severe" as maximum legislative penalties reflect.

Excluding life sentence and capital punishment cases, the maximum prison sentences for the cases in our sample ranged from zero to fifty years, with a mean of fifteen years in prison. The maximum sentence length variable was "continuous"—it reflected time "measured on a scale that changes values smoothly rather than in steps."¹¹⁷ The remaining 29% of crimes in the sample carried a maximum sentence of either life in prison or the death penalty: 165 cases were eligible for a life sentence, and six cases were eligible for capital punishment. These sentences had to be assigned a number on the maximum penalty variable, the value of

¹¹⁶ In our sample of cases, 49.0% of the offenses were drug crimes; 12.5% were crimes against property (including burglary, which does not inherently involve the presence of a human victim); 11.6% were gun crimes (which usually rise to bring a federal offense only when the defendant has a prior felony conviction); 10.3% were crimes against people (which involved actual or threatened physical injury to individuals, such as murder, rape, or robbery); and the remaining 16.6% were miscellaneous offenses that did not fit clearly into the above categories (such as immigration violations or not paying income taxes).

¹¹⁷ Tabachnick & Fidell, *supra* note 96, at 6.

which does not matter because we included a “dummy variable”¹¹⁸ in the model—called the “life sentence/death penalty indicator”—to capture their effect. The dummy variable was “dichotomous,” as it had two options: cases were assigned a value of “1” if they involved a life or death sentence, and a value of “0” otherwise. So, the life sentence/death penalty indicator compared the likelihood of a search being upheld between the most serious penalties (life/death) and the least serious penalties (zero years/fine only).¹¹⁹ Our results were not dependent on this particular coding choice; they were “robust” (remained consistent) across alternative ways of coding the cases involving lifelong or death sentences.¹²⁰

There are, of course, various legally irrelevant factors other than criminal severity that could drive judgments about challenged evidence in criminal cases. These include characteristics of the defendants and/or their victims, factors relating to the police officers who conducted the search in question, or even features of the attorneys litigating the case. Furthermore, the potentially motivating influence of some of these variables, such as race or other demographic characteristics of the parties involved, may be more legally intolerable than the doctrinally irrelevant influence of crime severity. The details necessary to test such characteristics, however, are almost never revealed in published cases.

2. Search Intrusiveness

We measured the publicly observable intrusiveness of the challenged search as a continuous variable, using political scientist (and co-author of this Article) Jeffrey Segal’s fact-pattern analysis of Supreme Court search-and-seizure decisions from 1962 to 1981.¹²¹ Segal’s specification

¹¹⁸ A “dummy variable,” or “indicator variable,” is “an artificial variable created to represent an attribute with two or more distinct categories/levels” by assigning “the numbers ‘0’ and ‘1’ to indicate membership in any mutually . . . exhaustive category.” Smita Skrivaneck, *The Use of Dummy Variables in Regression Analysis*, MoreSteam (2009), <https://www.moressteam.com/whitepapers/download/dummy-variables.pdf> [<https://perma.cc/25XS-JFRT>].

¹¹⁹ By including the dummy variable, the life sentence/death penalty cases can have no direct effect on the coefficient for the continuous maximum sentence variable. This can be demonstrated by thinking about how to calculate the predicted probability of a search being upheld for different values. For any case not involving a life sentence or a death penalty, the dummy variable is coded as “0,” and the continuous maximum penalty variable can range from zero to fifty years. Since the continuous maximum penalty variable varies only when the life sentence/death penalty indicator is “0,” the cases involving a life sentence or death penalty cannot have any influence on the coefficient for that variable.

¹²⁰ See *infra* Part V.A.

¹²¹ See Segal (1984), *supra* note 109, at 894–95.

was originally devised to estimate the Court's likelihood of upholding a challenged search as reasonable. It therefore examines factors relating to the nature of the search, such as where the search took place (home, person, business, car, or place over which the accused did not have a property interest, such as the house of a third party), as well as the extent of the search (a full search for the purpose of finding evidence versus a more limited exterior pat-down of a person for the safety of the officer based on reasonable suspicion that the person is armed and dangerous).¹²² In addition, the model considers prior justifications for the search (a valid warrant or probable cause), whether the search was associated with an arrest (incident to a lawful arrest, at some other time or place after a lawful arrest, or associated with an unlawful arrest), and whether various other Court-identified exceptions were applicable (e.g., border, plain view, hot pursuit, or consent search). The variables are "discrete"—they "take on a finite and usually small number of values, and there is no smooth transition from one value or category to the next" (as opposed to "continuous" variables that are measured on a scale).¹²³

Segal's fact-pattern analysis can be employed as a proxy for search intrusiveness by using the coefficients of each discrete variable in a logit regression model.¹²⁴ The logit technique "allows evaluation of the odds that a case is in one group [e.g., challenged evidence that is ultimately suppressed] . . . based on membership in various categories of predictors" (the search factors described above, such as where the search took place, the extent of the search, etc.).¹²⁵ Each factor's coefficient in the model acts as a weight to measure how much influence that factor has on the Court's suppression judgment. And since search intrusiveness is a

¹²² See *Terry v. Ohio*, 392 U.S. 1, 25–26 (1968). The classification of *Terry* stop-and-frisks as relatively "less intrusive" for these purposes is not intended to minimize the personal violation that police targets experience during such encounters. See, e.g., Paul Butler, *Stop and Frisk and Torture-Lite: Police Terror of Minority Communities*, 12 *Ohio St. J. Crim. L.* 57, 57–58 (2014).

¹²³ Tabachnick & Fidell, *supra* note 96, at 6.

¹²⁴ Cameron et al., *supra* note 112, at 109. We use a logit model because the standard regression model applied to dichotomous (binary or two-level) outcomes can return probabilities greater than 1 or less than 0, both of which are logically impossible. Logit analysis assumes the existence of an underlying predisposition for a judge to exclude evidence, but all that can be observed is the dichotomous decision to exclude evidence or not. Logit takes the log of the odds ratio of a positive response to keep predictions within the [0,1] boundary.

¹²⁵ See Tabachnick & Fidell, *supra* note 96, at 24.

major determinant of the Court's decision-making about the admissibility of evidence, the weights act as a proxy for search intrusiveness.¹²⁶

Although this approach has its limitations, as any proxy for measuring something as complicated as the intrusiveness of a police search would, Segal's model has predicted the Supreme Court's search-and-seizure decisions very well.¹²⁷ Researchers have successfully replicated the model across time and space with minor variations,¹²⁸ and twice expanded it to include subsequent terms of the Supreme Court, leading to similar results through a 75% increase in the Court's caseload from 123 to 216 cases.¹²⁹ Scholars have also successfully applied Segal's intrusiveness fact specification to study search-and-seizure decisions of judges on the U.S. Courts of Appeals.¹³⁰

In sum, we have many reasons to be confident that we can measure the publicly observable intrusiveness of searches using the Segal fact-pattern analysis: It has stood the tests of time (through various terms of the Supreme Court), space (across the Supreme Court and Courts of Appeals), and purpose (decision-making, certiorari, and lower court responsiveness). The specific construction that we used in our study is reflected in the following formula, with the coefficient weights representing the

¹²⁶ Cameron et al., *supra* note 112, at 109.

