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## REASONABLE EXPECTATIONS OF PRIVACY AND AUTONOMY IN FOURTH AMENDMENT CASES: AN EMPIRICAL LOOK AT "UNDERSTANDINGS RECOGNIZED AND PERMITTED BY SOCIETY"

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### INTRODUCTION

This Article reports an attempt to investigate empirically important aspects of the Fourth Amendment to the United States Constitution, as construed by the United States Supreme Court. In the course of doing so, it touches upon two other topics. Most directly, it addresses the appropriate scope of the Fourth Amendment. Less directly, it raises questions about the role that empirical research should play in fashioning constitutional rules.

The Fourth Amendment requires that all searches and seizures be reasonable, and that warrants authorizing searches or seizures be based on probable cause.<sup>1</sup> Central to the Supreme Court's interpretation of this language is the phrase "reasonable expectations of privacy." First appearing in Justice Harlan's concurring opinion in *Katz v. United States*,<sup>2</sup> this rubric has since been adopted by a majority of the Court to serve at least three major purposes.<sup>3</sup>

1. In relevant part, the Fourth Amendment provides: "The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause . . ." U.S. CONST. amend. IV.

2. 389 U.S. 347, 360 (1967) (Harlan, J., concurring) (the Fourth Amendment protects places where "a person has a constitutionally protected reasonable expectation of privacy").

3. A fourth purpose that "reasonable expectations of privacy" analysis might serve, not discussed here, is determining when a "third party" may validly consent to a search of property. Although it has not expressly used "reasonable expectations of privacy" language in this context, the Supreme Court has used language that resonates with the concept, stating that when two people have "joint access or control" over property "for most purposes," either may consent to a search of it. *United States v. Matlock*, 415 U.S. 164, 171 n.7 (1974). At the same time, because the Court has indicated that a third-party consent will be valid whenever an officer reasonably believes such joint access or control exists, see *Illinois v. Rodriguez*, 497 U.S. 177, 188-89 (1990), this area of Fourth Amendment jurisprudence is not as amenable to the type of research reported in this Article, as should become clear below. See *infra* text accompanying notes 23-28, 68.

Most important, it is used to define the word "search" in the Fourth Amendment. An action by law enforcement officers that does not infringe on "reasonable expectations of privacy" is not a "search," and therefore need not be authorized by a warrant, or be based on probable cause, or be in any other way "reasonable." Using this rationale, the Court has held that rummaging through garbage,<sup>4</sup> trespassing on private property beyond the curtilage of the home,<sup>5</sup> flying airplanes and helicopters over backyards,<sup>6</sup> using undercover agents,<sup>7</sup> subpoenaing bank records,<sup>8</sup> and a host of other investigative activities<sup>9</sup> are not regulated by the Fourth Amendment.

The phrase is also found, usually with the word "legitimate" replacing the word "reasonable," in the Court's Fourth Amendment standing cases, which address when a police action is a "search" with respect to a particular person. Only a person whose own "legitimate" expectations of privacy have been violated may invoke the "exclusionary rule,"<sup>10</sup> the sanction the Court has developed for deterring Fourth Amendment violations.<sup>11</sup> Thus, for instance, a defendant may not be able to suppress items found during a search of a car in which he is merely a one-time passenger.<sup>12</sup>

The "expectations of privacy" concept is important to Fourth Amendment jurisprudence in a third way. Even if particular police conduct infringes on privacy to the extent necessary to constitute a "search" the defendant has standing to contest, it may not be subject to the "usual" warrant and probable cause requirements if it is thought to invade relatively less significant privacy interests. The Court has held, for instance, that mobile vehicles may be

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4. *California v. Greenwood*, 486 U.S. 35, 40-41 (1988).

5. *Oliver v. United States*, 466 U.S. 170, 180 (1984).

6. *Florida v. Riley*, 488 U.S. 445, 450 (1989) (helicopter); *California v. Ciraolo*, 476 U.S. 207, 213-14 (1986) (airplane).

7. *United States v. White*, 401 U.S. 745, 749 (1971).

8. *United States v. Miller*, 425 U.S. 435, 441-43 (1976).

9. *See, e.g., Hudson v. Palmer*, 468 U.S. 517, 525-26 (1984) (search of jail cell); *Smith v. Maryland*, 442 U.S. 735, 742-43 (1979) (obtaining list of phone numbers from phone company).

10. *Rakas v. Illinois*, 439 U.S. 128, 143 (1978).

11. *See Mapp v. Ohio*, 367 U.S. 643, 655 (1961).

12. These are the facts of *Rakas*, 439 U.S. at 148-49, where the Court held that a "passenger *qua* passenger" will rarely have an expectation of privacy recognized by the Fourth Amendment.

searched without a warrant, in part because there are "reduced expectations of privacy" in such vehicles.<sup>13</sup> Further, the Court has permitted warrantless, suspicionless, drug and alcohol testing of railway employees, in part on the ground that "the expectations of privacy of covered employees are diminished by reason of their participation in an industry that is regulated pervasively to ensure safety."<sup>14</sup> A number of other Court decisions have relied on a finding of lowered privacy expectations in sanctioning searches in the absence of a warrant and probable cause.<sup>15</sup>

The Fourth Amendment is meant to regulate "seizures" of persons as well as searches for things. Given the infringement on "locomotion" involved in a seizure,<sup>16</sup> one might more accurately characterize the concern here in terms of reasonable expectations of "autonomy" rather than of "privacy." Although the Court has not used either phrase in defining seizure under the Fourth Amendment, the Court's language invokes the autonomy concept. Consider, for instance, the Court's first attempt to define seizures of persons outside the context of arrest, which came a year after *Katz*, in *Terry v. Ohio*.<sup>17</sup> There the Court stated that a seizure occurs "whenever a police officer accosts an individual and restrains his freedom to walk away."<sup>18</sup> Subsequently, the Court variously characterized a seizure as occurring when "a reasonable person would have believed that he was not free to leave"<sup>19</sup> or when "a reasonable person . . . was not at liberty to ignore the police presence and go about his business."<sup>20</sup> Its most recent pro-

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13. *California v. Carney*, 471 U.S. 386, 392 (1985).

14. *Skinner v. Railway Labor Executives' Ass'n*, 489 U.S. 602, 627 (1989).

15. See, e.g., *O'Connor v. Ortega*, 480 U.S. 709, 725 (1987) (quoting *Camara v. Municipal Court*, 387 U.S. 523, 537 (1967)) (warrant and probable cause not required in a search involving a public employee's workplace, desk, and files, in part because "the employer intrusions at issue here 'involve a relatively limited invasion' of employee privacy"); *United States v. Biswell*, 406 U.S. 311, 316 (1972) ("When a [gun] dealer chooses to engage in this pervasively regulated business and to accept a federal license, he does so with the knowledge that his business records, firearms, and ammunition will be subject to effective inspection."); *Camara*, 387 U.S. at 537 (residential safety inspections "involve a relatively limited invasion").

16. See Tracey Maclin, *The Decline of the Right of Locomotion: The Fourth Amendment on the Streets*, 75 CORNELL L. REV. 1258, 1328-30 (1990) (discussing the Supreme Court's mistaken emphasis on privacy interests).

17. 392 U.S. 1 (1968).

18. *Id.* at 16.

19. *United States v. Mendenhall*, 446 U.S. 544, 554 (1980).

20. *Michigan v. Chesternut*, 486 U.S. 567, 569 (1988).

nouncement on the autonomy concept came in *Florida v. Bostick*,<sup>21</sup> where it stated that police confrontation implicates the Fourth Amendment only when it has communicated to a reasonable person that the person is not "free to decline the officers' requests or otherwise terminate the encounter."<sup>22</sup>

For the most part, the Court has been content with fleshing out the meaning of the phrases "reasonable expectations of privacy" and "reasonable feelings of restraint" through their application to specific cases. But the Court has also provided two significant guidelines as to how these phrases should be interpreted. The first guideline came in *Rakas v. Illinois*,<sup>23</sup> where the majority opinion, by then-Associate Justice Rehnquist, stated that "[l]egitimation of expectations of privacy by law must have a source outside of the Fourth Amendment, either by reference to concepts of real or personal property law or to understandings that are recognized and permitted by society."<sup>24</sup> Most important for present purposes is the last clause of this excerpt, which indicates the Court's willingness to rely on societal understandings in defining "reasonable expectations of privacy." Although this language appeared in a footnote, and was directed solely toward defining the standing concept, it has since been relied upon in the text of several other cases involving the "search" issue, often rephrased in terms of expectations of privacy "society is prepared to recognize as 'reasonable.'"<sup>25</sup>

The second guideline came from the same footnote in *Rakas*. According to the Court, the use of the word "legitimate" or "reasonable" before "expectations of privacy" is meant to convey "more than a subjective expectation of not being discovered."<sup>26</sup> As the Court explained,

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21. 111 S. Ct. 2382 (1991).

22. *Id.* at 2389.

23. 439 U.S. 128 (1978).

24. *Id.* at 144 n.12.

25. The latter language actually first appeared in Justice Harlan's concurring opinion in *Katz v. United States*, 389 U.S. 347, 361 (1967) (Harlan, J., concurring), but was not picked up until cases following *Rakas*. See, e.g., *California v. Greenwood*, 486 U.S. 35, 39-40 (1988) (searches of garbage); *California v. Ciraolo*, 476 U.S. 207, 211 (1986) (overflights of backyards); *United States v. Jacobsen*, 466 U.S. 109, 122 (1984) (search of package).

26. *Rakas*, 439 U.S. at 143 n.12.

[a] burglar plying his trade in a summer cabin during the off season may have a thoroughly justified subjective expectation of privacy, but it is not one which the law recognizes as "legitimate." His presence . . . is "wrongful"; his expectation is not "one that society is prepared to recognize as 'reasonable.'"<sup>27</sup>

In short, the Fourth Amendment does not protect expectations of privacy that only a criminal would have.

The Court's seizure cases also reflect these guidelines. While they do not rely on community values as explicitly as the search cases do, their repeated use of the "reasonable person" rubric suggests a similar reliance on what the average citizen would feel with respect to restraints on freedom of action. And the notion that the Fourth Amendment threshold is to be determined from the viewpoint of the non-criminal has been firmly endorsed. In *Florida v. Bostick*, the majority stated that "the 'reasonable person' test [adopted in that case with respect to seizures] presupposes an *innocent* person."<sup>28</sup>

Accordingly, if one takes the Justices at their word, a sense of how (innocent) U.S. citizens gauge the impact of police investigative techniques on their privacy and autonomy is highly relevant to current Fourth Amendment jurisprudence. This Article describes an effort to obtain some preliminary data in this regard. We conducted a survey of 217 individuals to ascertain their understanding of the interests implicated by various types of police investigative techniques. Although tentative, the results strongly suggest that some of the Court's decisions regarding the threshold of the Fourth Amendment and the warrant and probable cause requirements do not reflect societal understandings. Indeed, some of the Court's conclusions in this regard may be well off the mark.

A second goal of our research was to reach some understanding of the types of factors people consider in evaluating the intrusiveness of a search or seizure. Based on our results, we develop three theories of intrusiveness. These theories suggest that there are institutional reasons why judges might tend to underestimate the privacy and autonomy interests infringed on by police actions, a tendency that might be counteracted by empirical research of the type described here.

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27. *Id.* at 143-44 n.12 (citing *Katz*, 389 U.S. at 361 (Harlan, J., concurring)).

28. 111 S. Ct. 2382, 2388 (1991).

## I. RESEARCH DESIGN

A. *Hypotheses*

Given the goals described above, we set out to obtain information about how people react to various types of investigations undertaken by the police. With respect to searches, we wanted to discover their expectations of privacy in the searched area. With respect to seizures, we wanted to discern the extent to which they felt restrained by the police action. More succinctly, we were interested in how society perceives the "intrusiveness" of government investigative methods. Using the single word "intrusiveness" is less cumbersome than speaking about the impact of government conduct on reasonable expectations of privacy or the extent to which one feels free to terminate an encounter with the police. At the same time, "intrusiveness" captures the core of the construct we sought to investigate, as evidenced by the Court's reliance on the word—in both search cases and seizure cases—when referring to Fourth Amendment interests.<sup>29</sup>

We developed four working hypotheses. Based on previous findings concerning judicial misperceptions about privacy in the related area of consent searches,<sup>30</sup> our first hypothesis was that many of the Court's conclusions about expectations of privacy and autonomy do not correlate with actual understandings of innocent

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29. With respect to searches, see, e.g., *Maryland v. Buie*, 494 U.S. 325, 333-34 (1990) ("Nor do we here suggest, as the State does, that entering rooms not examined prior to the arrest is a de minimis intrusion that may be disregarded."); *Oliver v. United States*, 466 U.S. 170, 182-83 (1984) ("The test of legitimacy is not whether the individual chooses to conceal assertedly 'private' activity [but instead is] whether the government's intrusion infringes upon the personal and societal values protected by the Fourth Amendment."); accord *United States v. Chadwick*, 433 U.S. 1, 13 (1977) ("With the footlocker safely immobilized, it was unreasonable to undertake the additional and greater intrusion of a search without a warrant."); *Chambers v. Maroney*, 399 U.S. 42, 51 (1970) (stating, with respect to a search of a car and its seizure, that "which is the 'greater' and which the 'lesser' intrusion is itself a debatable question"); *Schmerber v. California*, 384 U.S. 757, 769-70 (1966) (holding that "searches involving intrusions beyond the body's surface" are protected by the Fourth Amendment); see also *supra* note 15.

