Police Vehicle Searches and Racial Profiling: An Empirical Study

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ARTICLES

POLICE VEHICLE SEARCHES AND RACIAL PROFILING: AN EMPIRICAL STUDY

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In 1981, the U.S. Supreme Court held in New York v. Belton *that police officers could lawfully search virtually anywhere in a vehicle without a warrant after the arrest of any occupant in the vehicle. Then, in 2009, the Court reversed course in* Arizona v. Gant, *holding that police could only engage in vehicle searches after such arrests in a smaller number of extenuating circumstances. This series of cases became a flash point for the broader debate about the regulation of policing. Law enforcement groups argued that administratively complex rules, like those established in* Gant, *risk officer safety. But some scholars and civil rights activists worried that by giving police officers wider discretion to search vehicles incident to arrest, the* Belton *rule may have led to unjustified civil rights violations and racial profiling.*

This Article argues that, by limiting vehicle searches incident to arrest, Gant *may have disincentivized policing tactics that disproportionately target individuals of color without jeopardizing officer safety.*

By utilizing a data set of traffic stops from thirteen law enforcement agencies in seven states, this Article presents an empirical study of the effects of shifting doctrines related to vehicle searches incident to arrest. This Article makes two findings. First, it finds no evidence that Gant *endangered officer safety. Changes in state doctrines related to vehicle searches incident to arrest are not associated with increases in assaults of officers during traffic stops. Second, it hypothesizes that* Gant *may have reduced racial profiling.* Gant *may be linked to a somewhat larger decline in vehicle searches incident to arrest for nonwhite individuals relative to white individuals.*

These findings are a reminder that seemingly neutral procedural choices by courts in regulating police behavior may have racially disparate effects.

We conclude by arguing for the narrowing of the discretionary authority of police officers as a mechanism for reducing disparities in the criminal justice system.

INTRODUCTION

Over the last several years, American policing has undergone a racial reckoning.[1] The murder of George Floyd at the hands of Minneapolis police

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1. *See, e.g.*, John Eligon & Audra D.S. Burch, *After a Summer of Racial Reckoning, Race Is on the Ballot*, N.Y. TIMES (Oct. 30, 2020), https://www.nytimes.com/2020/10/30/us/racial-justice-elections.html [https://perma.cc/7MAK-HDCF] (describing the summer of 2020 as a racial reckoning after the death of George Floyd); William Barber II & Jonathan Wilson-Hartgrove, Opinion, *A Cry of 'I Can't Breathe' United a Generation in a Gasp for Justice*, N.Y. TIMES (May 23, 2021), https://www.nytimes.com/2021/05/21/opinion/george-floyd-death-william-barber.html [https://perma.cc/R9Z9-YXSJ] (discussing how the murder of George Floyd stands alongside the killings of Trayvon Martin, Emmett Till, and others as triggers of social upheaval and reform); *Looking Back at a Year-Long Racial Reckoning Since George Floyd's Killing*, PBS (May 25, 2021, 6:52 PM), https://www.pbs.org/newshour/show/looking-back-at-a-year-long-racial-reckoning-since-george-floyds-killing [https://perma.cc/9AJB-SVZJ] (documenting the one-year anniversary of Floyd's death and how the event has changed the country).

and the ensuing nationwide protests[2] have spurred broader examinations of how the law regulating police behavior has allowed—and in some cases actively facilitated—the marginalization of individuals of color.[3]   The subsequent nationwide conversation over policing has exposed long-standing debates about the trade-offs involved in the regulation of officer behavior.[4] Civil rights advocates have pushed for additional oversight[5] and accountability,[6] with some arguing for a narrowing of the scope of policing,[7]

2. Radhika Chalasani, *George Floyd Protests Aren't Just Happening in Big Cities*, ABC NEWS (June 20, 2020, 11:29 AM), https://abcnews.go.com/US/article/george-floyd-protests-happening-big-cities/story?id=71327256 [https://perma.cc/C4UY-H4UT] ("Protests against racial injustice and police brutality, spurred by the death of George Floyd . . . aren't just happening in major U.S. cities, but in smaller cities as well as small towns."); *see also* Alex Altman, *Why the Killing of George Floyd Sparked an American Uprising*, TIME (June 4, 2020, 6:49 AM), https://time.com/5847967/george-floyd-protests-trump/ [https://perma.cc/LJD2-7MH6] (describing how the "horrific video" of "white Minneapolis police officer Derek Chauvin casually kneeling on the victim's neck . . . has spurred a national uprising").