¹²⁷ See Segal & Spaeth (1993), *supra* note 42, at 220 (reporting 76% accuracy in predictions); Segal & Spaeth (2002), *supra* note 42, at 318 (reporting 77% accuracy in predictions); Segal (1985), *supra* note 109, at 464, 478 (reporting 76–79% accuracy in predictions).

¹²⁸ See Herbert M. Kritzer & Mark J. Richards, *The Influence of Law in the Supreme Court's Search-and-Seizure Jurisprudence*, 33 *Am. Pol. Res.* 33 (2005); Segal (1985), *supra* note 109 (applying the fact-pattern analysis to examine more nuanced approaches to how the Supreme Court's search-and-seizure decisions have changed by exploring whether the Court generally became more conservative over time (changes in the constant) or alternatively, whether it changed its weighting of certain variables (changes in the slopes), and finding, like previous work, that the changing constant offers the best fit); see also Segal (1986), *supra* note 42 (switching the dependent variable to the decisions of individual Supreme Court Justices to uphold the searches in question and finding that the original model works well with individual Justices too).

¹²⁹ See *supra* note 127.

¹³⁰ See, e.g., Cameron et al., *supra* note 112, at 109 (using the summary search intrusiveness score from the Segal model to examine the Supreme Court's strategic auditing of Courts of Appeals' search-and-seizure decisions); Songer et al., *supra* note 109, at 429–30 (using a sample of forty search-and-seizure cases per year from the Courts of Appeals between 1981 and 1990); Donald R. Songer, Jeffrey A. Segal, & Charles M. Cameron, *The Hierarchy of Justice: Testing a Principal-Agent Model of Supreme Court-Circuit Court Interactions*, 38 *Am. J. Pol. Sci.* 673, 690 (1994) (tying Court of Appeals responsiveness to changing Supreme Court preferences through the Segal model).

Court's demonstrated treatment of each of these variables in its search-and-seizure decisions:

$$= -3.256 \times \textit{Incident} - 1.049 \times \textit{Afterlaw} + .06 \times \textit{Unlawful} - 1.928 \times \textit{Warrant} \\ + 3.25 \times \textit{Home} + 2.054 \times \textit{Person} + 2.733 \times \textit{Business} + 2.243 \times \textit{Car} \\ - 1.411 \times \textit{Except} + 1.766 \times \textit{Extent}^{131}$$

Applying this formula to our sample of cases, the search intrusiveness variable ranged from -4.31 to 6.34, with an overall mean of 1.57. Searching a defendant's private residence without a search warrant is an example of a search that would measure high on intrusiveness under this formula. Searching a defendant's car on a public street when one of the warrant exceptions applies is an example of a search that would measure low on intrusiveness. Because the model codes exclusions of evidence as "1" and admissions of evidence as "0," the more intrusive searches have higher values. However, nothing in our results would change if we flipped this coding to assign more intrusive searches lower values instead.

3. Judge Ideology

To measure the ideology of the judges deciding the cases in our sample, we used a well-established scoring system developed by political scientists Michael Giles, Virginia Hettinger, and Todd Peppers.¹³² The Giles et al. scores are constructed by relying both upon the assumption that politicians want the appointment of judges who reflect their own ideology, and upon a senatorial courtesy by which the President making judicial appointments follows the recommendation of the Senator from the state where the judge will serve, as long as the Senator is of the same party as the President.¹³³ The common space score for the home-state Senator—a measure of revealed ideology of the President and members of Congress

¹³¹ Cameron et al., *supra* note 112, at 109.

¹³² See generally Michael W. Giles, Virginia A. Hettinger, & Todd Peppers, *Picking Federal Judges: A Note on Policy and Partisan Selection Agendas*, 54 *Pol. Res. Q.* 623, 623 (2001) (introducing new measures that "go beyond reliance on political party," examine "the relative effects of the operation of policy and partisan agendas," and assess "a more complex model of selection . . . that expressly examines the roles of senators and senatorial preferences in the [judicial] selection process").

¹³³ *Id.* at 625–29. But see Lee Epstein et al., *Ideological Drift Among Supreme Court Justices: Who, When, and How Important?*, 101 *Nw. U. L. Rev.* 1483, 1486 (2007) (noting that "the President and his supporters in the Senate cannot guarantee the 'entrenchment' of their ideology on the Court in the long, or even medium, term").

(based on roll call votes and signing/vetoing of bills) that is common across time periods, in that a specific score in one time period represents the same ideology as that score at a different time—thus becomes the ideology score for the appointed judge.¹³⁴ If no Senator in the home state is of the same party as the President, the Common Space score for the appointing President is used.

Following previous work on judicial ideology,¹³⁵ our model generally used the ideology of the opinion-writing judge rather than the median of the entire panel of appellate judges in each case, because the latter would lead to more missing data. The ideology of the panel median was used, however, for per curiam decisions issued by the court as a whole. The judicial ideology variable in our sample of cases ranged from -0.70 to 0.61 (higher numbers indicate more conservative judges), with a mean of -0.01.¹³⁶

V. RESULTS

A. Crime Severity Findings

The key finding of our analysis of real Courts of Appeals search-and-seizure decisions is that, controlling for search intrusiveness and judicial ideology, judges were more likely to uphold the admission of challenged evidence in cases involving more serious crimes, as measured by the maximum legislative penalties for the offenses. Table I below displays our logistic regression model examining the effect of crime severity on admissibility decisions.

¹³⁴ Keith T. Poole & Howard Rosenthal, *Congress: A Political-Economic History of Roll Call Voting* 25 (1997).

¹³⁵ See, e.g., Cameron et al., *supra* note 112, at 109–10.

¹³⁶ Each value on the scale does not have a defined ideological meaning. For example, there is no point on the scale where we can say all judges to the right of this point are conservative or all judges between these two points are moderate. Instead, the meaning of the points on the scale comes only from comparing two points to each other: A score of 0.2 indicates a more conservative judge than one with a score of 0.1, and a score of -0.4 represents a more liberal judge than one with a score of 0.

Table 1: Logistic Regression of Maximum Penalty and Evidence Admissibility in Federal Appellate Search-and-Seizure Decisions.¹³⁷

<i>Variables</i>	<i>Evidence Admitted</i>
Natural log of maximum sentence	.49* (.11)
Life or death sentence	1.15* (.46)
Search intrusiveness	-.63* (.11)
Judge ideology	.62 (.49)
Constant	1.93* (.46)
Observations	495

* $p < 0.05$ (one-tailed)
Standard errors in parentheses

The first variable for crime severity is the natural log¹³⁸ of the maximum sentence length for the offenses (the continuous variable). The

¹³⁷ The dependent variable was coded "1" if the evidence was admitted and "0" if the evidence was excluded. The model used a logit link function. See Appendix Table A1 for information about the exact p -values of the main coefficients.