With respect to seizures, see, e.g., *Michigan Dep't of State Police v. Sitz*, 496 U.S. 444, 451-53 (1990) (discussing "minimal intrusion" of sobriety checkpoints); *United States v. Martinez-Fuerte*, 428 U.S. 543, 563 (1976) (discussing "minimal intrusion" of immigrant checkpoints); *United States v. Watson*, 423 U.S. 411, 428 (1976) (Powell, J., concurring) (arguing that arrest is "a serious personal intrusion regardless of whether the person seized is guilty or innocent").

30. See Dorothy K. Kagehiro et al., *Reasonable Expectation of Privacy and Third-Party Consent Searches*, 15 LAW & HUM. BEHAV. 121 (1991).

members of society (Hypothesis 1). We expected to find, for instance, that most people maintain a strong expectation of privacy in information given to a bank, contrary to the Court's holding in *United States v. Miller*<sup>31</sup> that one assumes the risk that such information will be disclosed to the government.<sup>32</sup>

In anticipation of finding this first hypothesis valid, our remaining three hypotheses focused on *why* societal perceptions of intrusiveness might be underestimated by the judiciary. The first hypothesis on this score was that searches or seizures of one's own property or person are perceived as more intrusive than those of others (Hypothesis 2). If so, the judges, whose cases invariably involve police actions that happen to other people, might undervalue the intrusiveness of searches and seizures, at least as perceived by those members of society who have experienced them or something similar to them.

We also conjectured that a search or seizure with a specified objective (for example, a stop on the street to frisk for drugs) is viewed as less intrusive than an investigative action with no clear aim (for example, a stop on the street), because the former action seems more "justified" (Hypothesis 3). If so, the courts—which usually evaluate a search and seizure only if it has met its objective—may again systematically underestimate the intrusiveness of various police actions, at least as gauged by the "innocent" person the Supreme Court tells us to assume. Most directly, the courts may tend to undervalue the innocent person's sense of invasion in those cases in which the police do not explain themselves.<sup>33</sup> Even

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31. 425 U.S. 435 (1976).

32. *Id.* at 443.

33. See, e.g., *Brown v. Texas*, 443 U.S. 47 (1979) (officers approached Brown and asked him to identify himself and state what he was doing in the area, without explaining their suspicions); *Terry v. Ohio*, 392 U.S. 1 (1968) (without explaining his actions, officer approached Terry and two others, asked their names and, when they "mumbled something," grabbed Terry, spun him around so that he was facing the other two, and patted down the outside of his clothing); cf. *Florida v. Bostick*, 111 S. Ct. 2382 (1991) (two uniformed, armed officers confronted Bostick on a bus and asked to inspect his ticket and identification, before explaining that they were looking for illegal drugs). The lack of communication between officers and targets is exacerbated by the Supreme Court's willingness to sanction pretextual searches. See, e.g., *United States v. Villamonte-Marquez*, 462 U.S. 579 (1983) (government officials boarded sailboat ostensibly to check documents but in fact to look for evidence of drug smuggling). Even searches based on warrants which, if read by the target of the search, should provide notice as to the government's objective, can be misleading. Cf. *Horton v. California*, 496 U.S. 128 (1990) (warrant need not list all items for which police have probable cause or reasonable suspi-

in those cases in which a target knows the police objective, the courts' evaluation is likely to be tainted by their further knowledge that the objective was *achieved* (for example, the drugs were found);<sup>34</sup> obviously, such knowledge does not facilitate understanding of the innocent person's perspective.

A final hypothesis had to do with the relationship between perceptions of intrusiveness and attitudes toward the criminal justice system, the latter as conceptualized by Professor Herbert Packer. Packer described two perspectives on the criminal process: the crime control model, which is based on the proposition that repression of criminal conduct is the overriding objective of the criminal justice system, and the due process model, which insists on the protection of the liberty and due process rights of suspects and criminals even at the cost of freeing the guilty.<sup>35</sup> The hypothesis in connection with these models was that intrusiveness rankings are directly related to due process attitudes and inversely related to crime control attitudes (Hypothesis 4). If so, the current Court, which is decidedly crime control-oriented,<sup>36</sup> predictably would opt for less generous assessments of intrusiveness.

#### B. *Materials and Administration*

As the first step toward testing these hypotheses, we developed the Intrusiveness Rating Scale, which depicts in abbreviated form fifty different search and seizure scenarios derived primarily from Supreme Court or lower court cases. To provide additional information relevant to Hypotheses 2 and 3, each scenario was varied according to Person (First and Third) and Evidence (No or Yes). In the First Person condition, the description of the scenario was phrased as if the survey participant were the target of the search or seizure. In the Third Person condition, it was implied that another person was being searched. The No Evidence condi-

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cion).

34. This knowledge results, of course, from the fact that search and seizure issues are typically raised in the context of a criminal prosecution, through a suppression motion which attempts to exclude evidence discovered by the police. *See generally* CHARLES H. WHITEBREAD & CHRISTOPHER SLOBOGIN, *CRIMINAL PROCEDURE* § 2.01 (3d ed. 1993).

35. Herbert L. Packer, *Two Models of the Criminal Process*, 113 U. PA. L. REV. 1, 5-23 (1964).

36. *See, e.g.*, Geoffrey R. Stone, *O.T. 1983 and the Era of Aggressive Majoritarianism: A Court in Transition*, 19 GA. L. REV. 15 (1984).

tion did not specify any particular goal of the search, whereas the Yes Evidence condition described the specific evidence being sought or crime being investigated. A 2 x 2 factorial design produced the following four groups of variations: (1) First Person/No Evidence present (for example, "A search of *your* garbage can"); (2) Third Person/No Evidence (for example, "A search of *a* garbage can"); (3) First Person/Evidence (for example, "A search of *your* garbage can for evidence of forgery"); and (4) Third Person/Evidence (for example, "A search of *a* garbage can for evidence of forgery").

Each subject received a form describing the fifty scenarios, consistently using one of the four variations described above. The participants were asked to assume, as dictated by the Supreme Court's caselaw,<sup>37</sup> that the person who was searched or seized (or who possessed the property being searched or seized) was innocent. In addition, they were asked to assume that the search or seizure was conducted by government agents and that it was nonconsensual. They were then requested to rate, on a scale of 0 to 100, the extent to which they considered each method "an invasion of privacy or autonomy," with 0 representing "Not At All Intrusive" and 100 representing "Extremely Intrusive." It would have been consistent with these instructions to rate each of the scenarios at "0" or at "100," although we expected to find wide variations between scenarios.

To test Hypothesis 4, attitudes toward crime control were measured by the Attitudes Toward Crime Control Scales earlier developed by Professor Schumacher.<sup>38</sup> The Scales consist of twenty-two items (for example, "The presumption of guilt is necessary to control crime"), which subjects were asked to rate on a seven-point anchored scale from 1 ("Strongly Disagree") to 7 ("Strongly Agree").<sup>39</sup> The responses on these scales were then compared to the responses on the Intrusiveness Rating Scale.

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37. See *supra* text accompanying notes 27-28.

38. Joseph E. Schumacher, Measuring Attitudes Toward Crime Control: The Attitudes Toward Crime Control Scales, Paper Presented at the American Psychological Association Annual Conference (Aug. 1991).

39. The Scales have been found to be reliable (with internal consistency coefficients of  $r = .73$  (see *infra* note 128 for an explanation of this figure)). They are also valid measures of crime control and due process attitude constructs, as related to authoritarianism, predictions of recidivism, and differential tolerance of errors in judicial decisions. *Id.*

### C. *Subjects*

Four groups of subjects ( $N = 217$ ) were recruited on a voluntary basis to complete the Intrusiveness Rating Scale and the Attitudes Toward Crime Control Scales: (1) undergraduate students just beginning a University of Southern California course in law and society ( $n = 79$ ); (2) University of Florida law students who had not yet taken a course in criminal procedure ( $n = 52$ ); (3) citizens from the general community in Gainesville, Florida ( $n = 25$ ); and (4) Australian law students from Monash University, in Melbourne ( $n = 61$ ). The sample consisted of approximately half males and half females, primarily of the Caucasian race (with a larger number of Hispanics, Latinos, and Asians in the USC sample). It ranged in age from eighteen to seventy (average age = twenty-four), with an average education at the sophomore college level.

## II. TESTING HYPOTHESIS 1: INTRUSIVENESS RANKINGS

### A. *Results*

Table 1 presents the scenarios in the Intrusiveness Rating Scale, each ranked (henceforth designated by "R") according to the mean obtained by averaging the intrusiveness ratings from all 217 subjects across all four conditions. On this scale, the least intrusive search and seizure scenario was a search of foliage in a park ( $R = 1$ ), and the most intrusive was a body cavity search at the international border ( $R = 50$ ). Table 1 also provides the mean intrusiveness rating (henceforth designated by "M") and the standard deviation for each scenario (henceforth designated by "S.D.").

TABLE 1  
INTRUSIVENESS RANKINGS AND MEANS OF  
SEARCH AND SEIZURE SCENARIOS

R	Scenario	M	S.D.
1.	Looking in foliage in public park	6.48	15.74
2.	Going through magnetometer at airport	13.47	18.74
3.	Shining flashlight down dark alley next to home	18.33	25.64
4.	Inspecting exterior of car in public lot	19.46	21.98
5.	Looking through burned-down house	30.26	30.85
6.	Searching jail cell	30.63	27.87
7.	Inspecting kitchen of restaurant	31.14	28.15
8.	Following pedestrian in police car	32.73	39.85
9.	Stopping all drivers at roadblock to view occupants	37.06	29.55
10.	Flying 400 yards above backyard in helicopter	40.32	30.44
11.	Inspecting plumbing and wiring of residence	42.51	30.25
12.	Pat-down at border	42.76	38.70
13.	Going through garbage in opaque bags at curbside	44.95	30.85
14.	Stopping drivers at roadblock for 30-second questioning at night	46.41	31.19
15.	Obtaining a voiceprint	48.21	31.74
16.	Searching a coal mine	52.17	35.35
17.	Searching a private junkyard	54.15	29.04
18.	Using a beeper to track car	54.46	36.14
19.	Pat-down	54.76	31.84
20.	Search of newspaper office	56.31	31.42
21.	Search of cornfields surrounded by fence and "No Trespassing" signs	56.58	28.99
22.	Fingerprinting in back of police car	57.39	31.11
23.	Dog sniff of body	58.33	31.58
24.	Searching bedroom of probationer	59.85	30.27
25.	Searching a sixth-grader's locker	60.32	28.26
26.	Rummaging through suitcase at airport	60.93	27.72
27.	Going through drawers at office	63.11	27.43
28.	Arrest, handcuffing, and detention for 48 hours	65.58	24.84
29.	Looking in trunk of car on public street	67.20	31.77
30.	Searching interior of car on public highway	67.53	26.33
31.	Using chauffeur as undercover agent	67.56	24.82
32.	Searching footlocker found in car	67.91	28.47
33.	Watching person in front yard with binoculars	68.63	24.34
34.	Using secretary as undercover agent	68.98	32.32
35.	Searching yacht at sea	69.11	24.75
36.	Questioning on public sidewalk for 10 minutes	69.45	33.16
37.	Searching a garage	71.20	22.41
38.	Perusing bank records	71.60	24.81
39.	Accompanying to urinal at work and listening for sounds of urination	72.49	26.43

TABLE 1 (CONTINUED)

Rank	Scenario	Mean	S.D.
40.	Hospital surgery on shoulder	74.17	30.06
41.	Searching high school student's purse	75.14	37.90
42.	Tapping into corporation's computer	75.21	22.78
43.	Search of college dormitory room	76.13	24.52
44.	Boarding a bus and asking to search luggage	77.22	23.66
45.	Searching mobile home	77.68	21.04
46.	Needle in arm at work to get blood	84.94	22.19
47.	Search of a bedroom	85.23	18.45
48.	Reading a personal diary	85.56	20.73
49.	Monitoring phone for 30 days	87.67	19.00
50.	Body cavity search at border	90.14	18.18

The overall rankings for many of the scenarios conform in a broad way with the Supreme Court's holdings. For instance, hospital surgery on a shoulder ( $R = 40$ ), a search of a bedroom ( $R = 47$ ), and bugging a phone ( $R = 49$ ) are seen as very intrusive searches, as the Court's cases suggest they should be.<sup>40</sup> At the other end of the scale, searches of jail cells ( $R = 6$ ), flying over backyards ( $R = 10$ ), and going through garbage ( $R = 13$ ) are viewed as relatively unintrusive, again in conformity with the Court's decisions.<sup>41</sup> In between are searches of cars ( $R = 29, 30$ ) and of luggage in cars ( $R = 32$ ), as the Court's caselaw would predict.<sup>42</sup> In the seizure domain, a ten-minute stop is seen as fairly intrusive ( $R = 36$ ), whereas being followed by a police car ( $R =$

40. See *Winston v. Lee*, 470 U.S. 753, 759-63 (1985) (surgery in shoulder to find bullet requires probable cause, a finding that surgery does not threaten safety or health of individual, and a finding that it does not unnecessarily impinge on the "individual's dignitary interests"); *Chimel v. California*, 395 U.S. 752, 763-65 (1969) (search of house normally requires warrant based on probable cause, in the absence of exigency); *Berger v. New York*, 388 U.S. 41, 55 (1967) (phone tap requires warrant based on probable cause particularly describing offense involved and communications to be intercepted and limiting duration of tap).

41. See *Hudson v. Palmer*, 468 U.S. 517 (1984) (investigation of jail cell not a search); *Florida v. Riley*, 488 U.S. 445 (1989) (helicopter overflight not a search); *California v. Greenwood*, 486 U.S. 35 (1988) (going through garbage not a search).