3. For example, the killing of George Floyd inspired the proposal of the George Floyd Justice in Policing Act. *See* Sean Collins, *The House Has Passed the George Floyd Justice in Policing Act*, VOX (Mar. 3, 2021, 9:34 PM), https://www.vox.com/2021/3/3/22295856/george-floyd-justice-in-policing-act-2021-passed-house [https://perma.cc/47K3-H4TP] (describing how the measure would make numerous reforms to policing, including banning chokeholds and ending qualified immunity).

4*. See, e.g.*, Deborah Becker, *How the George Floyd Protests Sparked Debate About— and Among—Law Enforcement in Mass.*, WBUR (June 4, 2020), https://www.wbur.org/news/2020/06/04/massachusetts-law-enforcement-debate-george-lloyd [https://perma.cc/E6JL-ESTQ] (outlining reform efforts in Massachusetts and pushback from police officer groups).

5*. See, e.g.*, Makini Brice & Richard Cowan, *U.S. House Passes 'George Floyd' Police Reform Bill, Senate Prospects Unclear*, REUTERS (Mar. 3, 2021, 10:01 PM), https://www.reuters.com/article/us-usa-congress-police/u-s-house-passes-george-floyd-police-reform-bill-senate-prospects-unclear-idUSKCN2AW07N   [https://perma.cc/94J3-5NSY] (describing in part how the George Floyd Justice in Policing Act would increase support for and establish requirements surrounding oversight mechanisms like body cameras).

6*. See, e.g.*, Dirk VanderHart, *Oregon Legislative Session on Police Accountability Coming Soon*, OR. PUB. BROAD. (June 11, 2020, 6:08 PM), https://www.opb.org/news/article/police-accountability-arbitration-oregon-special-session-legislature [https://perma.cc/Y4UE-KTDW] (describing a new law in Oregon that changes procedures for police disciplinary appeals by limiting the scope of arbitrator review); Steve Benham, *Police Reform Plan Restricts Arbitrator from Overturning Discipline Decisions*, KATU (June 22, 2020), https://katu.com/news/politics/police-reform-plan-restricts-arbitrator-from-overturning-discipline-decisions [https://perma.cc/5PPQ-44ES] (same). This reform proposal ultimately became law. *See* OR. REV. STAT. ANN. § 243.706 (West 2022).

7*. See, e.g.*, Christy E. Lopez, *Defund the Police?: Here's What That Really Means*, WASH. POST (June 7, 2020, 6:37 PM), https://www.washingtonpost.com/opinions/2020/06/07/defund-police-heres-what-that-really-means [https://perma.cc/9YS3-5C8F] (explaining that many supporters of defunding approaches actually support reducing the scope of police responsibilities); Ryan W. Miller, *What Does 'Defund the Police' Mean and Why Some Say 'Reform' Is Not Enough*, USA TODAY (June 8, 2020, 3:02 PM), https://www.usatoday.com/story/news/nation/2020/06/08/what-does-defund-police-mean-george-floyd-black-lives-matter/5317240002 [https://perma.cc/R6YE-8PHD] (describing the expanding role of policing in recent decades and the arguments in favor of reducing the scope of police responsibilities). For an example of a scholarly proposal to concretely limit the scope of police responsibilities, see Jordan Blair Woods, *Traffic Without the Police*, 73 STAN. L. REV. 1471 (2021) (supporting the removal of police officers from traffic enforcement in many cases).

defunding,[8] and/or abolition.[9] In response, police chiefs and union leaders have claimed that additional reforms and regulations risk officer safety[10] and impair their ability to fight crime.[11] Although the murder of George Floyd shone a light on these issues, scholars, civil rights advocates, and policing leaders have long debated how to best regulate policing in a manner that balances safety and civil rights.