¹³⁸ The "natural log" is a mathematical transformation used to change a variable with a substantial number of high and low "outlying" observations ("with such an extreme value . . . that it distorts statistics") into a variable that more closely resembles a "normal distribution" (a distribution of a variable that is "smooth, unimodal, and symmetrically arrayed about its mean"). Tabachnick & Fidell, *supra* note 96, at 72; see also Geoffrey Keppel & Thomas D. Wickens, *Design and Analysis: A Researcher's Handbook* 135 (4th ed. 2004). We use the natural log of the maximum penalty because the difference between zero and twenty years in the perceived severity of the penalty should be greater than the difference between twenty and forty years. Both twenty-year and forty-year sentences are likely to be perceived as very severe penalties. Since the natural log of 0 is "undefined" in the same way that any number divided by 0 is undefined, we added 1 to the maximum sentence length before taking the natural log of that variable. An undefined number is "[a]n expression in mathematics which does not have meaning and so which is not assigned an interpretation." Eric W. Weisstein,

second crime severity variable is the separate dichotomous life sentence/death penalty indicator (coded 1 for crimes involving a maximum penalty of life in prison or the death penalty, and 0 otherwise). Both these crime severity variables in our analysis were significant at $p < .05$. This shows that the longer the maximum prison sentence for the crime, or if the case involved a life sentence or the death penalty, judges were more likely to uphold the admissibility of challenged evidence.

Figure 1 below displays the predicted probability of the challenged evidence being admitted in cases with maximum sentences ranging from zero to forty years,¹³⁹ along with 95% confidence intervals. The figure also includes a dot representing the predicted probability of challenged evidence being admitted in a case involving a life sentence or the death penalty, along with bars to represent the 95% confidence intervals. Moving from a penalty of zero years (i.e., a fine only) to a prison sentence of forty years moved the predicted probability of the evidence being admitted from 72% up to 94%.¹⁴⁰ The probability of the evidence being admitted for a case involving a life sentence or the death penalty was 88%.¹⁴¹

Undefined, MathWorld, <http://mathworld.wolfram.com/Undefined.html> [<https://perma.cc/22-V6-C5S4>] (last visited Jun. 27, 2018).

¹³⁹ Two cases involved crimes with maximum penalties of fifty years. These were included in the sample used in the analysis, but they were excluded from Figure 1 so as not to exaggerate the real-world effects of the crime severity variable with these two data points at the tail-end of the distribution.

¹⁴⁰ Because the legislative penalties are logged, it could matter whether we measure this variable in years or months. However, we found that the p values on the coefficients barely change when the years were recoded to months. See robustness test reported in Appendix Table A1.

¹⁴¹ The difference between the predicted probability of evidence being admitted in a case with a life sentence or death penalty and a case with a forty-year maximum penalty was not statistically significant at $p < .05$.

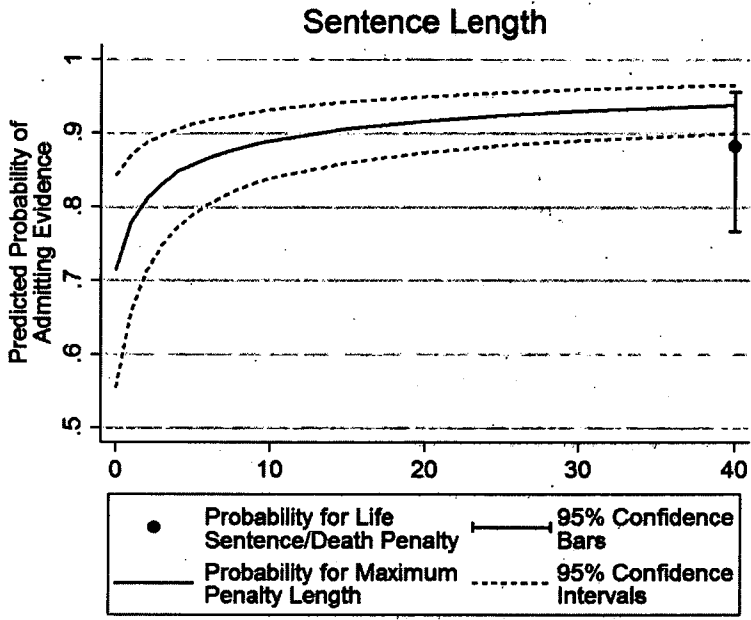


Figure 1: The maximum legislative penalty measure of crime severity (in years) and the predicted probability of challenged evidence being admitted (from 0 to 1) in federal appellate search-and-seizure cases. The data for the graph come from the model in Table 1, which includes the continuous maximum sentence length variable, the life sentence/death penalty indicator, search intrusiveness, and judge ideology. The predicted probabilities and confidence intervals were calculated using CLARIFY.¹⁴²

Most of the increase in the probability of a challenged search being upheld occurred in cases that carried maximum sentences of between zero and ten years. When the maximum sentence for the offense was ten years, the predicted probability of evidence being admitted was 88%. This suggests that judges were likely to treat any crime with a penalty of over ten years as serious, leading to a “ceiling effect” for the sentence length variable (“a measurement limitation that occurs when the highest possible score or close to the highest score on a test or measurement instrument is

¹⁴² See Gary King, Michael Tomz & Jason Wittenberg, Making the Most of Statistical Analyses: Improving Interpretation and Presentation, 44 Am. J. Pol. Sci. 347, 348 (2000).

reached”).¹⁴³ The result is not likely to be due to crime severity varying more for crimes with penalties between zero and ten years than for crimes with penalties between ten and forty years, given that there was still a substantial increase of six percentage points when moving from ten to forty years.

Our results did not depend on having separate variables for the life/death sentences and the other maximum sentences. If only one maximum penalty variable was used instead, and the cases involving life imprisonment or death were coded as the highest observed value on the continuous maximum sentence variable (fifty years in prison), the unified variable was positive and statistically significant at $p < .05$. The results were also not dependent on including the cases involving a life or death sentence in the sample. If those cases were excluded from the analysis, the coefficient on the length of the maximum sentence variable barely changed (from 0.49 to 0.47) and was still significant at $p < .05$.

We clustered the standard errors in the model by federal court circuit because observations within the same circuit are not completely independent of each other. There could be, for example, differences in circuit precedent independent of Supreme Court precedent, circuit variation in types of cases that come before the appellate courts, and internal decision-making norms and cultures that vary by circuit. However, even when random and fixed effects for each circuit were included in the model, both the maximum sentence length variable and the life sentence/death penalty indicator remained statistically significant at $p < .05$.

Our results were also consistent across a series of robustness checks (see Appendix for details). First, the results did not change if we used the judicial ideology scoring method from Songer et al.¹⁴⁴ instead of the Giles et al. scores.¹⁴⁵ Second, the results did not change if the model included fixed effects for each federal circuit court or fixed effects for each year (which control for time, given that these are longitudinal data). Third, the results did not change if we switched the coding of the maximum sentence length variable from years to months. Thus, none of these robustness checks dispute the main finding that federal Courts of Appeals judges were significantly less likely to exclude challenged evidence in search-and-seizure cases involving higher-penalty crimes.

¹⁴³ Tish Holub Taylor, Ceiling Effect, *in* 1 Encyclopedia of Research Design 132 (Neil J. Salkind ed., 2010).

¹⁴⁴ Songer et al., *supra* note 130, at 680.

¹⁴⁵ Giles et al., *supra* note 132, at 630–31.