42. See *California v. Carney*, 471 U.S. 386, 391-92 (1985) (vehicle searches implicate Fourth Amendment and require probable cause, but do not require warrant, in part because vehicles are associated with lesser expectation of privacy); *California v. Acevedo*, 111 S. Ct. 1982, 1989 (1991) (container placed in car associated with lesser expectation of privacy; no warrant required).

8) and being stopped at a nighttime roadblock (R = 14) are not, all in rough congruence with Court decisions.<sup>43</sup>

Of at least equal interest, however, is the apparent disagreement with other Court holdings concerning the extent to which particular types of investigative actions implicate privacy or autonomy interests. For instance, the Court has held that police use of undercover agents to obtain information does not violate "justifiable expectations of privacy," because one assumes the risk that one's acquaintances will reveal confidences.<sup>44</sup> The survey participants, in contrast, found various types of undercover activity, including covert use of a chauffeur (R = 31) and a secretary (R = 34), to be very intrusive, at least as invasive as, for instance, searches of cars (R = 29, 30). Along the same lines, whereas *United States v. Miller*<sup>45</sup> held that a bank depositor "takes the risk, in revealing his affairs to another, that the information will be conveyed by that person to the Government,"<sup>46</sup> the scenario involving government perusal of bank records received a high ranking (R = 38) and mean score (M = 71.60).

The Court has also held that police entry onto fenced-in private property outside the curtilage of the home is not a search,<sup>47</sup> and has strongly suggested that a "dog sniff" of a person does not implicate the Fourth Amendment.<sup>48</sup> Yet both of these police actions received fairly high rankings (R = 21 and R = 23, respectively) and mean scores (M = 56.58 and M = 58.33, respectively). In-

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43. See *Terry v. Ohio*, 392 U.S. 1, 26 (1968) (investigative stop not as intrusive as an arrest but still a seizure); *Michigan v. Chesternut*, 486 U.S. 567 (1988) (following a pedestrian in police car not a seizure); *Michigan Dep't of State Police v. Sitz*, 496 U.S. 444 (1990) (sobriety checkpoint conducted at night a seizure, but only minimally intrusive).

44. *United States v. White*, 401 U.S. 745, 751 (1971).

45. 425 U.S. 435 (1976).

46. *Id.* at 443.

47. *Oliver v. United States*, 466 U.S. 170 (1984).

48. *United States v. Place*, 462 U.S. 696, 707-08 (1983). Arguably, the Court's language concerning the Fourth Amendment's application to dog sniffs was *dictum*, as the Court subsequently decided that the seizure permitting the dog sniff was unconstitutional. *Id.* at 709. Lower courts, however, have not treated it as such. See, e.g., *United States v. Colyer*, 878 F.2d 469 (D.C. Cir. 1989). The Court's rationale for finding that canine sniffs of luggage are not searches could easily be applied to sniffs of persons. The Court noted that the sniff (1) "does not require opening the luggage"; (2) "does not expose noncontraband items that otherwise would remain hidden from public view"; (3) "discloses only the presence or absence of narcotics, a contraband item"; and (4) "ensures that the owner of the property is not subjected to the embarrassment and inconvenience entailed in less discriminate and more intrusive investigative methods." *Place*, 462 U.S. at 707.

deed, both are ranked at the same general level as a "frisk" (R = 19, M = 54.76), which, according to the Court, is a search for Fourth Amendment purposes, albeit one that can be conducted based on reasonable suspicion, a lower certainty level than probable cause.<sup>49</sup>

Even some of the lowest rankings call into question Supreme Court conclusions on the scope of the Fourth Amendment. As noted above,<sup>50</sup> the Court has held that inspections of jail cells (R = 6), helicopter overflights (R = 10), and rummaging through garbage (R = 13) are not searches. Yet it has also held that inspections of burned-down houses and safety inspections of residences (ranked in the same general range, at R = 5 and R = 11, respectively) do implicate the Fourth Amendment.<sup>51</sup> Similarly, the Court considers a thirty-second roadblock stop (R = 14) a seizure (albeit one which requires virtually no suspicion),<sup>52</sup> but has held that compelling a person to speak for purposes of obtaining a voiceprint (R = 15) is not.<sup>53</sup> If, as the rankings suggest, these various types of government conduct involve similar infringements on privacy and autonomy, the Court's differential treatment of them may be suspect.

Frequent contrasts between the Court's decisions and the survey's results also occur when one looks at those police actions that the Court has been willing to label a "search" or "seizure," but that have not been accorded "full" Fourth Amendment protections (that is, requiring a warrant based on probable cause) because of perceived reduced privacy or autonomy expectations. For instance, the Court has held that searches of offices for work-related infractions do not require probable cause, and may not require even reasonable suspicion, in part because of the conclusion that a person has a reduced expectation of privacy at the office.<sup>54</sup> Yet this scenario was ranked at 27, with a mean of 63.11,

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49. *Terry v. Ohio*, 392 U.S. 1, 26-27 (1968).

50. See *supra* note 41 and accompanying text.

51. *Michigan v. Clifford*, 464 U.S. 287, 303-04 (1984) (Stevens, J., concurring) (advocating notice of post-fire inspection of house if inspection conducted just after fire, and a warrant if conducted well after fire); *Camara v. Municipal Court*, 387 U.S. 523 (1967) (holding that residential health and safety inspection requires administrative warrant, the granting of which depends on reasonableness of intrusion).

52. *Michigan Dep't of State Police v. Sitz*, 496 U.S. 444 (1990).

53. *United States v. Dionisio*, 410 U.S. 1, 8 (1973) (grand jury subpoena of person forcing him to speak for purposes of voiceprint not a seizure).

54. *O'Connor v. Ortega*, 480 U.S. 709, 725 (1987) (plurality opinion) ("[T]he privacy

well above a frisk (R = 19, M = 54.76), which requires reasonable suspicion. The Court has also permitted the government to conduct *suspicionless* drug and alcohol testing of its employees, using urinalysis and blood extraction with a needle, based partly on the assertion that the employees concerned (that is, railway workers involved in accidents and customs agents seeking promotion) have diminished expectations of privacy at the workplace.<sup>55</sup> The analogous scenarios in the survey did not specify the type of employees involved, and thus may not have fairly tested the cases in front of the Court. But it is still worth noting that both types of testing were ranked very high (urinalysis at 39 and needle testing at 46), well above, for instance, searches of cars, which typically require probable cause.

As a final example of dissonance between the Court's conclusions and the conclusions of the respondents to our survey, consider a seizure case. In *Florida v. Bostick*,<sup>56</sup> the Court strongly suggested that police efforts to detect drug smuggling by singling out a passenger on a bus and asking if his luggage may be searched either is not a seizure or is only a minimal one, because such a person should normally feel free to "terminate the encounter." Yet this scenario is ranked at 44, well above questioning on the sidewalk for ten minutes (R = 36), which is clearly a seizure. (It is also ranked well above another seizure scenario, that describing a custodial arrest (R = 28), but, for reasons to be discussed later,<sup>57</sup> the latter ranking is probably an anomaly.)

## B. Possible Responses to the Results

As with any information that comes before them, the Justices of the Supreme Court could react to the empirical results de-

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interests of government employees in their place of work . . . while not insubstantial, are far less than those found at home or in some other contexts.").

55. *Skinner v. Railway Labor Executives' Ass'n*, 489 U.S. 602 (1989) (railway workers); *National Treasury Employees Union v. Von Raab*, 489 U.S. 656 (1989) (customs agents).

56. 111 S. Ct. 2382 (1991). The Court did not decide whether a "bus boarding" is a seizure, remanding the case to the Florida Supreme Court. But in doing so it stated that "no seizure occurs when police ask questions of an individual, ask to examine the individual's identification, and request consent to search his or her luggage—so long as the officers do not convey a message that compliance with their requests is required." *Id.* at 2388. And it made clear that such action in "the cramped confines of a bus" was not "dispositive" of the seizure issue. *Id.* at 2389.

57. See *infra* text accompanying note 114.

scribed above in one of four ways: they could reject it (which includes the option of ignoring the information altogether); they could alter the legal analysis in an attempt to reduce or eliminate the relevance of the data; they could incorporate it into their decisionmaking process, which in this case would require reversal of several cases; or (the most unlikely option) they could use the information as a springboard for developing a new analytical model, here a model of the Fourth Amendment based more forthrightly on intrusiveness as perceived by members of the community.

1. *Rejection.* As several commentators have pointed out,<sup>58</sup> the Supreme Court has frequently refused to consider empirical information, or has given it short shrift. Although such a reaction has not always been justified,<sup>59</sup> caution in relying on research results is well founded, for a number of reasons. As summarized by Professors Monahan and Walker in their seminal work on the use of social science data by the courts, “[c]ourts should place confidence in a piece of scientific research [only] to the extent that the research (1) has survived the critical review of the scientific community; (2) has employed valid research methods; (3) is generalizable to the case at issue; and (4) is supported by a body of other research.”<sup>60</sup> Like much of the research that has come before the courts,<sup>61</sup> our research can be challenged on all four grounds.

In our case, the first and fourth factors listed by Monahan and Walker are the easiest to apply. Since we have just published our results,<sup>62</sup> they have not been subjected to “critical review.”

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58. See, e.g., Richard Lempert, “*Between Cup and Lip*”: *Social Science Influences on Law and Policy*, 10 *LAW & POL’Y* 167, 187-91 (1988); Ronald Roesch et al., *Social Science and the Courts: The Role of Amicus Curiae Briefs*, 15 *LAW & HUM. BEHAV.* 1, 5 (1991). But see Paul S. Appelbaum, *The Empirical Jurisprudence of the United States Supreme Court*, 13 *AM. J.L. & MED.* 335, 335 (1987) (arguing that the Supreme Court “has increasingly relied upon data-based arguments”).

59. For a description of the Court’s misapplication of the research on the effects of jury size, see David Kaye, *And Then There Were Twelve: Statistical Reasoning, the Supreme Court, and the Size of the Jury*, 68 *CALIF. L. REV.* 1004 (1980).

60. John Monahan & Laurens Walker, *Social Authority: Obtaining, Evaluating, and Establishing Social Science in Law*, 134 *U. PA. L. REV.* 477, 499 (1986).

61. As one study noted, the reason why much empirical work fails on methodological grounds is that it is not conducted or presented by social scientists with training in research. James R. Acker, *Social Science in Supreme Court Criminal Cases and Briefs*, 14 *LAW & HUM. BEHAV.* 25, 40 (1990).

62. In addition to this Article, a much abbreviated description of our research, aimed at a behavioral science audience, appears in 17 *LAW & HUM. BEHAV.* 183 (1993), under

And, to our knowledge, ours is the only attempt to gauge directly societal perceptions of intrusiveness related to police searches and seizures,<sup>63</sup> and thus is not supported by similar findings.

The second and third factors can be discussed in more detail. By "valid research methods," Monahan and Walker mean to refer to the "internal validity" or logic of the study, as opposed to its "external validity" or applicability to the outside world, which is the focus of their third criterion. With respect to the internal validity of our research, the question for present purposes is whether the research design accurately measured how people rank the intrusiveness of various searches and seizures.<sup>64</sup> We think, on the whole, that it did. For instance, the Intrusiveness Rating Scale did not "telegraph" our hypotheses to the participants.<sup>65</sup> Its instructions were easily understood.<sup>66</sup> The scenarios were clearly described and easy to understand.

It should be noted, however, that some of the people surveyed may not have taken the task seriously. The participants were given as much time as necessary to complete the survey and were asked to look over all of the scenarios before rating any of them. But some completed the survey in under twenty minutes, and a perusal of the forms suggested that a few failed to make sure their ratings were internally consistent (for example, one form ranked a body cavity search as less intrusive than a roadblock).

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the title *Rating the Intrusiveness of Law Enforcement Searches and Seizures*.

63. Two related works are Kagehiro et al., *supra* note 30, and Mark A. Small, *The Role of Perception of Privacy Invasions in a Psychology of Jurisprudence* (1990) (unpublished Ph.D. dissertation, University of Nebraska at Lincoln). Kagehiro's work focuses on the expectations of privacy people have *vis-à-vis* those with whom they share premises or property. Small's research obtained "ratings of offensiveness" associated with intrusive activities found in tort cases.

64. We address here only the internal validity of the survey for purposes of obtaining the rankings in Table 1. Other internal validity problems, associated with the conditions devised to test Hypotheses 2 and 3, are discussed in Part III. *See infra* text accompanying notes 113, 120-23.

65. The related dangers of "experimenter expectancies" and participant "hypothesis guessing" are well-known. David L. Faigman, *To Have and To Have Not: Assessing the Value of Social Science to the Law as Science and Policy*, 38 EMORY L.J. 1005, 1062-63 (1989). Our participants were not aware that different conditions were involved, and the purpose of the research was not explained beyond what was obvious from the instructions (described *supra* in Section I(B)).

66. Although we were available for questions, no participant came to us for further explanation as to how to fill out the form. A few participants in the No Evidence condition wrote on the form that they might have rated some of the scenarios differently had they known what the police were looking for.

Also calling into question the sincerity or comprehension of a small number of participants are the facts that all but the three least intrusive scenarios were given a "100" rating by at least one person, and many of the most intrusive scenarios were given a "0" rating by at least one participant. Of course, one purpose of having a large group of people complete the survey is to diminish the impact of errant participants; there did not appear to be many of the latter.