Few criminal procedure cases better illustrate this tension than the U.S. Supreme Court's 2009 decision in *Arizona v. Gant*.[12] There, the Court analyzed a rather technical issue of criminal procedure: whether a police officer could automatically search a vehicle incident to the arrest of an occupant of the vehicle.[13] But despite its seemingly narrow scope, the case emerged as a flash point for the broader debate over police regulation. Policing advocates argued that officers needed a clear, bright-line rule that permitted them to search vehicles any time they arrest a vehicle occupant.[14]

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8. *See, e.g.*, KATE HAMAJI, KUMAR RAO, MARBRE STAHLY-BUTTS, JANAÉ BONSU, CHARLENE CARRUTHERS, ROSELYN BERRY & DENZEL MCCAMPBELL, CTR. FOR POPULAR DEMOCRACY ET AL., FREEDOM TO THRIVE: REIMAGINING SAFETY & SECURITY IN OUR COMMUNITIES 1 (2017), https://populardemocracy.org/sites/default/files/Freedom%20To%20 Thrive%2C%20Higher%20Res%20Version.pdf [https://perma.cc/JZL7-8Q88] (providing a detailed case by an advocacy organization for defunding the police). For a scholarly assessment generally supporting defunding framing and approaches, see Jessica Eaglin, *To 'Defund' the Police*, 73 STAN. L. REV. 120 (2021). *But cf.* Stephen Rushin & Roger Michalski, *Police Funding*, 72 FLA. L. REV. 277 (2020) (generally opposing defunding as a remedy to officer misconduct).

9. *See, e.g.*, Mariame Kaba, *Yes, We Mean Literally Abolish the Police*, N.Y. TIMES (June 12, 2020), https://www.nytimes.com/2020/06/12/opinion/sunday/floyd-abolish-defund-police.html [https://perma.cc/PB8M-JGMV] (supporting a full abolition of police departments as we know them). For a scholarly discussion of abolition, see generally ALEX S. VITALE, THE END OF POLICING (2017) (generally supporting a version of abolition) and Amna Akbar, *An Abolitionist Horizon for (Police) Reform*, 108 CALIF. L. REV. 1781 (2020) (also supporting an abolitionist frame).

10. *See, e.g.*, Michel Martin, *Law Professor on California's New Use of Force Law*, NPR (Aug. 24, 2019; 5:13 PM), https://www.npr.org/2019/08/24/754052321/law-professor-on-california-s-new-police-use-of-force-law [https://perma.cc/B3AR-ARNV] (discussing the implications of a new use of force reform in California on, among other things, officer safety).

11. *See, e.g.*, Griff Witte & David Weigel, *With Violent Crime Spiking, the Push for Police Reform Collides with Voters' Fears*, WASH. POST (May 16, 2021, 6:00 AM), https://www.washingtonpost.com/national/police-reform-push-sputters/2021/05/15/ 5e075848-b426-11eb-a3b5-f994536fe84a_story.html [https://perma.cc/95WD-PAJH] (documenting how surging violent crime rates in many of the nation's largest cities have renewed some opposition to reform efforts and spurred more pushback from law enforcement groups); Asma Khalid, *An Old Friend of Law Enforcement, Biden Walks a Thin Line on Police Reform*, NPR (July 8, 2021, 7:50 AM), https://www.npr.org/2021/07/06/1013266729/biden-tries-to-balance-calls-to-reform-the-police-amid-more-mass-shootings [https://perma.cc/ 5DRW-52PB] (explaining how President Joe Biden's criminal justice reform proposals must be balanced against the reality of increasing violent crime sweeping the nation).

12. 556 U.S. 332 (2009).

13. *Id.* at 335 (explaining the procedural posture of the case and describing how the lower court concluded that under these circumstances, the Fourth Amendment did not permit such automatic vehicle searches).