B. Intrusiveness & Ideology Findings

Turning now to the effects of the doctrinally relevant variable of search intrusiveness and the irrelevant variable of judicial ideology: Table 1 above shows that search intrusiveness was statistically significant on its own at $p < .05$ in our model, suggesting that judges are taking this factor into consideration in their suppression judgments regardless of their ideology or the severity of the underlying crime. Judge ideology, on the other hand, did not exert a significant independent effect on admissibility decisions.¹⁴⁶ This is a noteworthy null finding given the extensive scholarly and public discourse about the influence of political ideology on judicial decision-making.¹⁴⁷

Judge ideology did, however, *interact* with crime severity to exert a significant effect on suppression judgments—but only in cases involving a life sentence or the death penalty. In fact, the only interaction that was significant at $p < .05$ between crime severity and either search intrusiveness or judge ideology was between the life sentence/death penalty indicator and judge ideology. This means that conservative and liberal judges exhibited no significant differences in the way they treated cases that did *not* involve a life sentence or the death penalty; judges across the political spectrum were generally less likely to suppress challenged evidence as the underlying crime's sentence length increased. However, judicial ideology did predict markedly different responses to cases that involved life in prison or capital punishment.¹⁴⁸

For a conservative judge at the 95th percentile of the ideology measure (with higher percentages indicating more conservative ideological views), the predicted probability of the search being upheld in a case involving life imprisonment or the death penalty was 97%; whereas for a liberal judge at the 5th percentile of the ideology measure, the predicted probability of the search being upheld in such cases was 71%. More conservative judges thus treated life sentence and death penalty cases like they treated cases that carried maximum sentences of fifty years in prison: Consistent with our general hypothesis, they were *least* likely to suppress challenged evidence in these cases involving the most severe crimes. But counter to our general hypothesis, more liberal judges treated the life

¹⁴⁶ See Keppel & Wickens, *supra* note 138, at 197.

¹⁴⁷ See *supra* note 42.

¹⁴⁸ It was not empirically possible to differentiate between the respective effects of the life sentence and death penalty cases in this interaction because there were only six death penalty cases, which was too small a sample to test separately from the life sentence cases.

sentence and death penalty cases like they treated cases of the most minor crimes that carried no prison term at all: Challenged evidence at both ends of the crime severity spectrum thus had a *higher* probability of being suppressed by judges who were more liberal.

VI. DISCUSSION

A. *The Influence of Crime Severity*

Our analysis of suppression determinations in real search-and-seizure cases suggests that federal Courts of Appeals judges generally appear significantly less likely to exclude challenged evidence in cases involving crimes that carry higher maximum penalties as compared with lower penalties (with the exception of cases involving the highest penalties interacting with strongly liberal judge ideology). The findings of this large-*N* study of actual judicial decisions at the appellate level thus provide compelling observational evidence that the motivated admissibility effect demonstrated with hypothetical cases in previous experimental work¹⁴⁹ is seen in judicial behavior in the real legal world as well.

While the methodology employed in this study shows a statistical tendency in judicial suppression determinations and does not itself demonstrate that the outcome of any particular case resulted from motivated cognition, our results are consistent with the experimental evidence from Sood's earlier work that supported the motivated justice explanation for this effect.¹⁵⁰ When considered in conjunction with those findings, as well as Wistrich et al.'s experimental replication with judges,¹⁵¹ our observational study adds important triangulating dimensions of external, ecological, and convergent validity to the conclusion that the doctrinally irrelevant variable of crime severity is likely to influence judicial decisions about the admissibility of challenged evidence.

B. *Interactions with Intrusiveness & Ideology*

Our examination of the search intrusiveness and judge ideology variables in this study sheds further light on judicial applications of the exclusionary rule. The finding that search intrusiveness influenced judges'

¹⁴⁹ See Sood, *supra* note 15, at 1562–65; Wistrich et al., *supra* note 53, at 890–93; *supra* Part III.B–C.

¹⁵⁰ See Sood, *supra* note 15, at 1562–65; *supra* Part III.B.

¹⁵¹ See Wistrich et al., *supra* note 53; *supra* Part III.C.

admissibility decisions is compatible with the Supreme Court's doctrinal interpretations that take the egregiousness of police conduct into account.¹⁵² The influence of judge ideology, however, was more complicated. Ideology did not exert a significant influence on judges' suppression judgments in the majority of cases, which did not carry a life sentence or the death penalty. This finding supports recent research that has given "reason to discount the pervasive claim" of ideological bias in judicial decision-making.¹⁵³ Yet, our results also indicate that the legal training and experience of Courts of Appeals judges did not insulate their judgments from an interaction between the doctrinally irrelevant variables of ideology and crime severity when the stakes were highest: Whether the authoring judge was more liberal or more conservative significantly mattered to suppression outcomes in cases that involved a life sentence or the death penalty.

As reported above, more conservative judges treated the life sentence/death penalty cases akin to cases with the longest sentences short of life in prison (i.e., fifty years). So, the combination of ideologically *conservative* judges and *highest* penalty cases resulted in a *lower* likelihood of suppression. On the other hand, more liberal judges treated cases that carried a life sentence or the death penalty like they treated the most minor cases that carried no prison term. So, the combination of ideologically *liberal* judges and *highest* penalty cases resulted in a *higher* likelihood of suppression.

Although our study does not shed empirical light on *why* liberal and conservative judges diverged in their applications of the exclusionary rule to the most serious criminal cases, we can offer some hypotheses for further testing. Crimes punishable by a life sentence or the death penalty are likely to be particularly egregious, and this may have exacerbated conservative judges' motivations to punish. Cases involving the most severe crimes may put judicial decision-makers into a threat-oriented mindset, and political psychology experiments have indicated that threat and uncertainty increase "motivated closed-mindedness," perceptions of "the world as more dangerous," and "affinity for political

¹⁵² See *supra* note 108.

¹⁵³ Kahan et al., *supra* note 64, at 422; see also Wistrich et al., *supra* note 53, at 899 ("We also found little support for the proposition that political ideology drives much judicial decision making at the trial level.").

conservatism”¹⁵⁴—but *not* ideological extremism generally (i.e., among liberals).¹⁵⁵ Furthermore, studies suggest that individuals with conservative values generally tend to hold more punitive views about criminal justice and tend to prioritize retribution and communal safety over defendants’ civil liberties in criminal contexts.¹⁵⁶ Thus, when the underlying crime in a search-and-seizure case was egregious enough to merit a punishment of life in prison or the death penalty, it may have exerted a particularly strong motivating effect on the admissibility judgments of judges who were more conservative to begin with.¹⁵⁷

Meanwhile, the life sentence and death penalty cases in which the defendant’s entire life was quite literally on the line may have served as a “wake-up call” for liberal judges, leading them to deliberately maximize typically liberal priorities of due process and protection of criminal defendants’ rights.¹⁵⁸ The gravity of the defendant’s sentence may have exerted an awareness-generating effect that curtailed the covertly motivating influence of an extra-legal factor like crime severity on the liberal judges’ admissibility judgments.¹⁵⁹ In fact, this trigger may arguably have pushed the liberal judges in an opposite direction toward “over-

¹⁵⁴ See Hulda Thórisdóttir & John T. Jost, *Motivated Closed-Mindedness Mediates the Effect of Threat on Political Conservatism*, 32 *Pol. Psychol.* 785, 785 (2011).