Assuming that most of the participants took the task seriously and understood it, one might still question the meaningfulness of the means (and therefore the rankings) in Table 1, given the small number of subjects involved (217). For instance, how significant is a ranking of 20 compared to a ranking of 25 in this study? We were able to answer this type of question by computing confidence intervals. Using a standard formula,<sup>67</sup> we found that the confidence interval for the frisk scenario, for example, is 3.1; this number means that, given the size of our sample and the relevant standard deviation, the mean for that scenario (which Table 1 shows as 54.76) could be as low as 51.7 or as high as 57.9. Using the same formula, we found that the interval for an open fields search could be as low as 52.75 and as high as 60.25, thus indicating a high degree of overlap between the frisk and the open fields search scenarios ( $R = 19$  and  $R = 21$ , respectively). On the other hand, there is no overlap between the confidence interval for the frisk scenario and the confidence intervals of scenarios depicting car searches ( $M = 64.7$  to  $M = 69.7$ ) or jail searches ( $M = 27.6$  to  $M = 33.7$ ). In general, although confidence intervals vary for each item given the different standard deviations, those scenarios in Table 1 whose means differ by less than seven probably represent comparable intrusiveness rankings, whereas the relative ranking of those scenarios whose means differ by more than seven can be said to be statistically meaningful.

Whereas its internal validity may withstand scrutiny, our study is more vulnerable under Monahan and Walker's final criterion for

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67. The formula is:  $(\text{MEAN} \pm (1.96 \times \text{STANDARD DEVIATION})) \div \sqrt{N}$ , where  $N$  represents the number in the sample (here 217) and the mean and standard deviation are taken from Table 1. By way of explanation, the formula states that the confidence level is equal to the item mean plus or minus the  $Z$  value (which allows reporting of scores from different normal distributions on a comparable basis at the 95% confidence interval), times the item's standard deviation, divided by the square root of the total sample.

evaluating the acceptability of social science information: the "external validity" or "generalizability" of the research. Before canvassing the most significant external validity problems, we want to discount two possible "definitional" arguments against the generalizability of our study. First, one might contend that the Supreme Court's use of the word "reasonable" in defining both the privacy interests implicated by searches and the autonomy interests implicated by seizures renders data about the expectations of average citizens only marginally useful; according to this view, the rankings obtained here would at most establish a "baseline," but cannot be viewed as dispositive, since it is up to the Court to decide whether the expectations are "reasonable," "justifiable," or "legitimate." At least in the search context, however, this argument is substantially undercut by the Court's repeated statements that "[l]egitimation of expectations of privacy . . . must [come from] . . . understandings that are recognized and permitted by society."<sup>68</sup> Moreover, if most people felt that, say, police confrontation of a bus passenger was a significant restraint on freedom, the Court would be torturing the concept of reasonableness to hold that such a perception was "unreasonable."

A related objection might be that the survey participants are not likely to think of "privacy," "autonomy," and "intrusiveness" (the words used in the instructions to the Intrusiveness Rating Scale Survey) in the same way the Court does, and thus a poll of citizens on these issues can never directly address the question the Court has in mind. It is no doubt true both that different people define these words differently and that, as the survey results themselves indicate,<sup>69</sup> the "intrusiveness" of a given search or seizure is perceived differently from person to person. But again, the Court has stated that these nebulous terms are to be defined with reference to community values. Presumably, it is better to assess those values by asking representative members of the community about them than by relying on what nine members of a rather isolated Court might conjecture.

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68. *Rakas v. Illinois*, 439 U.S. 128, 144 n.12 (1978). Contrast this language with the Court's analysis in third-party consent cases, evaluating expectations of privacy in terms of what a reasonable officer would surmise from the circumstances. See *supra* note 3.

69. As noted earlier, for example, with the exception of those scenarios at the extremes of the rankings, every scenario had a range from 0 to 100, meaning that at least one participant gave each of these scenarios a "0" score, and at least one gave it a "100" score.

Ambiguity in the legal definition of intrusiveness could diminish the generalizability of this study in two other ways, however. First, as noted earlier, in order to test Hypotheses 2 and 3, some participants received First Person descriptions of the scenarios, and others Third Person descriptions; some participants had to rate scenarios in which the objective of the government action was specified, and others scenarios in which the objective was not specified. While these variations enabled us to draw some interesting conclusions about how people evaluate intrusiveness (described in Part III), they may have also distorted the ranking for each scenario under a definition of intrusiveness that incorporates only some of these conditions.

To be more specific about this problem, assume that the "correct" way of thinking about the intrusiveness of a search or seizure is from the "First Person/No Evidence" perspective.<sup>70</sup> Although rankings based solely on the ratings of those participants given this combination of conditions are not significantly different from those found in Table 1, the relative rankings for some of the scenarios emphasized in the above discussion do change when ranked solely under these conditions. Most noticeably, the frisk moves up in rank (to R = 24, M = 66.98), whereas the dog sniff scenario moves down (to R = 21, M = 66.25), as does the open fields search (to R = 15, M = 54.51). Similarly, the means for the burned-down house and residential inspection scenarios go up substantially (to M = 47.65 and M = 51.12, respectively), whereas the means for the jail cell, helicopter overflight, and garbage scenarios stay roughly the same (at M = 32.88, M = 42.07, and M = 46.26, respectively). Because, for reasons noted earlier,<sup>71</sup> small variations between means cannot be considered significant, these changes do not undercut the validity of the comparisons we made in previous discussion.<sup>72</sup> Nonetheless, they illustrate the obvious point that

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70. This perspective may or may not be the "legally correct" perspective, although we argue later that the First Person perspective makes more sense than the Third Person perspective, given the subjective nature of the intrusiveness question, and that the No Evidence perspective is superior to the Yes Evidence perspective when the police do not explain their action. See *infra* text accompanying notes 110-12.

71. See *supra* text accompanying note 67.

72. Compare, for instance, the confidence intervals of the following scenarios under the "First Person/No Evidence" condition:

Jail search	25.2 to 40.4
Helicopter search	33.8 to 50.2

ratings of "intrusiveness" can change depending upon the legal definition given that term.

A second definitional ambiguity that could affect the generalizability of this study has to do with the identity of the person conducting the search or seizure. As noted in the description of the research design,<sup>73</sup> we asked the participants to assume that the various intrusions described in the Intrusiveness Rating Scale were carried out by government agents. In a study meant to assess the intrusiveness of investigative searches and seizures, this assumption seemed necessary. Yet some of the Court's cases have implied that Fourth Amendment privacy is to be gauged in terms of expectations *vis-à-vis* any person, not just the police. Thus, for instance, in explaining why police flights over fenced-in backyards are not searches, the Court has made much of the "fact" that passenger planes and helicopters fly over peoples' houses, low enough to allow occupants to view the contents of their yards, on a routine basis.<sup>74</sup> Leaving aside the possible inaccuracy of this assertion, the difference, in terms of invasiveness, between casual overflights by disinterested observers and police efforts to find evidence of crime seems obvious.<sup>75</sup> But the Court's cases have indicated that this difference may not be relevant for Fourth Amendment purposes. Assuming so, this study's findings with respect to helicopter overflights would not be generalizable. The same point can be made with respect to other scenarios representing cases in which the Court has indicated that the identity and

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Garbage search	38.2 to 54.3
Search of burned-down house	38.8 to 56.4
Residential inspection	43.5 to 69.9
Open fields search	45.9 to 63.1
Dog sniff of person	57.7 to 74.8
Frisk	59.4 to 74.6

73. See *supra* Section I(B).

74. See *Florida v. Riley*, 488 U.S. 445, 451 (1989) (Officer who saw marijuana in backyard from helicopter did not engage in search because "[a]ny member of the public could legally have been flying over Riley's property in a helicopter at the altitude of 400 feet and could have observed Riley's greenhouse. The police officer did no more."); *California v. Ciraolo*, 476 U.S. 207, 213-14 (1986) (no search when officers saw marijuana in backyard from airplane because "[a]ny member of the public flying in this airspace who glanced down could have seen everything that these officers observed").

75. As the state court in *Ciraolo* noted, the officers' "focused" observations of the defendant's backyard were not what most people expect from the air-flying public. *People v. Ciraolo*, 208 Cal. Rptr. 93, 96-97 (1984), *rev'd*, 476 U.S. 207 (1986).

purpose of the intruder is not relevant for purposes of assessing privacy expectations.<sup>76</sup>

The external validity problems discussed above concern whether our study addressed the right issues. Also relevant to its external validity are three other aspects of the research, having to do with the *manner* in which the legal issues were addressed. First, for efficiency purposes, we described each scenario in one sentence. Thus, although the scenarios often replicated actual Supreme Court and other court cases, they did so only in a bare-bones fashion that makes association of the rankings here with at least some of those cases suspect. For instance, as already noted,<sup>77</sup> the rankings of the two scenarios concerning employee drug and alcohol testing might have been quite different (and might have conformed more closely to the Court's conclusions about privacy expectations) had the scenarios included descriptions of the types of employees tested in the cases confronting the Court.

Second, one can justifiably wonder whether ratings on a survey form translate into a realistic assessment of how the person giving the ratings would feel if actually subjected to the particular search and seizure.<sup>78</sup> However, this external validity problem is probably not significant. For reasons Part III will make clear,<sup>79</sup> if they are not already, we think that any distortion of the results that occurred by virtue of this phenomenon would have led the survey participants to *underestimate* the intrusiveness of the scenarios; more "realistic" results would, if anything, strengthen our critique of the Court's decisions concerning expectations of privacy. In any event, it should be remembered that we were primarily interested in obtaining a relative ranking among the scenarios. Even if a "realism" problem exists, it would probably affect the

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76. See, e.g., *California v. Greenwood*, 486 U.S. 35, 40 (1988) (inspection of garbage not a search because it is "common knowledge that plastic garbage bags left on or at the side of a public street are readily accessible to animals, children, scavengers, snoops, and other members of the public") (footnotes omitted). But see *Rakas v. Illinois*, 439 U.S. 128, 167-68 (1978) (White, J., dissenting) ("The distinctions the [majority] would draw are based on relationships between private parties, but the Fourth Amendment is concerned with the relationship of one of those parties to the government.").

77. See *supra* text accompanying note 55.

78. This is a frequent criticism of academic research. See Faigman, *supra* note 65, at 1059-60.

79. See *infra* text accompanying note 110.

rating of each scenario roughly equally, and thus not change significantly the hierarchy represented in Table 1.

Third, one might question whether our participants mirror the "society" referred to by the Court. Of the four subject groups (college undergraduates, law students, general community members, and Australians), two in particular are suspect. More than a quarter of our subjects were from Australia and thus cannot be said to provide representative American values; and a similar proportion of the sample was composed of law students, who are arguably "tainted" given their exposure to due process concerns (although none had taken criminal procedure). In fact, the Australians gave the lowest overall ratings and the law students gave the highest.<sup>80</sup> At the same time, the Australians' ratings were not significantly different from those given by the USC undergraduate group; and the law students' ratings were not significantly different from those obtained from the "general community,"<sup>81</sup> a category which varied significantly in terms of employment (for example, secretaries, hospital technicians, and truck drivers).<sup>82</sup> Although a larger and more diverse sample would have been preferable, the sample used does not seem to be clearly unrepresentative of the population.

Considering these various concerns with our research in combination, a court would not be remiss if it refused to accord the results of this study dispositive weight. Particularly important in this regard is the lack of replication, and the fact that, at least with respect to some scenarios, identification of the intruder as a law enforcement officer might not have accurately reflected the relevant legal question. On the other hand, we believe that the

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80. Using a one-way analysis of variance and the Duncan Multiple Comparisons Test, we found that American law students and citizens from the general community produced higher overall ratings, at a statistically significant level, than the USC undergraduates and the Australians. The American law students' ratings were insignificantly higher than the general community's, and the USC undergraduates' ratings were insignificantly higher than the Australians'.

81. See *supra* note 80.

82. Of the demographic variables that were coded (age, race, gender, and education), only age correlated with intrusiveness ratings,  $r = .19$ ,  $p < .01$  (see *infra* note 128 for an explanation of these figures), where younger individuals gave the scenarios intrusiveness ratings lower than those given by the older individuals, overall; we found no other significant overall trends regarding demographic variables. With respect to a few of the individual scenarios, some racial and gender differences did develop, but these differences are hard to interpret given the size of the sample.

methodology reported here is not so flawed that a court addressing Fourth Amendment issues would err in giving the results significant consideration. In any event, for discussion purposes, we will assume that our results are valid so as to allow us to explore three other possible judicial responses to data of this type.

2. *Changing the Analysis to Avoid the Data.* Assuming that our research can meet Monahan and Walker's conditions for judicial consideration, thus making it difficult to ignore, the Court could still render the data irrelevant, or of only minimal importance, through an alteration of the analytical framework. Here, the Court would have three options. It could decide that intrusiveness is no longer a relevant consideration in Fourth Amendment cases. Or it could hold that intrusiveness remains relevant, but that community values are no longer pertinent to its definition. Finally, as it has already done in certain types of cases, it could decide that community values can be trumped by government interests.

The first option is probably prohibited by the Fourth Amendment itself. At minimum, it can be said that the drafters of the Amendment were concerned about the impact of government searches on their property, privacy, and personal security; eliminating intrusiveness as a factor in Fourth Amendment analysis would violate their intent.<sup>83</sup> Furthermore, removing intrusiveness as a consideration in Fourth Amendment cases would probably render the Amendment meaningless. For instance, in assessing the "reasonableness" of a search or seizure, the Court has always balanced the state's interest against the individual's.<sup>84</sup> Because no other

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83. The English decision most often viewed as the precursor to the Fourth Amendment is *Entick v. Carrington*, 95 Eng. Rep. 807 (1765). There, Lord Camden held that a general warrant authorizing the search of a private home for papers was invalid, stating that "we can safely say there is no law in this country to justify the defendants in what they have done; if there was, it would destroy all the comforts of society; for papers are often the dearest property a man can have." *Id.* at 817.