14. Brief for National Association of Policing Organizations, Inc. as Amici Curiae Supporting Petitioner at 4–7, Arizona v. Gant, 556 U.S. 332 (2009) (No. 07-542) (describing the challenge of learning all of the aspects of criminal procedure rulings as "daunting" for

Any other rule, they argued, would impair officer safety and create an ambiguous, unmanageable standard.[15] But civil rights advocates claimed that a broad rule permitting any search after an arrest of a vehicle occupant violated the Fourth Amendment by allowing officers too much discretion to engage in unnecessary and intrusive searches.[16] Instead, civil rights advocates pushed the Court to adopt a narrower and admittedly more complicated standard—that police could only search vehicles incident to an arrest if the search was necessary to protect officer safety or if the search was necessary to preserve evidence related to the reason for the arrest.[17] Although it was administratively more difficult to employ, civil rights advocates believed that this rule would better protect privacy in a manner consistent with Fourth Amendment requirements.[18] The Court ultimately sided with civil rights advocates in overturning the dominant interpretation of its previous ruling in *New York v. Belton*[19] and narrowing the opportunities for police to search vehicles incident to arrest.[20] Across a lengthy majority opinion, concurrence, and two dissents, the justices used *Gant* as an opportunity to debate the trade-offs implicit in this kind of police regulation.[21] Little research has examined the effects of the *Gant* decision or its broader implications for the discussion and literature on police regulation.

By using traffic stop data from the Stanford Open Policing Project database[22] covering thirteen law enforcement agencies across seven states, this Article presents an empirical evaluation of the effects of shifting doctrines on vehicle searches incident to arrest. Because of the unique

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police officers and arguing that police "surely do not need to have the bright-line rule of *Belton* and *Thornton* replaced with an amorphous contingency").

15. *Id.* at 1–4 (claiming generally that "[l]aw enforcement work, never particularly safe, has unfortunately become even more dangerous to the men and women who enforce our social contract at great personal risk" and arguing that changing the *Belton* rule would further endanger officer safety).

16. Brief for Amicus Curiae National Association of Criminal Defense Lawyers in Support of Respondent at 22–28, Arizona v. Gant, 556 U.S. 332 (2009) (No. 07-542) (arguing that the *Belton* standard is inconsistent with the Fourth Amendment).

17. Brief of the National Association of Federal Defenders as Amicus Curiae in Support of Respondent at 4–6, Arizona v. Gant, 556 U.S. 332 (2009) (No. 07-542) (defending the Arizona Supreme Court's ruling narrowing the scope of permissible law enforcement searches of arrestees' vehicles incident to arrest to these circumstances).

18. *Id.* at 3 ("Interpretation of the Fourth Amendment to not allow automatic vehicle searches after an arrestee is secured provides a straightforward and readily manageable rule.").

19. 453 U.S. 454 (1981).

20. Arizona v. Gant, 556 U.S. 332, 347 (2009) ("For these reasons, we are unpersuaded by the State's arguments that a broad reading of *Belton* would meaningfully further law enforcement interests and justify a substantial intrusion on individuals' privacy.").

21. *See generally id.* (majority opinion by Justice John Paul Stevens, concurrence by Justice Antonin Scalia, and dissenting opinions by Justices Stephen Breyer and Alito).

22. STANFORD OPEN POLICING PROJECT, https://openpolicing.stanford.edu [https://perma.cc/AZ52-N8NA] (last visited Sept. 2, 2022) (click on "view data" and navigate to the list of jurisdictions); *see also* Emma Pierson, Camelia Simoiu, Jan Overgoor, Sam Corbett-Davies, Daniel Jenson, Amy Shoemaker, Vignesh Ramachandran, Phoebe Barghouty, Cheryl Phillips, Ravi Shroff & Sharad Goel, *A Large-Scale Analysis of Racial Disparities in Police Stops Across the United States*, 4 NATURE HUM. BEHAV. 736, 736–37 (2020) (the paper that resulted from the data collection by these researchers).

jurisdictional variation in laws on searches incident to arrest across these seven states, we estimate the effect of these kinds of doctrinal changes on officer safety, stops, arrests, and searches. We make two findings. First, using data from the Law Enforcement Officers Killed and Assaulted (LEOKA) Data Collection,[23] we fail to find evidence that *Gant* or *Gant*-like state equivalent rules endanger officer safety. Jurisdictions that adopted more restrictive rules on searches incident to arrest saw no subsequent increases in officer assaults or deaths relative to jurisdictions with less restrictive rules.[24] These findings are insensitive to various alternative modeling choices, giving us some confidence that *Gant*-like regulations had minimal effects on officer safety.