¹⁵⁵ See *id.* at 788; John T. Jost et al., *Are Needs to Manage Uncertainty and Threat Associated with Political Conservatism or Ideological Extremity?*, 33 *Personality & Soc. Psychol. Bull.* 989, 1004 (2007) (demonstrating that “uncertainty and threat management contribute independently to self-reported political conservatism” and these variables are “both associated with conservative (rather than liberal) opinions”).

¹⁵⁶ See, e.g., John S. Carroll et al., *Sentencing Goals, Causal Attributions, Ideology, and Personality*, 52 *J. Personality & Soc. Psychol.* 107, 116 (1987); Monica M. Gerber & Jonathan Jackson, *Authority and Punishment: On the Ideological Basis of Punitive Attitudes Towards Criminals*, 23 *Psychiatry, Psychol. & L.* 113, 115 (2016); David Jacobs & Jason T. Carmichael, *The Politics of Punishment Across Time and Space: A Pooled Time-Series Analysis of Imprisonment Rates*, 80 *Soc. Forces* 61, 68–69 (2001).

¹⁵⁷ See Erwin Chemerinsky, *The Rehnquist Court and the Death Penalty*, 94 *Geo. L.J.* 1367, 1381–82 (2006) (“[S]ome of the recent decisions expanding the rights of criminal defendants have not been split along traditional ideological lines. . . . However, the willingness of conservatives on the Court to expand the protections for criminal defendants has not extended to the death penalty context.”).

¹⁵⁸ See, e.g., David G. Savage, *California Killer’s Case Back Before Supreme Court*, *L.A. Times* (Nov. 2, 2009), <http://articles.latimes.com/2009/nov/02/nation/na-deathrow2> [<https://perma.cc/46LL-32KK>] (differentiating Courts of Appeals that are “dominated by conservative judges who are inclined to reject appeals and uphold death sentences,” versus one that “has a core of liberal judges who say it is their duty to carefully scrutinize capital cases”).

¹⁵⁹ See Sood (2013), *supra* note 113.

correction,"¹⁶⁰ given that they proceeded to treat the *highest* penalty cases in the same manner as they treated the *lowest* penalty cases. This interaction may also reflect liberal judges' general dissatisfaction with the punitiveness of life-in-prison and death penalty sentences, leading them to either deliberately or less-than-consciously correct for the harshness of the federal punishment regime through their suppression determinations.

The ideology-extreme crime severity interaction observed in our study is consistent with previous findings by Sood and psychologist Kevin Carlsmith in experimental work that tested psychological motives underlying public support for torture-interrogation.¹⁶¹ The utilitarian justification most often cited for the use of severe interrogation in the context of counterterrorism is that such methods could extract useful information to help avert future threats.¹⁶² Indeed, participants in Carlsmith and Sood's experiments generally recommended more severe interrogation as a target's likelihood of having useful knowledge increased from 0%, to 5%, to 60%, to 95%. However, the data additionally "support[ed] the hypothesis that people's endorsement of harsh interrogation techniques may be fuelled [sic], at least in part, by retributive motives."¹⁶³ The participants were significantly more likely to recommend severe interrogation of a target they perceived as morally bad due to prior bad acts, as compared with a target they perceived as morally neutral—even when they were told there was a 0% chance the target had any useful knowledge.¹⁶⁴ People thus appeared to use severe interrogation as a proxy for punishment.¹⁶⁵

Of particular relevance to our present study, Carlsmith and Sood found that the target's perceived moral status, his likelihood of having useful knowledge, and the decision-makers' self-reported political ideology

¹⁶⁰ See Richard E. Petty, Duane T. Wegener & Paul H. White, Flexible Correction Processes in Social Judgment: Implications for Persuasion, 16 *Soc. Cognition* 93, 96, 109 (1998); Samuel R. Sommers & Saul M. Kassin, On the Many Impacts of Inadmissible Testimony: Selective Compliance, Need for Cognition, and the Overcorrection Bias, 27 *Personality & Soc. Psychol. Bull.* 1368, 1370 (2001); Sood, *supra* note 15, at 1598–99.

¹⁶¹ See Kevin Carlsmith & Avani Mehta Sood, The Fine Line Between Interrogation and Retribution, 45 *J. Experimental Soc. Psychol.* 191, 191, 195 (2009).

¹⁶² See *id.* at 191.

¹⁶³ *Id.* at 195.

¹⁶⁴ *Id.* at 193–94.

¹⁶⁵ *Id.* at 193, 195 (noting that this effect was found even when the participants had an opportunity to punish the target for his prior bad acts, separate from their interrogation recommendations); see also Avani Mehta Sood & Kevin M. Carlsmith, Aggressive Interrogation and Retributive Justice: A Proposed Psychological Model, in *Ideology, Psychology, and Law* 574, 574–604 (Jon Hanson ed., 2012) (discussing further experimental research on the psychology of public views toward severe interrogation).

exerted the following three-way interaction effect on recommended interrogation:

The main difference between Democrats and Republicans appeared in the extreme case in which there was a[] [morally] innocent target that almost certainly had critical information (95% chance-of-knowledge). Democrats, perhaps reflecting the values of fairness and protection of civil liberties, recommended against harsh interrogations in this scenario; Republicans, perhaps reflecting the values of protecting the state, recommended for harsh interrogations.¹⁶⁶

Thus, conservatives recommended interrogating more harshly in the most high-stakes cases (as predicted), but liberals unexpectedly reduced their interrogation recommendations in those cases. This is analogous to the pattern we observed in our study of conservative judges being more likely to uphold the admissibility of challenged evidence in extremely high-penalty cases (as predicted), but liberal judges being less likely to do so.

Carlsmith and Sood speculated on how the contentious political discourse around the topics of torture and terrorism at the time of their experiment may have contributed to the ideologically-driven interaction their data uncovered:

[G]iven that the use of severe interrogation techniques has become such a charged partisan issue, Republicans might have felt obligated to toe the party line by voicing support for methods that the current administration has condoned. At the other end of the spectrum, . . . [p]erhaps Democrats fear that in the current political climate, an innocent target with such a high likelihood of knowledge would have a high chance of being subjected to harsh interrogation methods, so they go to the other extreme Especially given that the use of severe interrogation techniques has become the topic of such intense political debate, the scenario of a highly vulnerable detainee might trigger an impulse to advocate for the traditionally Democratic position of an absolute ban on torture.¹⁶⁷

¹⁶⁶ Carlsmith & Sood, *supra* note 161, at 194, 196 (citation omitted) (also noting that “Republicans generally support more severe sentences for criminal offenses, so their corresponding support of more severe interrogation methods is consistent with the proposition that a similar psychological mechanism underlies these two types of decisions” (citation omitted)).

¹⁶⁷ *Id.* at 196.

Like severe interrogation, both the exclusionary rule and the death penalty are politically charged topics. This may explain why judicial ideology became statistically salient in the potentially highest-profile cases in our sample.