In *Boyd v. United States*, 116 U.S. 616 (1886), the U.S. Supreme Court stated that "it may be confidently asserted that [*Entick's*] propositions were in the minds of those who framed the Fourth Amendment to the Constitution, and were considered as sufficiently explanatory of what was meant by unreasonable searches and seizures." *Id.* at 626-27; see also 2 LEGAL PAPERS OF JOHN ADAMS 142 (L. Kinvin Wroth & Hiller B. Zobel eds., 1965) (recounting that James Otis argued that general writs "totally annihilate" a person's privilege to be safe in the home because "[c]ustom house officers may enter our houses when they please").

84. See, e.g., *Maryland v. Buie*, 494 U.S. 325, 331 (1990) ("Our cases show that in determining reasonableness, we have balanced the intrusion on the individual's Fourth

"individual interest" readily comes to mind as a replacement for intrusiveness, this first option would in effect allow the government to conduct any search or seizure for which it could give a reason.

The second option—that of retaining intrusiveness as an inquiry but basing its definition on something other than community values—is not much more attractive because of its probable impact on the Court as an institution. Because many of the Court's conclusions about expectations of privacy and autonomy violate common-sense notions of how people react to the police, its sincerity has already been called into question by several commentators.<sup>85</sup>

Amendment interests against its promotion of legitimate governmental interests."); *United States v. Brignoni-Ponce*, 422 U.S. 873, 878 (1975) (constitutionality of a particular search depends on a "balance between the public interest and the individual's right to personal security free from arbitrary interference by law officers"); *Camara v. Municipal Court*, 387 U.S. 523, 539 (1967) (justifying the Court's holding by asserting that it gave "full recognition to the competing public and private interests here at stake and, in so doing, best fulfill[ed] the historic purpose behind the constitutional right to be free from unreasonable government invasions of privacy").

As noted below, *see infra* text accompanying notes 90–94, the definitions of "search" and "seizure" may also be subject to such balancing, although the Court has rarely explicitly said so.

85. *See, e.g.*, Clark D. Cunningham, *A Linguistic Analysis of the Meanings of "Search" in the Fourth Amendment: A Search for Common Sense*, 73 IOWA L. REV. 541 (1988); Rachel A. Van Cleave, *Michigan v. Chesternut and Investigative Pursuits: Is There No End to the War Between the Constitution and Common Sense?*, 40 HASTINGS L.J. 203 (1988). The Court also appears to have rejected the intermediate approach, suggested by the language in *Rakas*, of focusing entirely on the extent to which property law (at best, an indirect reflection of community values) provides protection against the kind of action taken by the government. *See, e.g.*, *Oliver v. United States*, 466 U.S. 170 (1984) (holding that police entry onto private fields surrounded by fences and "No Trespassing" signs is not a search).

The Court's unrealistic assessments of privacy and autonomy are due both to its crime control orientation and its belief that the police can be trusted. According to Professor Bookspan, "[t]hese definitional limitations [on searches] are the product of two milestones on the Court's social agenda: (1) a desire to allow more aggressive police investigative methods to root out crime, and (2) a distaste for the exclusionary rule—a sanction that disarms damning evidence." Phyllis T. Bookspan, *Reworking the Warrant Requirement: Resuscitating the Fourth Amendment*, 44 VAND. L. REV. 473, 495 (1991). And according to Professor Maclin:

Realistically, the Court would probably acknowledge, if pushed, that police conduct in *Riley* [the helicopter case] and *Greenwood* [the garbage case] does constitute government intrusion that threatens legitimate privacy interests. What explains the results in these cases? The Court assumes that these intrusions will happen only to individuals like *Riley* and *Greenwood*. Thus, a majority of the Court trusts the police to target the "right" people.

Tracey Maclin, *Justice Thurgood Marshall: Taking the Fourth Amendment Seriously*, 77 CORNELL L. REV. 723, 745 (1992). As Maclin points out, this trust is misplaced: "The police subject many innocent people to such intrusions. Yet the problem lies in the fact that the Court seldom, if ever, reviews such cases when deciding search and seizure is-

Assuming valid data showing that the community and the Court think differently, the Court's continued adherence to its own views, through what has aptly been called "normative constitutional fact-finding,"<sup>86</sup> would further strain its credibility. As Professor Faigman has noted, "[u]ltimately, persistent misapplication of empirical data [or, in this case, the ignoring of such data] undermines the Court's legitimacy."<sup>87</sup>

The analytical approach most likely to succeed in minimizing empirical research such as ours is to concede that it is dispositive on the intrusiveness issue but to neutralize its effect by identifying countervailing government interests that supersede the individual interests involved. As just noted, in cases involving government actions it has denominated as searches and seizures, the Court has already adopted a balancing formula which could accomplish this objective. For instance, consider the Court's decisions regulating searches in the workplace for work-related infractions or drug or alcohol use.<sup>88</sup> Our data could be used to argue that such searches are more intrusive than the Court believes, and thus require greater authorization under the Fourth Amendment than currently mandated. Yet the Court could finesse this argument and affirm its current holdings—even while agreeing that it was wrong about the intrusiveness of rummaging through desk drawers or sticking needles in employees' arms—simply by placing greater emphasis on countervailing factors (such as the need for informal searches in the workplace) which it has already indicated are relevant to the analysis.<sup>89</sup>

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sues." *Id.*

86. David L. Faigman, "Normative Constitutional Fact-finding": *Exploring the Empirical Component of Constitutional Interpretation*, 139 U. PA. L. REV. 541, 581-88 (1991).

87. *Id.* at 604; see also Gary B. Melton, *Family and Mental Hospital as Myths: Civil Commitment of Minors*, in CHILDREN, MENTAL HEALTH, AND THE LAW 151, 158-59 (N. Dickon Reppucci et al. eds., 1984) (arguing that factual assumptions in *Parham v. J.R.*, 442 U.S. 584 (1979), concerning commitment of minors, ignore empirical reality); Peter W. Sperlich, *And Then There Were Six: The Decline of the American Jury*, 63 JUDICATURE 262, 275-79 (1980) (arguing that various "hidden agendas" motivated the Court's decisions on jury size, despite countervailing empirical evidence).

88. This caselaw is described *supra* in the text accompanying notes 54-55.

89. For instance, in justifying warrantless workplace searches on less than probable cause in *O'Connor v. Ortega*, 480 U.S. 709 (1987), the Court not only concluded that the intrusion occasioned by a workplace search is minimal, *id.* at 725, but also asserted that (1) "the imposition of a[n unwieldy] warrant requirement would conflict with 'the common-sense realization that government offices could not function if every employment decision became a constitutional matter,'" *id.* at 722; (2) "[t]he delay in correcting the

The Court has yet to countenance a similar balancing test in determining the definitions of "search" and "seizure." To date, the threshold of the Fourth Amendment has depended almost exclusively on expectations of privacy and autonomy, without reference to government interests.<sup>90</sup> But the Court could change its approach; indeed, doing so might merely make explicit what has already been implicit in the Court's cases in this area. Professor LaFave has argued, for instance, that the Court probably does not really believe that a person feels free to leave when confronted by a uniformed police officer, but that its holdings to the contrary<sup>91</sup> can still be justified on the ground that, as a matter of policy, the police "should be allowed 'to seek cooperation, even where this may involve inconvenience or embarrassment for the citizen, and even though many citizens will defer to this authority of the police because they believe—in some vague way—that they should.'"<sup>92</sup> One can disagree with the legitimacy of the government interest LaFave identifies,<sup>93</sup> or with the idea that balancing is relevant at

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employee misconduct caused by the need for probable cause rather than reasonable suspicion will be translated into tangible and often irreparable damage to the agency's work, and ultimately to the public interest," *id.* at 724; and (3) "[i]t is simply unrealistic to expect supervisors in most government agencies to learn the subtleties of the probable cause standard," *id.* at 724–25. Assuming the Court's assumption about the intrusiveness of a workplace search is proven wrong, the Court can merely emphasize the weightiness of the last three factors in reaffirming its decision in *Ortega*.

90. The two exceptions to this rule are the companion cases of *United States v. Dionisio*, 410 U.S. 1 (1973), and *United States v. Mara*, 410 U.S. 19 (1973), which held that grand jury subpoenas seeking voice (*Dionisio*) and handwriting (*Mara*) exemplars are not seizures under the Fourth Amendment given the minimal intrusion involved and the grand jury's entitlement to every man's evidence. The Court has yet to use a balancing test in defining when a *police* action is a search or seizure.

91. See, e.g., *Florida v. Bostick*, 111 S. Ct. 2382 (1991) (strongly suggesting that questioning of a bus passenger by two armed officers is not a seizure); *Florida v. Rodriguez*, 469 U.S. 1 (1984) (plainclothes officer's request of defendant, after showing badge, to accompany him 15 feet to other companions not a seizure); *INS v. Delgado*, 466 U.S. 210 (1984) (factory workers confronted by armed immigration officials and asked questions while factory exits are guarded not a seizure).

92. Wayne R. LaFave, *Pinguitudinous Police, Pachydermatous Prey: Whence Fourth Amendment "Seizures"?*, 1991 U. ILL. L. REV. 729, 741 (quoting MODEL CODE OF PRE-ARRAIGNMENT PROCEDURE § 110.1 commentary at 258 (1975)).

93. For instance, the "duty to cooperate" proposed by LaFave would give police legal authority to engage in behavior that would be viewed by some individuals as harassing or discriminatory. Cf. *Terry v. Ohio*, 392 U.S. 1, 14 n.11 (1968) (describing friction created between the police and minority groups by the "[m]isuse of field interrogations" and "aggressive patrols."); see also MICHAEL BROWN, *WORKING THE STREETS* 170–79 (1981) (describing how police might abuse this authority).

all in determining when the Fourth Amendment is implicated.<sup>94</sup> But straightforward adoption of this approach would once again permit the Court to marginalize the impact of our research.

3. *Overruling Previous Decisions.* Assuming the framework for analyzing Fourth Amendment cases is not changed in the ways described above, we believe that the Supreme Court would have no legitimate justification for rejecting, ignoring, or minimizing the results of research such as ours. Indeed, when empirical work is directly relevant to the legal issue, Monahan and Walker argue that valid empirical work should be treated in the same way as legal authority.<sup>95</sup> This type of "social authority" could be presented to the Court in briefs in the same way as precedent,<sup>96</sup> and should be as binding on the lower courts as previous judicial decisions.<sup>97</sup>

In this view, the Court would be forced to change a number of its rulings. The rulings most vulnerable in this regard are those defining "search" and "seizure" for Fourth Amendment purposes. As already indicated, assuming the Court does not change its decisions concluding that frisks, stops, and home inspections implicate the Fourth Amendment, results of our study suggest that several government actions currently considered outside the ambit of the Fourth Amendment should be accorded constitutional protection because they infringe on societal expectations of privacy or autonomy. In particular, undercover activities, use of dogs to detect odors on people, and (perhaps) searches of open fields would be constitutionally regulated, if the Court is to remain consistent with its decision that an intrusion at the level of a frisk is a search.<sup>98</sup> Similarly, a confrontation with a bus passenger would be

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94. Although balancing may be a natural way of implementing the "reasonableness" command of the Fourth Amendment, that command applies only to actions that have already been labelled "searches" and "seizures." The language of the Fourth Amendment does not suggest that determining whether an action is a search or seizure depends upon a balancing of government and individual interests. See *New Jersey v. T.L.O.*, 469 U.S. 325, 370 (1985) (Brennan, J., dissenting) ("[T]he presence of the word 'unreasonable' in the text of the Fourth Amendment does not grant a shifting majority of this Court the authority to answer *all* Fourth Amendment questions by consulting its momentary vision of the social good."); Maclin, *supra* note 16, at 1302-03.

95. Monahan & Walker, *supra* note 60, at 488-95.

96. *Id.* at 495-97.

97. *Id.* at 514-16.

98. See *supra* text accompanying notes 44-49.

considered a seizure, assuming the Court holds to its conclusion that a ten-minute stop is a seizure.<sup>99</sup>

Furthermore, if inspections of burned-down houses and residential safety inspections continue to be considered searches, various other types of police conduct not currently governed by the Fourth Amendment could easily be subject to such regulation, including looking through jail cells, flying over backyards, and rummaging through garbage left at curbside.<sup>100</sup> Similarly, if stopping drivers at a roadblock remains a seizure, then following a pedestrian in a police car and detaining someone to obtain a voiceprint might also have to be designated as seizures.<sup>101</sup>

Of course, the Court could take a different tack. Rather than overruling decisions finding that the Fourth Amendment is not implicated, it could decide to overrule the decisions concerning frisks, stops, and residential inspections that are used as "baseline" intrusiveness measures in the above paragraphs. In other words, the Court could decide that, for Fourth Amendment protections to be triggered, greater intrusiveness than that associated with these baseline types of searches and seizures is required. This move would not slight the research or current Fourth Amendment theory; rather, the Court would be stating that, while community values are still important in setting the Fourth Amendment threshold, that threshold is now set at a higher level. Of course, this move would exempt a wide range of highly intrusive government actions—including frisks—from constitutional regulation, a result the Court is unlikely to consider.

With respect to government actions that are considered searches and seizures, the impact of the research would be somewhat different. To use workplace investigations as an example once again, if desk rummaging is more intrusive than the Court says it is, then the Court would have to adjust accordingly the balancing analysis it uses in such cases. Because this analysis is so amorphous, a Court bent on affirming its pre-research decisions might find it easy to do so. But this objective should be more difficult to achieve here than in the situation discussed in the previous section,<sup>102</sup> in which the Court simply changes the rele-

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99. See *supra* text accompanying note 56.