Second, we find that *Gant* was not associated with any statistically significant change in officer behavior in the aggregate.[25] Jurisdictions that moved from the lax *Belton* doctrine to the more restrictive *Gant* doctrine saw no statistically significant change in the frequency of searches that co-occurred with arrests during traffic stops. This could suggest that, after *Gant*, officers simply used alternative means, like inventory searches,[26] to search many of the same vehicles that they would have previously searched under the more expansive *Belton* doctrine. When we break down our results by race, however, we uncover a more pronounced decline in officer stops, arrests, and searches incident to arrest for individuals of color relative to white individuals after *Gant*.[27] Although limitations inherent to our models and the limited available data prevent us from making definitive causal conclusions, we hypothesize that this statistical pattern may be attributed to officers previously using the broad discretionary authority granted by *Belton* to more frequently target drivers of color.[28] By reducing the opportunities for officers to engage in some vehicle searches incident to arrest, *Gant* may have disincentivized pretextual tactics generally.[29]

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23. *Law Enforcement Officers Killed and Assaulted*, FED. BUREAU OF INVESTIGATION (2020), https://www.fbi.gov/services/cjis/ucr/leoka [https://perma.cc/5NRQ-U6GA].

24. *See infra* Part IV.A. and figs.2 & 3 (showing both the raw trend lines and the more sophisticated modeling).

25. *See infra* Part IV.B. and fig.4 (presenting the results of our modeling).

26. *See* Colorado v. Bertine, 479 U.S. 367, 375–76 (1987) (holding that police officers could search closed containers inside an impounded vehicle as part of an inventory search, so long as the search is carried out pursuant to a standard policy of documenting contents of a vehicle after impounding, and not as part of a bad faith effort to merely investigate criminal conduct); *cf.* Florida v. Wells, 495 U.S. 1 (1990) (conversely holding that the search of a locked suitcase taken out of the trunk of an impounded car, without any set policies on inventory searches, was not valid under the inventory search exception).

27. *See* Part IV.B and fig.5 (showing the comparative changes in searches incident to arrest for white drivers and drivers of color).

28. *See infra* Parts IV.B and Conclusion and accompanying text.

29. It is important to transparently recognize the limitations of our study. We cannot definitively say that changes to doctrine on searches incident to arrest were the single, causal contributor to the subsequent changes in officer behavior that we observe. Like any study of law, race, and policing, it is near impossible to attribute causation with certainty. We do our best to consider alternative explanations and introduce a range of control variables. Nevertheless, this study—like most similar studies—should be viewed as not only empirical but also theory-building in nature.

Based on this hypothesis, we conclude by considering the implications of these findings for the literature on policing. Our findings refute the officer safety narrative that has pushed courts and policy makers to adopt rules that defer to police discretionary authority.[30] This is not to say that police regulations will never risk officer safety, but it provides evidence that some opposition to police regulation on officer safety grounds may be overstated. Additionally, our findings show that *Gant* may have had effects that some civil rights advocates at the time did not fully appreciate or predict. At the time of *Gant*, neither the amici, the petitioner, nor the justices discussed the implications of the decision on communities of color.[31] The findings from this Article are a reminder that seemingly neutral procedural choices by courts in regulating police behavior may have racially disparate effects. Thus, we conclude by arguing for the narrowing of the discretionary authority of police officers as a mechanism for reducing disparities in the criminal justice system.[32]

This Article proceeds in four parts. Part I walks through the history of court doctrines on searches incident to arrest, as well as the reactions to *Belton* and *Gant*. Part II discusses the Article's methodology, including the jurisdictional variation and data set that make our analysis possible. Part III presents the results of our modeling. Finally, Part IV evaluates the implications of our findings for the discussion and literature on policing.