C. Legal Implications

The interdisciplinary, mixed-methods approach we draw upon in this Article allows for more confident insights into judicial behavior and a more accurate description of legal doctrine in operation. As our results indicate, that description may include principles that are doctrinally unacknowledged, like motivated *non*-applications of the exclusionary rule in cases of severe crime. In other words, we now have converging empirical evidence of a covertly operating "murder scene exception" to Fourth Amendment protections, despite judicial assertions to the contrary.¹⁶⁸

If judges informally but systematically treat more severe crimes differently from less severe ones in their suppression determinations—albeit without explicit acknowledgment or conscious awareness—the outcomes can look much the same as if the Supreme Court had issued a deliberated decision curbing application of the exclusionary rule in more serious criminal cases. In both scenarios, illegally gathered evidence may be used against a defendant in court because he or she allegedly committed a severe crime. The difference, however, is that when this outcome results from a hidden cognitive process rather than through transparent legal channels, a version of the exclusionary rule that has been formally rejected nonetheless becomes, in effect, the law of the land.

This phenomenon risks eroding the legitimacy of the justice system.¹⁶⁹ Criminal law scholar John Kaplan suggested:

[B]y purporting to apply the exclusionary rule in all classes of cases without actually doing so, the courts are paying the full political price without any real gain. Unfortunately, a major disadvantage of an empty threat is that sooner or later its objects realize its hollowness. Finally, the lack of integrity inherent in a false threat seriously weakens respect for the judicial process.¹⁷⁰

¹⁶⁸ See *supra* notes 31–32 and accompanying text.

¹⁶⁹ See Sood, *supra* note 15, at 1600–01.

¹⁷⁰ Kaplan, *supra* note 22, at 1046.

To address these risks, the triangulated findings we report suggest that rather than debating about whether the Court *should* create a crime severity exception to the exclusionary rule,¹⁷¹ the more relevant question is whether the judiciary should either *formalize* or attempt to *curtail* the already-existing severity consideration that judges appear to de facto apply. As criminal law scholar William Stuntz noted: “[S]olutions to hard problems can never be found unless the system grapples with the right questions. That is the central problem with Fourth Amendment law as it stands today: it fails to ask the right questions. . . . A healthy legal system should at least take a stab at answering them.”¹⁷²

An exclusionary doctrine that formally takes the nature of a defendant’s crime into account would risk further increasing the influence of this variable in admissibility judgments, perhaps even making it dispositive. Police officers might be emboldened to engage in overly intrusive searches when dealing with more severe crimes, which would undermine the exclusionary rule’s deterrence goal and defendants’ Fourth Amendment protections when the stakes are at their highest.¹⁷³ However, the extent to which this may already be occurring, with implicit judicial acquiescence, obstructs other important criminal justice values such as transparency and notice.

If the legal system wants to uphold these due process values without compromising Fourth Amendment protections for criminal defendants, it could pursue interventions to help ensure that judges apply the exclusionary rule according to its transsubstantive terms. Lawmakers, judges, legal scholars, and psychologists could work together to identify and test cognitive and legal strategies to close entry points for the influence of crime severity in admissibility judgments. For instance, Sood has shown in prior work that explicitly calling attention to the potentially motivating effect of a defendant’s crime can help curtail the impact of this doctrinally irrelevant factor on lay decision-makers’ suppression judgments.¹⁷⁴ Variations of this strategy could be devised and tested for judicial decision-makers too.¹⁷⁵ Jurists have also proposed legal changes, such as holding the government to a higher “clear and convincing” standard for invoking

¹⁷¹ See *supra* notes 25–26.

¹⁷² Stuntz, *supra* note 16, at 875.

¹⁷³ See *United States v. Calandra*, 414 U.S. 338, 347 (1974); *Jacobi*, *supra* note 26, at 652.

¹⁷⁴ Sood, *supra* note 15, at 1566–75, 1577–79.

¹⁷⁵ See *id.* at 1603–05 (discussing potential applications of findings to judges).

the inevitable discovery exception,¹⁷⁶ or eliminating broad exceptions to the exclusionary rule.¹⁷⁷ Of course, such doctrinal revisions may be no less politically contentious than legally creating a "murder scene exception" to the rule.¹⁷⁸

If curtailing the motivated admissibility effect demonstrated by our empirical triangulation is normatively desirable,¹⁷⁹ identifying the right means of doing so will require further research on the mechanism underlying the effect. The observational methodology employed in our study does not directly shed light on why judges are less likely to suppress challenged evidence in cases involving severe crimes. While our results are congruous with Sood's motivated justice hypothesis and supporting experimental findings,¹⁸⁰ there are arguably other potential explanations for the demonstrated effect.

For example, if judges are indeed engaging in less-than-conscious motivated decision-making, the motivation to admit challenged evidence in serious criminal cases may stem not from the judges' own intuitive punishment goals, but rather, from concerns about negative public responses or further judicial review that may follow if they are not sufficiently "tough on crime."¹⁸¹ If judges' motivated admissibility determinations reflect anticipated psychological reactions to crime severity by *other* actors whose opinions matter to them, this would hold different implications for curtailing the effect.

¹⁷⁶ See *Williams II*, 467 U.S. 431, 459 (1984) (Brennan, J., dissenting) (challenging the lower preponderance of the evidence standard the majority adopted for the inevitable discovery exception).

¹⁷⁷ See Myron W. Orfield, Jr., *Deterrence, Perjury, and the Heater Factor: An Exclusionary Rule in the Chicago Criminal Courts*, 63 U. Colo. L. Rev. 75, 128–29 (1992) (suggesting eliminating the "good faith" exception, see *supra* note 83 and accompanying text).

¹⁷⁸ See *id.* at 75 (noting that "[f]rom its inception, the exclusionary rule has spurred intense and often rancorous debate between liberals and conservatives").

¹⁷⁹ See Sood, *supra* note 15, at 1599–1603 (discussing normative implications of motivated applications of the exclusionary rule); Wistrich et al., *supra* note 53, at 906–07 (noting that "[t]he answer depends on the relative importance one places on technically accurate as opposed to societally acceptable outcomes").

¹⁸⁰ See Sood, *supra* note 15, at 1562–65, 1570–73.

¹⁸¹ See, e.g., Akhil Reed Amar, *The Future of Constitutional Criminal Procedure*, 33 Am. Crim. L. Rev. 1123, 1125 (1996) ("[M]ajorities elect Presidents, and Presidents, with the advice and consent of Senators, pick federal judges."); Paul Brace & Brent D. Boyea, *State Public Opinion, the Death Penalty, and the Practice of Electing Judges*, 52 Am. J. Pol. Sci. 360, 367 (2008); Dripps, *supra* note 22, at 21 ("The pressure to circumvent the exclusionary rule is not confined to state courts or elected judges."); Kaplan, *supra* note 22, at 1040 (noting that even the Supreme Court is "only temporarily isolated from public opinion" because "it is clear that the Presidents who appoint Supreme Court Justices follow the election returns").