100. See *supra* text accompanying notes 50–51.

101. See *supra* text accompanying notes 52–53.

102. See *supra* text accompanying notes 88–89.

vant analysis. Although the distinction is admittedly subtle, in the latter situation the Court need merely state that just as the individual interests involved have increased in significance (because of empirical insights), the government interests at stake have also become more potent. This second (unsupported) assertion could not be made by an honest Court adhering to *current* Fourth Amendment analysis. Such a Court, confronted by our research, would normally have to come up with additional interests on the government side of the ledger if it is to maintain the balance struck by present holdings.

4. *Forging a New Analytical Model Based on Empirical Evidence.* A final response to the research, related to the response just considered, is to not only allow it to influence judicial decisions but to use it as the basis for restructuring entirely the Fourth Amendment inquiry. By way of example, we will cite one possible framework here. Professor Slobogin has argued elsewhere that current Fourth Amendment analysis should be jettisoned in favor of two principles: the exigency principle and the proportionality principle.<sup>103</sup> The exigency principle posits, contrary to the Court's approach, that the intrusiveness of a search or seizure is irrelevant in considering the procedural issue of when a warrant or any other type of *ex ante* review is required; instead, the only issue is whether harm to others, escape of a suspect, or destruction of evidence would occur if such review were sought.<sup>104</sup> At the same time, under the proportionality principle, intrusiveness should normally be the sole criterion in deciding the substantive issue of how certain we must be that a search or seizure will be successful before it is allowed: in this context, the level of "probable cause" the *ex ante* reviewer must find (or that must be found by the police if *ex ante* review is not feasible) should be roughly proportional to the level of intrusiveness associated with the proposed search or seizure.<sup>105</sup>

Under proportionality analysis, rankings such as those found in Table 1 would serve as a useful device for determining how much "probable cause" is necessary to conduct a particular search or seizure. A search of foliage in a park (R = 1, M = 6.48) might

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103. Christopher Slobogin, *The World Without a Fourth Amendment*, 39 UCLA L. REV. 1, 4 (1991).

104. *Id.* at 29-38.

105. *Id.* at 68-75.

not require any suspicion, whereas a body cavity search ( $R = 50$ ,  $M = 90.14$ ) would require a very high degree of confidence that evidence would be found. The various types of investigative conduct in between these extremes would be authorized by a showing of certainty relative to their ranking in Table 1.<sup>106</sup> Note that although the scope of the Fourth Amendment is much broader under proportionality analysis than under the Court's cases, the results in many of those cases might not change, since the police may have had the requisite certainty to undertake the degree of intrusion involved.<sup>107</sup>

The advantages and disadvantages of the proportionality rule are discussed elsewhere.<sup>108</sup> The point here is that empirical research not only can better inform judicial decisionmaking under current law, but also can bolster different theoretical approaches. As the next part of this Article illustrates, such research can also help us understand the nebulous concepts of privacy, autonomy, and intrusiveness that seem irretrievably linked to the Fourth Amendment.

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106. Obviously, rough proportionality is all that would be required in the usual case, because a precise degree of certainty is not possible. Occasionally, a more statistically based "success rate" might be obtainable. For instance, "drug courier profiles," which correlate certain characteristics of those who disembark from planes with a particular likelihood that they are carrying drugs, might provide the police with a numerical degree of certainty, although there are several problems associated with their use. See Morgan Cloud, *Search and Seizure by the Numbers: The Drug Courier Profile and Judicial Review of Investigative Formulas*, 65 B.U. L. REV. 843 (1985). For a defense of such profiles and examples of similar investigative methods, see Slobogin, *supra* note 103, at 82-92.

107. See, e.g., *California v. Ciraolo*, 476 U.S. 207, 209 (1986) (police "received an anonymous telephone tip that marijuana was growing in respondent's backyard"); *Oliver v. United States*, 466 U.S. 170, 173 (1984) (agents entered defendant's fields "[a]cting on reports that marihuana was being raised on [his] farm"); *Hoffa v. United States*, 385 U.S. 293, 298 (1966) (the Court suggested prior suspicion existed when it said "Partin ultimately cooperated closely with federal authorities only after he discovered evidence of jury tampering [by Hoffa].").

108. In addition to Slobogin, *supra* note 103, see Anthony G. Amsterdam, *Perspectives on the Fourth Amendment*, 58 MINN. L. REV. 349, 390-91 (1974); Craig M. Bradley, *Two Models of the Fourth Amendment*, 83 MICH. L. REV. 1468, 1491-98 (1985); Lee Anne Fritzler, *Optimality in Fourth Amendment Law*, 27 AM. CRIM. L. REV. 473, 519-21 (1990).

III. FACTORS AFFECTING PERCEPTIONS OF INTRUSIVENESS:  
TESTING HYPOTHESES 2, 3, AND 4

A. *Results re Hypotheses 2 and 3*

It will be recalled that, in addition to hypothesizing that the Supreme Court's assessments of privacy expectations are often at odds with society's, we also hypothesized some reasons for this incongruence. Our hypotheses with respect to the effect of varying the target of the search or seizure (that is, First Person vs. Third Person) and the objective of the investigation (that is, No Evidence vs. Yes Evidence) were borne out. As Table 2 shows, the intrusiveness ratings of those participants exposed to the "First Person/No Evidence" scenarios were the highest overall, whereas the intrusiveness ratings of those participants exposed to the "Third Person/Yes Evidence" scenarios were the lowest ratings overall. These differences proved to be statistically significant.

TABLE 2  
COMBINED MEAN FOR 50 SCENARIOS UNDER EACH VARIATION

Condition	Combined Mean	S.D.
First Person/No Evidence	63.19	20.70
Third Person/No Evidence	59.26	21.25
First Person/Yes Evidence	54.95	21.43
Third Person/Yes Evidence	48.93	21.63

Further statistical manipulation indicated that those presented with the First Person condition generally perceived the scenarios to be more intrusive than those presented with the Third Person condition, regardless of whether the evidence sought was specified. It also indicated that subjects given the No Evidence condition rated the scenarios more intrusively than those given the Yes Evidence condition, regardless of whether it was a First Person or Third Person search or seizure.<sup>109</sup> In short, this study provides

109. We reached this conclusion by using an analysis of variance (ANOVA) test to verify that the observed differences in intrusiveness between the First Person and Third

clear support for the proposition that searches and seizures tend to be viewed as more intrusive when their target is the subject-participant rather than "another," and when their objective is not clear rather than specified.

These findings call into question judicial evaluations of the privacy and autonomy interests implicated by searches and seizures. Judges, especially the Justices on the Supreme Court, are unlikely to have experienced any type of police intrusion, much less the type of intrusion they are asked to analyze in a particular case. Thus, they are likely to evaluate intrusiveness from a Third Person perspective. Yet intrusiveness is probably more appropriately viewed from the First Person perspective; privacy and autonomy are constructs that are, almost by definition, intimate, subjective, and experiential.<sup>110</sup> In short, courts may suffer from a "distancing effect" in evaluating intrusiveness.

Person conditions and between the No Evidence and Yes Evidence conditions were *statistically* significant, meaning that the possibility of the observed differences occurring due to chance was below 5 out of 100 (i.e.,  $p < .05$ ). For each of the four conditions, the mean (designated by  $M$ , and meaning the average intrusiveness score), the standard deviation (designated by  $SD$ , and meaning the range of intrusiveness scores around the mean), the result of the ANOVA test (designated by  $F$ ), and the probability of being sure (designated by  $p$ , and explained above), are as follows: First person ( $M = 3,015.34$ ,  $SD = 707.38$ ), Third Person ( $M = 2,815.90$ ,  $SD = 672.61$ :  $F(3,216) = 4.73$ ,  $p < .05$ ). No Evidence ( $M = 3,031.02$ ,  $SD = 632.68$ ), Yes Evidence ( $M = 2,572.43$ ,  $SD = 714.42$ :  $F(3,216) = 22.91$ ,  $p < .05$ ). Specifying the evidence had a stronger effect than specifying the identity of the target.

110. Consider, e.g., Gary B. Melton, *Respecting Boundaries: Minors, Privacy and Behavioral Research*, in *SOCIAL RESEARCH ON CHILDREN AND ADOLESCENTS* 65 (Barbara Stanley & Joan E. Sieber eds., 1992). Melton states: "One need not undertake a sophisticated ethical or legal analysis to know that an invasion of privacy is degrading; it is *experienced* as a personal violation." *Id.* at 65. Melton goes on to say:

In common parlance, privacy is "I know when I see it," an elusive construct that has unclear and probably idiosyncratic limits. Indeed, privacy (more precisely, invasion thereof) may be described better as "I know when I *feel* it." A gut sense of personal violation may be the tie that binds such disparate events as being subjected to a body search, being the subject of gossip, having one's mail read, being asked one's income, or having one's house entered without permission. It should come as no surprise that such an intensely personal construct is difficult to define.

. . . .

In short, common experience tells us that privacy is a subjectively important, even critical, aspect of our lives . . . .

*Id.* at 65-66.

It should also be noted, however, that a person who experiences a particular invasion of privacy *repeatedly* may become inured to it, and thus not able to gauge accurately its pristine impact. Our study does not suffer from this distorting phenomenon.

The finding that knowledge of the police objective lowers the perceived intrusiveness of police action may also challenge the accuracy of judicial analysis on privacy and autonomy issues, at least in a subset of cases. At a minimum, because the courts are aware of the police's objectives, they are likely to underestimate the intrusions experienced by persons subjected to unexplained police actions; a "knowledge bias" will infect their evaluation of such cases. Whether the courts also underestimate the intrusiveness of police actions the objectives of which are known to the targets is not as easily discerned from our data. The complication arises because it is not clear how the survey participants given the Yes Evidence condition interpreted it. Taken at face value, the Yes Evidence condition merely states the purpose of the police, not that it was realized. If the survey participants subjected to this condition did take it at face value, then at most the results in Table 2 support the conclusion, which has some intuitive appeal, that knowing the objective of a police action diminishes its intrusiveness; for instance, an unexplained search of luggage may be perceived as more invasive than a search of luggage preceded by a statement from the police that they are looking for drugs. If, on the other hand, the subjects given the Yes Evidence condition were led by knowledge of the objective to assume that it was, or was likely to be, realized, then the results in Table 2 may also reflect to some extent a "hindsight bias" effect—that is, an effect caused by knowing or assuming the outcome of the action.<sup>111</sup> As explored more fully below,<sup>112</sup> to the extent the latter explanation of our results is correct, it suggests that the courts, which know not only the objective of the police but also that it was met, may find it hard to evaluate intrusiveness from the perspective of the innocent individual the Supreme Court asks us to assume.

Of course, judges may be aware of and attempt to correct for any biasing effects which result from distancing, knowledge, and hindsight effects. Whereas we obviously cannot tell from this study

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111. For a good discussion of the hindsight bias phenomenon and its pervasive effect, see Baruch Fischhoff, *Hindsight ≠ Foresight: The Effect of Outcome Knowledge on Judgment Under Uncertainty*, 1 J. EXPER. PSYCHOL.: HUMAN PERCEPTION & PERFORMANCE 288, 292 (1975) ("Reporting an outcome's occurrence consistently . . . alters the judged relevance of data describing the situation preceding the event."). For research specifically investigating the effect of hindsight bias in contexts related to the one at issue here, see *infra* note 125.

112. See *infra* text accompanying notes 114–15, 123–25.

whether such self-correction occurs, we can, through investigating the effect of the four conditions on the rankings of the scenarios, get some sense of how strong the biasing effects are with respect to a particular scenario (and thus how difficult they are for a judge to resist). The relevant results are presented in Table 3. Columns I and II again rank the scenarios one through fifty. Columns III through VI show the rankings of each scenario under the four separate conditions (that is, First Person, Third Person, No Evidence, Yes Evidence), which we were able to tease out through statistical analysis.<sup>113</sup> Column VII shows the search or seizure's "objective" for the Yes Evidence condition.

TABLE 3  
INTRUSIVENESS RANKINGS UNDER  
PERSON AND EVIDENCE CONDITIONS

I	II	III	IV	V	VI	VII
R	Scenario	<i>person evidence</i>				(Objective)
		1st	3d	No	Yes	
1.	Looking in foliage in public park	1	1	1	1	(murder weapon)
2.	Going through magnetometer at airport	2	2	2	2	(weapons)
3.	Shining flashlight down dark alley next to home	3	4	3	5	(drug transaction)
4.	Inspecting exterior of car in public lot	4	3	3	5	(blood stains)
5.	Looking through burned-down house	7	5	8	3	(evidence of arson)
6.	Searching jail cell	6	8	6	7	(evidence of conspiracy)
7.	Inspecting kitchen of restaurant	8	6	7	4	(health code violations)
8.	Following pedestrian in police car	11	7	5	22	(determine destination)
9.	Stopping all drivers at roadblock to view occupants	5	10	9	12	(illegal immigration)
10.	Flying 400 yards above backyard in helicopter	10	9	10	14	(marijuana)
11.	Inspecting plumbing and wiring of residence	14	11	13	10	(damage)
12.	Pat-down at border	12	12	12	11	(drugs)
13.	Going through garbage in opaque bags at curbside	13	13	11	16	(forgery)
14.	Stopping drivers at roadblock for 30-second questioning at night	9	16	15	13	(drunkenness)

113. For the First Person ranking for each scenario, the mean intrusiveness rating was derived from the ratings of those subjects who were given either the "First Person/No Evidence" or "First Person/Yes Evidence" condition. For the Third Person ranking for each scenario, the mean intrusiveness rating was derived from the ratings of those subjects who were given either the "Third Person/No Evidence" or "Third Person/Yes Evidence" condition.