Alternatively, either punishment motives or publicity/review concerns could be triggering *deliberately* outcome-driven suppression decisions in cases of severe crime, which would also call for different types of interventions. If the observed influence of crime severity in admissibility judgments is a product of conscious judicial choice, institutional reforms that place greater checks and constraints on judges would be more useful than cognitive awareness-generating strategies. For example, Wistrich et al. suggested: “[C]ourts might be able to do more to separate case management and admissibility functions from case resolution functions by assigning two judges to each case. This might shield the judge deciding the case from exposure to emotionally laden suppressed evidence, for example.”¹⁸²

Fully answering the complex normative and policy questions of whether and how to address motivated applications of the exclusionary rule will also require thorough consideration of logistical feasibility and the potential downstream effects of any course of action on the behavior of police, potential criminal actors, attorneys, judges, and other stakeholders in the criminal justice process.¹⁸³ However, the converging data points accumulated through the empirical triangulation described in this Article give empirical teeth to what criminal law and procedure scholars have suggested across decades of anecdotal observations: If Fourth Amendment values “can better be served by more complex action than by simple statement, we should prefer reality to illusion.”¹⁸⁴

D. Alternative Explanations

As noted upfront, observational studies are limited in regard to internal validity because potentially confounding variables cannot be entirely isolated and controlled.¹⁸⁵ Although our data support our hypothesis that crime severity influences suppression judgments, alternative explanations could account for our observation of less suppression in more serious criminal cases, if factors that co-vary with crime severity are driving the probability of challenged searches being upheld.

Such factors could relate to the decision-making of various actors involved in search-and-seizure cases other than judges. For instance,

¹⁸² Wistrich et al., *supra* note 53, at 909–10.

¹⁸³ See, e.g., Kaplan, *supra* note 22, at 1050–55.

¹⁸⁴ *Id.* at 1055; see also Stuntz, *supra* note 172 and accompanying text.

¹⁸⁵ See *supra* Part II.B.

defendants facing higher penalties for more severe crimes may be more likely to seek evidentiary exclusion regardless of how intrusively the evidence in question was obtained. This would mean that, on average, defendants charged with more serious crimes may be requesting exclusion on less promising (i.e., lower intrusiveness) grounds.¹⁸⁶ Furthermore, law enforcement officials may be particularly careful when conducting investigations in more serious cases because the stakes are high. This would suggest suppression of challenged evidence is less likely in cases of severe crime because those searches are actually more likely to have been conducted within the bounds of the law.¹⁸⁷

Prosecutors are likely to play a role in this dynamic too, especially when serious crimes are under investigation. Describing the relationship between prosecutors and law enforcement agents in the federal system as "a bilateral monopoly," criminal procedure scholar Daniel Richman observed that prosecutors have a "significant voice in agency decisionmaking" during criminal investigations due to various factors, including their "legal expertise and professional ties to judges [that] can provide agencies with the promise of greater success or some insulation (should their work be condemned on review)."¹⁸⁸ However, this may come with strings attached: "[T]he rational prosecutor may be quicker to veto an agency's investigative plans than a close reading of the relevant case law might require."¹⁸⁹ Particularly in investigations of high-stakes crime, prosecutors may invest more effort in proactively protecting against potential Fourth Amendment challenges, which is likely to have a downstream effect on how judges respond to such challenges.¹⁹⁰

¹⁸⁶ See Daniel Richman, *Prosecutors and Their Agents, Agents and Their Prosecutors*, 103 *Colum. L. Rev.* 749, 785 (2003).

¹⁸⁷ But see Minzner, *supra* note 27, at 940 (asserting to the contrary that "law enforcement is more likely to be more aggressive for high-priority searches." Officers would be unwilling to risk their success rates on nonviolent drug cases, but they would be more likely to roll the dice if the target of the search is a potential terrorist.").

¹⁸⁸ Richman, *supra* note 186, at 758, 778–94 (also discussing other factors, including prosecutors' "control over the charging process and relative expertise in predicting how the use of particular tactics would play out in the adjudicative process," "the control that the law has given or encouraged prosecutors to exercise over the use of critical investigative tools," and cultural elements of prosecutor-agent relationships).

¹⁸⁹ *Id.* at 785–86 (further noting that "the lawyer's bias against risk may have a cognitive basis as well" and that prosecutors may be "more likely to face review and condemnation for authorizing action than for vetoing it").

¹⁹⁰ See *id.* at 786 (suggesting that "the 'costs' to agencies (measured as power lost to prosecutors) are presumably greatest in those areas in which judicial intervention is most likely, or in which the information acquisition tools controlled by prosecutors are most needed").

If these factors relating to the search intrusiveness variable are driving our findings more than judge's psychological responses to the severity of the crimes themselves, the measurement error for search intrusiveness would likely be correlated with the crime severity variable in the study. In particular, if defendants are more likely to challenge evidence in more serious cases regardless of actual search intrusiveness, or if agents and prosecutors are more likely to ensure that searches are conducted carefully in serious cases, we would expect crime severity to be inversely correlated with intrusiveness scores (i.e., the higher the crime severity, the less intrusive the search). But our analysis shows that the relationship of search intrusiveness to the maximum legislative penalties for the cases in our sample was *not* statistically significant. This suggests that search intrusiveness was similar across the different levels of crime severity in the cases we studied.

It is impossible, however, to perfectly measure a real-life variable like the intrusiveness of a police search. No observational study of actual case law can pinpoint causality or fully control for unobserved variable bias stemming from unmeasured aspects of a variable. This inherent methodological limitation is precisely why we advocate for combining experimental and observational methods—which use different measures and thereby have uncorrelated measurement errors—to present converging evidence of the phenomenon under investigation. Especially in light of the replication crises facing empirical sciences today,¹⁹¹ we propose that an empirical triangulation approach provides a promising and robust model for studying judicial behavior.

E. Future Directions

Building upon this work, a valuable next empirical step would be to investigate whether our study's observation of motivated admissibility judgments in appellate courts replicates at the trial level. There are a number of differences between trial and appellate courts that may lead judges on these respective benches to respond differently to the doctrinally irrelevant variable of crime severity in suppression determinations. Aside from their much larger case load,¹⁹² trial judges generally preside over

¹⁹¹ See Sood (2017), *supra* note 113, at 308; Krin Irvine, David A. Hoffman, & Tess Wilkinson-Ryan, Law and Psychology Grows Up, Goes Online, and Replicates, 15 *J. Empirical Legal Stud.* 320, 323–24 (2018).

¹⁹² See Guthrie et al., *supra* note 44, at 4–5 (listing several reasons why trial judges are important to study: (1) They “play a more prominent role in dispute resolution than do

cases in an individual capacity rather than as a panel, and they often directly observe and/or hear from police officers, witnesses, criminal defendants, and victims. Trial judges also generally make suppression judgments in a tighter timeframe than appellate judges, and start "from scratch" rather than reviewing a lower court's decision.