TABLE 3 (CONTINUED)

I R	II Scenario	III IV V VI				VII (Objective)
		<i>person</i>		<i>evidence</i>		
		1st	3d	No	Yes	
15.	Obtaining a voiceprint	15	14	14	17	--
16.	Searching a coal mine	16	17	22	8	(safety violations)
17.	Searching a private junkyard	18	19	16	19	(stolen car parts)
18.	Using a beeper to track car	24	15	21	15	(suspected drug dealer)
19.	Pat-down	19	21	27	9	(at airport after terrorist threat)
20.	Search of newspaper office	17	22	17	30	(picture)
21.	Search of cornfields surrounded by fence and "No Trespassing" signs	26	18	18	24	(marijuana)
22.	Fingerprinting in back of police car	23	20	19	21	--
23.	Dog sniff of body	22	23	20	27	(drugs)
24.	Searching bedroom of probationer	20	25	23	18	(illegal gun)
25.	Searching a sixth-grader's locker	25	24	24	20	(drugs)
26.	Rummaging through suitcase at airport	21	27	25	33	(drugs)
27.	Going through drawers at office	27	28	28	31	(evidence of theft)
28.	Arrest, handcuffing, and detention for 48 hours	40	26	31	26	(rape charges)
29.	Looking in trunk of car on public street	30	31	32	25	(evidence of armed robbery)
30.	Searching interior of car on public highway	28	32	29	34	(weapons)
31.	Using chauffeur as undercover agent	35	30	34	23	(organized crime)
32.	Searching footlocker found in car	29	35	30	35	(drugs)
33.	Watching person in front yard with binoculars	34	33	35	29	(see who is there)
34.	Using secretary as undercover agent	39	29	37	28	(organized crime)
35.	Searching yacht at sea	31	36	36	32	(drugs)
36.	Questioning on public sidewalk for 10 minutes	32	37	26	47	(determine destination)
37.	Searching a garage	33	39	33	39	(contraband)
38.	Perusing bank records	36	40	38	36	(illegal funds)
39.	Accompanying to urinal at work and listening for sounds of urination	43	38	39	40	(drug usage)
40.	Hospital surgery on shoulder	37	43	43	41	(bullet)
41.	Searching high school student's purse	44	41	41	37	(cigarettes)
42.	Tapping into corporation's computer	42	42	40	38	(fraud)
43.	Search of college dormitory room	38	45	43	42	(drugs)
44.	Boarding a bus and asking to search luggage	48	34	45	44	(drugs)
45.	Searching mobile home	41	44	44	43	(drugs)
46.	Needle in arm at work to get blood	45	48	47	45	(drug usage)
47.	Search of a bedroom	47	46	46	49	(money)
48.	Reading a personal diary	46	47	48	48	(embezzlement)
49.	Monitoring phone for 30 days	50	49	49	46	(gambling)
50.	Body cavity search at border	49	50	50	50	(drugs)

Note that within the seven scenarios ranked at the top of the Table and the six scenarios at the bottom there is very little variation between the four conditions (as shown in Columns III through VI). There was thus widespread agreement among the survey participants, regardless of the conditions to which they were exposed, as to the rankings at the extreme ends of the hierarchy. In many of the thirty-seven intermediate scenarios, on the other hand, there are greater ranking variations between conditions. Unfortunately, many of these variations are ambiguous, due to an inevitable attribute of the ranking system used here: once one scenario is ranked differently across conditions (for example, 1, 2, 1, 1), at least one other scenario will of necessity be ranked inconsistently as well (for example, 2, 1, 2, 2). In light of this "ranking variance" phenomenon, differences in ranking within a scenario are hard to interpret; it is probable that small differences in a scenario's ranking across the four conditions are meaningless.

TABLE 4  
FOCUS SCENARIOS AND INTRUSIVENESS RANKINGS

I	II	III	IV	V	VI	VII
R	Scenario	<i>person evidence</i>				(Objective)
		1st	3d	No	Yes	
1.	Following pedestrian in police car (R=8)	11	7	5	22	(determine destination)
2.	Searching a coal mine (R=16)	16	17	22	8	(safety violations)
3.	Pat-down (R=19)	19	21	27	9	(at airport after terrorist threat)
4.	Search of newspaper office (R=20)	17	22	17	30	(picture)
5.	Rummaging through suitcase at airport (R=26)	21	27	25	33	(drugs)
6.	Arrest, handcuffing, and detention for 48 hours (R=28)	40	26	31	26	(rape charges)
7.	Using chauffeur as undercover agent (R=31)	35	30	34	23	(organized crime)
8.	Using secretary as undercover agent (R=34)	39	29	37	28	(organized crime)
9.	Questioning on public sidewalk for 10 minutes (R=36)	32	37	26	47	(determine destination)
10.	Boarding a bus and asking to search luggage (R=44)	48	34	45	44	(drugs)

Nonetheless, we felt compelled to examine the most significant variations between condition rankings further. Arbitrarily selecting

those scenarios in which the difference between any two condition rankings was ten or more produced ten "Focus Scenarios," which are reproduced for ease of reference in Table 4. In these scenarios, the difference in conditions had their greatest effect and can plausibly be said to have escaped the "ranking variance" problem described above. Further analysis of these Focus Scenarios yields some insights into how people may perceive intrusiveness.

### B. *How Intrusiveness Is Perceived: Three Theories*

Looking solely at the ten Focus Scenarios, we were able to test our initial hypotheses about the effects of the First and Third Person conditions, and the No and Yes Evidence conditions (that is, Hypotheses 2 and 3). Three Focus Scenarios (6, 8, and 10) show a "significant" differential (that is a difference of ten or greater) between the First and Third Person conditions, all in the direction predicted by our hypothesis that the First Person condition would be rated as more intrusive. Additionally, four of the Focus Scenarios (2, 3, 7, and 8) show a significantly greater ranking in the No Evidence condition than in the Yes Evidence condition, correlating with our hypothesis that the former condition would be rated as more intrusive. However, there are four Focus Scenarios (1, 4, 5, and 9) that exhibit a strong differential between the No and Yes Evidence conditions in a direction *opposite* to that predicted.

Building on our initial hypotheses about the effects of the conditions (especially Hypothesis 3, involving the No and Yes Evidence conditions), we arrived at three possible theories that may explain these various results (as well as many of the "less significant" variations within other scenarios). They are: (1) the "inference of guilt" theory; (2) the "dangerousness" theory; and (3) the "implied consent" theory. Some of the results can be explained by more than one of these theories.

1. *The Inference of Guilt Theory.* The "inference of guilt" theory posits that searches and seizures of people who appear to be "guilty" will be ranked less intrusively than searches and seizures of "innocent" people. The Focus Scenario that may best illustrate this theory is the arrest item (6). Forgetting for a moment how this scenario is ranked between conditions, note its counterintuitive place in the overall rankings. In particular, note that, according to our subjects, a public arrest involving

handcuffing and a forty-eight hour detention ( $R = 28$ ) is rated as less intrusive than a stop for ten minutes ( $R = 36$ ). This comparison not only cuts against the Court's cases,<sup>114</sup> but also seems to run counter to "conventional wisdom."

The inference of guilt theory may provide a simple explanation for this result. The arrest scenario is the only scenario, of the entire fifty, involving a clear police decision that the person involved is guilty; in contrast, the other forty-nine scenarios involve either a search to determine if the person is guilty or an "exploratory" seizure short of an arrest. Thus, the strong inference of guilt implicit within the arrest scenario may have outweighed our survey's admonition to assume the innocence of the target, which in turn may have influenced the perception of intrusiveness. Supporting this assertion is the fact that the one significant exception to the arrest scenario's relatively low ranking comes under the First Person condition, where the *subject* is posited as the person being arrested, and the assumption of innocence is likely to be maintained.

Many of the significant differences between the No and Yes Evidence conditions in the Focus Scenarios might also demonstrate the inference of guilt theory. In particular, note the findings in Focus Scenarios 1, 4, and 9, which produced the largest margins between the No and Yes Evidence conditions in a direction opposite from that hypothesized: that is, the Yes Evidence condition was ranked as significantly more intrusive in these scenarios than in any other. Interestingly, whereas most of the scenarios in our study involved searches for drugs, weapons, and other obvious evidence of criminal activity, these scenarios were three of only four, in the entire set of fifty, posing an "objective" that was not clearly related to investigation of wrongdoing: Focus Scenarios 1 and 9 involved police actions to determine "destination" and Focus Scenario 4 involved a search for a "picture." Perhaps the subjects exposed to these scenarios in the Yes Evidence condition ranked them as more intrusive because they believed the targets were *innocent*, and that the police accordingly had no business engaging in such actions.<sup>115</sup>

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114. *Terry v. Ohio*, 392 U.S. 1, 26 (1968) ("An arrest is a wholly different kind of intrusion upon individual freedom from a limited search for weapons . . .").

115. Findings with respect to the fourth and final scenario involving "innocent" behavior—use of binoculars to see who is in the front yard of a house—may contradict this

2. *The Dangerousness Theory.* A related possible explanation for many of the variations within the Focus Scenarios is that the subjects allowed their attitudes toward the types of crime being investigated to affect their answers under the Yes Evidence condition. Under this theory, if the subject believes the suspected activity in the Yes Evidence condition is particularly dangerous, the investigative method used to detect it will be rated as relatively unintrusive. If, on the other hand, the activity being investigated seems relatively innocuous, the intrusiveness rating will be proportionately higher. This theory may provide an alternative explanation for why the differential found in Focus Scenarios 1, 4, and 9 (which, as just discussed, did not seem to involve investigations of harmful activity) diverged from our original prediction on the effect of the No and Yes Evidence conditions. The theory may also enhance understanding of the Focus Scenarios that do vary in the direction we originally predicted with respect to these conditions. For instance, three of the four Focus Scenarios with the biggest differentials in this respect involved investigations of crimes which arguably were among the most fear-producing in the study: Focus Scenarios 7 and 8 (the only two scenarios involving organized crime), and Focus Scenario 3 (the only scenario involving a terrorist threat).<sup>116</sup>

The "dangerousness" theory might also explain the "semi-significant" differential (of eight ranking places) between the Evidence conditions in Focus Scenario 5, despite the fact that the Yes Evidence condition there clearly involved evidence of crime—that is, drugs—and is ranked *higher* than the No Evidence condition. To see why, it is helpful to examine the rest of the scenarios involving drug-related crime. Looking at Table 3 again, note that when the evidence sought is "drugs" or drug-related, the variance between the Yes and No Evidence conditions does not move consistently in one direction; sometimes the Yes Evidence condition is ranked more highly than the No Evidence condition, and sometimes the reverse is true. But a pattern is perhaps discernible.

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reasoning (if a difference of six is considered "significant") since its No Evidence ranking was 35, but its Yes Evidence ranking was 29.

116. The fourth scenario in this category, Focus Scenario 2 (involving search of a coal mine for "safety violations"), is probably better explained through the "implied consent" theory, discussed *infra* text accompanying notes 118-20.

When the drugs are sought under circumstances which could suggest private use (see R = 3, 10, 12, 21, 23, 26, 32, 37, 40, 43, 44, 46, 50), the intrusiveness of the police action is ranked either virtually the same or, as in Focus Scenario 5, much higher in the Yes Evidence condition. On the other hand, when the drugs are sought from a drug dealer or under circumstances connoting organized crime (see R = 18, 35), just the opposite result occurs. This pattern fits the dangerousness theory, if one assumes that the subjects do not view private drug use as particularly threatening, but react strongly to drug dealing.<sup>117</sup>

3. *The Implied Consent Theory.* A final theory which may have some explanatory value focuses not on who or what is being investigated, but on the target's perception of the motivation for the search or seizure. As described by Professor Slobogin:

[A] frisk for a gun is normally equally intrusive whether its purpose is to gather evidence of a felony or a misdemeanor. But suppose that the frisk for the gun is conducted at an airport in an effort to detect and deter hijackings or bombings by terrorists. If the people subject to the frisk are aware that its purpose is to prevent the possibility of harm to their person, and that it is the only feasible way of avoiding that harm, they may feel genuinely grateful for the government intervention. Their sense of intrusion, harassment, or stigmatization might be significantly reduced given their awareness of the danger confronting them and of the few options available to avert that danger.<sup>118</sup>

Put in different terms, when the motivation of the searchers seems beneficent, the sense of intrusion is lessened.<sup>119</sup>

The "implied consent" theory described above most obviously helps to explain the low Yes Evidence intrusiveness rating in Focus Scenario 3, which posed a pat-down in the No Evidence condition, but an airport pat-down after a terrorist threat in the Yes Evidence condition. It also may provide an alternative explanation for the higher Yes Evidence and lower First Person rankings in

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117. The only major exception to this rule is the scenario involving a search of a sixth-grader's locker for drugs (R = 25); there, the Yes Condition is ranked four levels below the No Condition, a differentiation which, assuming it is significant, can easily be explained in terms of the dangerousness theory, given the age of the private user.

118. Slobogin, *supra* note 103, at 62-63.

119. See Small, *supra* note 63, at 64 (finding that "[r]atings of the offensiveness of intrusive activities are significantly shaped by the stated motive of the intruder").

Focus Scenario 5 (counter to both Hypothesis 2 and Hypothesis 3). Note that this scenario changed from "rummaging through a suitcase in an airport" in the No Evidence condition—a search a person might easily conjecture was for weapons—to "rummaging through a suitcase in an airport for *drugs*" in the Yes Evidence condition. If the implied consent theory is correct in predicting that a normally intrusive search will seem less so when it promotes self-protection, the finding that the First Person and No Evidence conditions in this scenario were ranked less intrusively than their counterparts is not surprising.

Finally, the implied consent theory may explain the larger than average differential between the Evidence conditions in Focus Scenario 2, which involved a search of a coal mine in the No Evidence condition and a search of a coal mine for evidence of safety violations in the Yes Evidence condition. As Professor Slobogin puts it:

When the purpose of the government action is to punish or shame (as with searches for infractions of school disciplinary rules), it is likely to be seen as intrusive even if it does not result in criminal prosecution. But if the object is to facilitate and aid (as in fire, safety, and health inspections), then the typical reaction may be different. As in the airport frisk scenario presented earlier, people subjected to such inspections may be grateful for the intrusion even if nothing is discovered . . . .<sup>120</sup>

Thus, the fact that the coal mine scenario received its lowest rating from subjects who were told it involved a search for safety violations is not surprising. The implied consent theory may also help explain the low rankings, overall, of inspections of restaurant kitchens ( $R = 7$ ) and residential plumbing and wiring ( $R = 11$ ).

4. *Implications of the Theories.* At this stage, of course, all of the theories proffered above are speculation. The condition rankings in Table 3 suffer from the same external validity flaws that afflict the overall rankings in Table 1, with the added problem that the sample for each condition is smaller than the overall sample. Furthermore, because the scenarios were meant to mimic actual cases, they were not constructed to test the theories outlined above (which we developed only after we obtained the re-

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120. Slobogin, *supra* note 103, at 95 (footnote omitted).

sults). Thus, the type of evidence sought and the types of crimes involved were varied too idiosyncratically to establish clear conclusions about their validity.

It must also be recognized, of course, that the three theories advanced here, even if valid, do not exhaust all the possible ways in which people view intrusiveness. In addition to the four conditions used here (First and Third Person, No and Yes Evidence), there may be many other variables that affect perceptions of privacy and autonomy, such as the behavior of the police, the time of day and the thoroughness of the search,<sup>121</sup> and the nature of the evidence sought from a particular place,<sup>122</sup> none of which were consistently integrated into our survey.

With these caveats, a few observations about the implications of these theories can be made. Most troublesome are the implications of the inference of guilt and dangerousness theories. As noted earlier, the Court has held that intrusiveness under the Fourth Amendment should be considered from the viewpoint of an innocent person.<sup>123</sup> And, purely as a matter of logic, it would seem that to the extent an intrusiveness rating is based on assumed guilt of the particular target or repugnance toward the criminal activity investigated, it should be invalid for Fourth Amendment purposes. Thus, for instance, the mere fact that the police have decided a person is subject to arrest, or are investigating organized crime rather than some lesser crime, should not normally affect measurement of the action's insult to privacy or autonomy. Similarly, the mere fact that the police do not appear to be after wrongdoing (but are merely asking, say, about destination) should not elevate the level of intrusiveness above what it would be if the police's objective were unknown.

The issue to which the relative "guilt" of the target is more obviously relevant is whether, once the intrusiveness of an investigative action has been established, the police may undertake it.

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121. See Bradley, *supra* note 108, at 1491.

122. Imagine, for instance, a search of "open fields" for marijuana, versus a search of "open fields" for a conversation. The latter is likely to be seen as more intrusive. See generally Richard G. Wilkins, *Defining the "Reasonable Expectation of Privacy": An Emerging Tripartite Analysis*, 40 VAND. L. REV. 1077, 1100-07 (1987) (arguing that the location, whether there is physical intrusion into it, and the object of the search are all variables given significance in the Court's cases). This study was not constructed to test these variables in a systematic way.

123. See *supra* text accompanying notes 27-29.

For instance, if the police stop a person and ask open-ended questions about destination for ten minutes, it is likely that they lacked concrete suspicion that the person is engaged in criminal activity. If so, the stop should not have occurred in the first place. By the same token, the high degree of intrusion associated with an arrest is nonetheless permissible if the police have significant reason to believe the person has committed a crime. Less persuasively, one might argue that the nature of the suspected crime should also affect how much suspicion the police need before they may act (for example, our fear of organized crime might allow the police to investigate on less than normal justification).<sup>124</sup>

In any event, the intrusiveness issue and the issue of whether there is sufficient suspicion to authorize a given intrusion should not be conflated. Yet the subjects in our study may have done so, either unconsciously or consciously, in reaction to the target's assumed guilt or suspected crime. Whether the same biasing process occurs in the courts is an important question. The typical Fourth Amendment case involves a clearly guilty person, often charged with a serious crime, whose only argument at a pretrial suppression hearing or on appeal is that the evidence against him was illegally seized. Analysis of the Focus Scenarios strongly supports Hypothesis 3's conjecture that judges are more likely to discount assertions of expectations of privacy and restraints on liberty under these circumstances than if the person were clearly innocent.<sup>125</sup>

The third theory of intrusiveness supported by this study—the implied consent theory—is more compatible with the rationale of the Fourth Amendment than are the inference of guilt and dangerousness theories, because it focuses on the reaction of the target, not the observer. If the person investigated feels that the purpose

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124. However, one of us has argued that, except in rare instances, where a specific threat of future danger is involved, dangerousness should not permit reduction in the certainty level. See Slobogin, *supra* note 103, at 55–64.

125. Other empirical evidence suggests that juries act in a similar manner. See Jonathan D. Casper et al., *The Tort Remedy in Search and Seizure Cases: A Case Study in Juror Decision Making*, 13 *LAW & SOC. INQUIRY* 279, 299 (1988) (suggesting that plaintiffs in civil suits against officers receive less favorable verdicts from juries who know that evidence was found during the search); see also Thomas Y. Davies, *A Hard Look at What We Know (and Still Need to Learn) About the "Costs" of the Exclusionary Rule: The NIJ Study and Other Studies of "Lost" Arrests*, *AM. B. FOUND. RES. J.* 611, 685 & n.436 (1983); William J. Stuntz, *Warrants and Fourth Amendment Remedies*, 77 *VA. L. REV.* 881, 911–13 (1991).

of a search or a seizure (such as the airport frisk in response to a terrorist threat) is beneficent, the sense of intrusion is likely to be diminished, if not eliminated.<sup>126</sup> Accordingly, this theory may be a useful one for courts to consider in evaluating intrusiveness. Although it seems to have considered this theory in at least one case,<sup>127</sup> the Supreme Court has never endorsed this approach.

C. *Results re Hypothesis 4: The Effect of Attitudes Toward the Criminal Justice System*

The final factor focused on in this study is the relationship between attitudes toward the criminal justice system and intrusiveness. The data revealed a significant relationship between due process attitudes and perceptions of intrusiveness;<sup>128</sup> that is, the more due process-oriented the subject, the more likely the search and seizure scenarios are to be perceived as intrusive. This finding conforms with our prediction that those most interested in protecting the rights of criminal defendants would also be most concerned about privacy and autonomy.

On the other hand, contrary to our hypothesis, perceptions of intrusiveness and crime control attitudes were not significantly related.<sup>129</sup> Apparently, those who consider the primary goal of the

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126. Such a theory may also allow routine drug and alcohol checks of all people who fly planes or engineer trains.

127. In *Camara v. Municipal Court*, 387 U.S. 523 (1967), the Court justified residential inspections for safety and health violations in part on the ground that "such programs have a long history of judicial and public acceptance." *Id.* at 537.

128.  $r = .44$ ,  $p < .001$ . The designation  $r$  stands for a Person Product Moment Correlation (or statistical relation) between two variables (here, perception of intrusiveness and due process attitudes). An  $r$  score of 1.0 means a perfect correlation. However, an  $r$  of over .4 is considered relatively high. JOHN MONAHAN & LAURENS WALKER, *SOCIAL SCIENCE IN LAW: CASES AND MATERIALS* 75 (2d ed. 1990). Thus, a correlation of  $r = .44$  suggests that persons who have high scores on the due process scale (i.e., due process-oriented persons) are also likely to give high scores on the intrusiveness scale, and vice versa (i.e., people who scored low on the due process scale are likely to score the scenarios less intrusively). The probability that this relation is due to chance is 1 out of 1,000 ( $p < .001$ ). In general, the higher the correlation, the stronger the relation.

129.  $r = .10$  (see *supra* note 128 for an explanation of this figure). One might question this finding on the ground that, if due process attitudes and intrusiveness ratings are directly related, then crime control attitudes and intrusiveness ratings *must* be inversely related. This conclusion would be correct if one assumes that due process and crime control attitudes are the opposite ends of the same construct. However, in a previously conducted factor analysis of the instrument we used in this study (the Attitudes Toward Crime Control Scales), it was discovered that those items that described a crime control position were often endorsed strongly by people who also endorsed strongly an item

criminal justice system to be convicting the guilty are not necessarily willing to disregard privacy interests to achieve this objective. When one considers the role of the Fourth Amendment in our society, this finding is not as counterintuitive as it might first appear. Many other criminal process rights, such as the right to remain silent,<sup>130</sup> the right to counsel during interrogation,<sup>131</sup> and the requirement that conviction at trial be based on proof beyond a reasonable doubt<sup>132</sup> often have the effect of helping people who are guilty to elude conviction. In contrast, the warrant and suspicion requirements, as flimsy as they are under current Supreme Court jurisprudence, still act to prevent police from random invasions of privacy, a prohibition that inures to the benefit of all citizens. To a much greater extent than the other rights mentioned, the right to be free of unreasonable searches and seizures tends to protect innocent people from governmental abuse.

The finding that there is no correlation between crime control attitudes and perceptions of intrusiveness does not necessarily mean that a similar result would be found among "crime control" judges, however. That is because a judge, unlike the subjects in our study, must sanction a violation of the Fourth Amendment once she has found it to apply; that sanction is usually exclusion of the illegally obtained evidence and the release of a clearly guilty person.<sup>133</sup> Thus, even if a crime control judge is as sensitive to privacy and autonomy concerns as a due process judge, her

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describing a due process position; it was further discovered that only a modest negative correlation existed between the two sets of items ( $r = -.33$ ), and that greater internal consistency was obtained when answers to crime control and due process items were scored separately. Thus, there appears to be a subset of persons who support *both* due process and crime control attitudes. Professor Schumacher concluded from this data that crime control and due process attitudes are separate constructs with high and low levels of each within each person, and they should be measured as such. Schumacher, *supra* note 38. The results of this study lend support to the view that due process and crime control attitudes can coexist.

130. *See, e.g.*, *Miranda v. Arizona*, 384 U.S. 436 (1966) (all those subject to custodial interrogation are entitled to be told they have a right to remain silent during interrogation); *Griffin v. California*, 380 U.S. 609 (1965) (prosecutor may not comment on defendant's failure to take the stand at trial); *Hoffman v. United States*, 341 U.S. 479, 486 (1951) (a witness may refuse to "furnish a link in the chain of evidence needed to prosecute").

131. *Miranda*, 384 U.S. at 436 (all those subject to custodial interrogation are entitled to be told they have a right to counsel during interrogation).

132. *In re Winship*, 397 U.S. 358 (1970).

133. *Mapp v. Ohio*, 367 U.S. 643 (1961).

evaluation of those concerns could easily be influenced by the "due process" remedy that awaits those who prevail on a Fourth Amendment claim.<sup>134</sup>

#### IV. CONCLUSION

Although its wording merely regulates police attempts to obtain physical evidence, the Fourth Amendment's importance extends far beyond that objective. As Professor Paulsen has noted:

The basic . . . problem of a free society is the problem of controlling the public monopoly of force. All the other freedoms, freedom of speech, of assembly, of religion, of political action, presuppose that arbitrary and capricious police action has been restrained. Security in one's home and person is the fundamental without which there can be no liberty.<sup>135</sup>

The Supreme Court's conclusions concerning the threshold of the Fourth Amendment and the extent of its protections have a significant impact on the nature of our society.

For good reason, then, the Court has stated that community values about intrusiveness should heavily influence, if not dictate, when a police investigative action infringes on "reasonable expectations of privacy" or produces "reasonable feelings of restraint." The results and explanations set forth above provide some initial evidence about those values. To the extent findings like these are replicated through methodologically sound research, they would suggest that the Supreme Court's conclusions about the scope of the Fourth Amendment are often not in tune with commonly held attitudes about police investigative techniques.

Assuming so, the Court has four options, the first two of which would not necessitate a change in the results of its search and seizure cases, the latter two of which would. The alternative most likely to be adopted, given the Court's past reaction to empirical research, is to reject or ignore the data. Second, the Court could render the data irrelevant, either by redefining the expectation-of-privacy and restraint-on-freedom concepts independently of

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134. Of course, further research is need to test this hypothesis about judges. See generally John Kaplan, *The Limits of the Exclusionary Rule*, 26 STAN. L. REV. 1027 (1974) (arguing that exclusionary rule exacts too great a cost on society).

135. Monrad G. Paulsen, *The Exclusionary Rule and Misconduct by the Police*, in POLICE POWER AND INDIVIDUAL FREEDOM 87, 97 (Claude R. Sowle ed., 1962).

societal understandings, or by deciding that intrusiveness is not as important to search and seizure analysis as it currently is thought to be. Third, the Court could keep its current analytical structure, but admit that its conclusions about society's expectations of privacy and autonomy are wrong. Finally, it could entirely restructure Fourth Amendment analysis so that, in contrast to the second option, it is more, rather than less, dependent upon the societal values reflected in our data.<sup>136</sup>

The results of this research should also remind judges that because of their distance from the world of police investigation and the effect of hindsight bias, they may tend to underestimate the intrusiveness of police actions, at least if community values remain the linchpin of search and seizure jurisprudence. Of course, one of the most effective ways of countering these biasing effects is to consult the type of data reported in this Article. If that method is rejected, judges will have to rely on self-knowledge and sensitive assessments of the facts to ensure that their assessments of expectations of privacy and autonomy reflect realistic societal attitudes rather than their own.

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136. As mentioned herein, such a specific reform has been previously suggested by Professor Slobogin. See *supra* notes 103-08 and accompanying text.