Furthermore, when trial judges are ruling on suppression motions, the defendants before them are technically innocent until proven guilty, which might attenuate the motivated admissibility effect. In contrast, the Courts of Appeals judges in our sample were ruling on cases in which defendants had already been convicted, so the effect of crime severity in suppression determinations at this level may have been enhanced by "outcome bias"—the influence of a known outcome in after-the-fact decision-making.¹⁹³ The prior experimental work by Sood¹⁹⁴ and Wistrich et al.¹⁹⁵ described in Part II, however, indicates that the admissibility judgments of lay decision-makers and judges are motivated by the nature of the defendant's alleged crime even *before* the defendant has been convicted, at least in hypothetical cases. Moreover, Wistrich et al. have suggested that differences between trials and appellate courts "do not strongly suggest that appellate judges are better able to place affect [i.e., feelings/emotion] aside than are trial judges."¹⁹⁶

It would also be worth examining whether our hypothesis and findings in regard to federal cases bear out in search-and-seizure cases at the state level. State court systems process a larger and broader set of crimes. Moreover, state judges face a different set of institutional incentives and constraints as compared with the federal bench. Such factors may increase, decrease, or have no bearing on the influence of crime severity on suppression determinations, but this can be known only through empirical testing.

appellate judges"; (2) trial courts "handle approximately 98% of the thirty-five million cases that the federal and state courts resolve each year"; and (3) "trial court decisions are generally final because appeals are only available on limited bases, occur infrequently, and seldom lead to reversal").

¹⁹³ See, e.g., Jonathan Baron & John C. Hershey, Outcome Bias in Decision Evaluation, 54 *J. Personality & Soc. Psychol.* 569, 570 (1988).

¹⁹⁴ See Sood, *supra* note 15, at 1564–79.

¹⁹⁵ See Wistrich et al., *supra* note 53, at 890–92, 909 (but noting that "[t]he judges in our research . . . decided on the basis of an equally cold record, in which they did not see people or even photographs, but instead—like appellate judges—based their decisions on verbal descriptions alone").

¹⁹⁶ See *id.* at 908–09.

We recommend that follow-up observational studies on search-and-seizure decisions—whether state or federal, trial or appellate—take steps to address two potential limitations in our design. First, they could try to include more recent cases in their samples, to test for possible changes that may have occurred over time in regard to legislative penalties for criminal offenses or judicial approaches toward suppressing challenged evidence.¹⁹⁷ Second, future studies could try to devise and employ a measure of crime severity based directly on how judges perceive the seriousness of crimes, to account for the possibility that the legislative penalties we used as a proxy for crime severity in our study may not align with judicial intuitions in this regard.¹⁹⁸

Finally, given that our findings suggest that admissibility decisions may be susceptible to influences of judge ideology in some circumstances but not in others, it would be helpful for future work to disentangle different potentially motivating extra-legal factors and their parameters. For example, researchers could try to empirically identify differences between the motivating influences of ideologically charged factors (e.g., “involving culturally contested matters—from gay rights to gun control”) that may trigger “identity-protective cognition” in lay people to a greater extent than in judges,¹⁹⁹ versus more identity-neutral factors (e.g., the egregiousness of a crime in a transsubstantive doctrinal context) that may less discriminately motivate decision-makers across political and professional divides.²⁰⁰

CONCLUSION

Beyond this study’s important implications for Fourth Amendment doctrine, our findings more generally illustrate a core theme of social psychology at play in a high-stakes arena of judicial decision-making: an empirically observable discrepancy between what the criminal justice system outwardly maintains and what it unknowingly or even tacitly allows. This potential dynamic, which risks eroding rule of law values and the legitimacy of the bench, merits empirical investigation in other doctrinal contexts too. Applying psychology theory and the mixed-methods trian-

¹⁹⁷ But see *supra* note 113.

¹⁹⁸ See *supra* Part IV.B.1.

¹⁹⁹ Kahan et al., *supra* note 64, at 350–51, 354–55.

²⁰⁰ See, e.g., Wistrich et al., *supra* note 53, at 898–99 (finding “clear evidence that emotions influence judges” but “little support for the proposition that political ideology drives much judicial decision making at the trial level”).

gulation approach we operationalize here to studying judicial applications of legal doctrines more broadly could help advance a more holistic empirical understanding of judges and laws in action.

APPENDIX

Table A1: Robustness Checks of Crime Severity Findings

<u>Check</u>	<u>Result</u>
The <i>p</i> -values for main coefficients from model in Table 1.	Natural log of the maximum sentence length variable in Table 1's model: $p < .001$ (two-tailed). Life sentence/death penalty indicator in Table 1's model: $p = .01$ (two-tailed).
Substituting Songer et al. ideology measure ²⁰¹ for Giles et al. ideology score. ²⁰²	Using the Songer et al. ideology measure rather than the Giles et al. score does not change the results: both the maximum sentence length and the indicator for life sentence/death penalty remain significant at $p < .05$. Furthermore, there are no changes when this analysis is checked with clustering by federal circuit.
Adding interaction of crime severity variables with search intrusiveness.	If interactions between search intrusiveness and both (a) maximum sentence length and (b) the life sentence/death penalty indicator are added to the model in Table 1, both are insignificant ($p > .10$). Again, there are no changes when this is checked with federal circuit clustering.
Adding interaction of crime severity variables with Giles et al. ideology score. ²⁰³	The interaction between ideology and the maximum sentence length variable is near 0, with $p = .96$. However, the interaction with the life sentence/death penalty indicator is significant, with $p = .02$. The latter interaction shows that conservative judges treat life or death sentences like cases with the highest maximum penalty of fifty years, while liberal judges treat life or death sentences like cases with extremely low sentence penalties (near zero). ²⁰⁴

²⁰¹ Songer et al., *supra* note 130, at 680.

²⁰² Giles et al., *supra* note 132.

²⁰³ *Id.*

²⁰⁴ See *supra* Part VI.B for discussion of this finding.

Adding triple interaction between search intrusiveness, Giles et al. ideology score, ²⁰⁵ and crime severity.	If this triple interaction and its constituent double interactions are added to the model in Table 1, they are insignificant ($p > .10$). Furthermore, there are no changes when this analysis is checked with clustered standard errors.
Adding fixed effects for each federal circuit.	Running a model that includes fixed effects for each circuit does not change the results. Both the natural log of the maximum sentence length variable and the life sentence/death penalty indicator remain statistically significant with $p < .05$.
Adding fixed effects for each year.	Running a model that includes fixed effects for each year does not change the results. Both the natural log of the maximum sentence length variable and the life sentence/death penalty indicator remain statistically significant with $p < .05$.
Changing the coding of the legislative penalties analysis from years (logged) to months.	When the coding of the legislative penalties analysis is changed from years to months, the p values on the coefficients barely change. The predicted probabilities for a sentence of forty years (i.e., 480 months) changes to 0.93 (compared to 0.94). The predicted probability for cases with a life or death sentence does not change (it remains at 0.88). Furthermore, there are no changes when this analysis is checked with clustered standard errors.

²⁰⁵ Giles et al., *supra* note 132.

Table A2: Distribution of Variables

	<u>Mean</u>	<u>Standard Deviation</u>	<u>Minimum</u>	<u>Maximum</u>
Maximum Sentence	5	12	0	50
Natural Log of the Maximum Sentence	1.79	1.35	0	3.93
Search Intrusiveness	1.89	1.97	-4.31	6.34
Judge Ideology	-0.01	0.33	-0.70	0.61
Search Upheld	0.83	0.37	0	1
Life Sentence/Death Penalty Indicator	0.29	0.45	0	1