I. REGULATION OF SEARCHES INCIDENT TO ARREST

Courts have long debated the scope of police authority to conduct searches incident to a suspect's arrest. Courts have granted police the authority under the Fourth Amendment[33] to conduct searches of a suspect's clothing incident to arrest to preserve evidence on the suspect's person and to identify potential weapons that could endanger officer safety.[34] But do the same safety and

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30. For a broader discussion of the officer safety or officer danger narrative, see Jordan Blair Woods, *Policing, Danger Narratives, and Routine Traffic Stops*, 117 MICH. L. REV. 635, 668–84 (2019) (presenting statistical data on the risks facing law enforcement during traffic stops). *See generally* Michael Sierra-Arévalo, *American Policing and the Danger Imperative*, 55 LAW & SOC'Y REV. 70 (2021) (describing how, despite the declining risk to physical safety to police officers in the United States, socialization about the safety risks of police work facilitate harmful culture practices and deviant behavior).

31. A review of the case text, including dissents, concurrences, and amicus briefs, found no substantial discussion of how the decision may disproportionately impact communities of color.

32. *See infra* Part IV.C.

33. The Fourth Amendment states:

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, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

U.S. CONST. amend. IV.

34. United States v. Robinson, 414 U.S. 218, 235 (1973) ("It is the fact of the lawful arrest which establishes the authority to search, and we hold that in the case of a lawful custodial arrest a full search of the person is not only an exception to the warrant requirement of the Fourth Amendment, but is also a 'reasonable' search under that Amendment.").

evidentiary justifications impliedly grant police the right to search the physical space near and around the suspect, like homes or automobiles?

This part chronicles the progression of Supreme Court cases regulating searches incident to arrest. It starts by considering the Court's decision in *Chimel v. California*,[35] where the Court evaluated the scope of police power to search homes incident to the arrest of a person inside that home.[36] Although not dealing with searches of vehicles, the precedent established in *Chimel* served as a basis for the Court's later decisions on vehicle searches. Next, this part chronicles the Court's ruling in *New York v. Belton*, which gave officers wide latitude to search vehicles incident to arrest, and the subsequent *Arizona v. Gant* decision that narrowed this authority substantially. It concludes by documenting the reactions to *Gant* and the prior literature on vehicle searches incident to arrest.

A. Chimel v. California

Before considering the scope of searches incident to arrest in automobiles, the Supreme Court first grappled with a similar issue involving arrests inside homes in *Chimel v. California*. The facts in *Chimel* were undisputed.[37] In September 1965, three police officers in Santa Ana, California, knocked on Ted Chimel's door intending to execute an arrest warrant for burglary.[38] Mr. Chimel's wife allowed the police inside to wait until Mr. Chimel arrived home from work about ten to fifteen minutes later.[39] When Mr. Chimel arrived home, the police handed him the arrest warrant and asked permission to "look around" his home.[40] Mr. Chimel objected to this request, but the officers told him they were permitted to search his home incident to an arrest.[41] The officers did not have a search warrant permitting them to conduct such a search.[42]

The officers then conducted a detailed search of the Chimels' home over the course of nearly an hour, including opening drawers inside their bedroom.[43] The officers found several coins that they believed to be the fruits of Mr. Chimel's burglary. The trial court later admitted these coins into evidence against Mr. Chimel at trial.[44] The jury convicted Mr. Chimel of burglary.[45] On appeal, Mr. Chimel argued that the coins seized from his

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    35. 395 U.S. 752 (1969).
    36. *Id.* at 753.
    37. *See id.*
    38. *See id.* (noting that police suspected Mr. Chimel of burglarizing a coin shop).
    39. *See id.*
    40*. Id.*
    41. *Id.* at 753–54 (explaining the police officers' insistence that their conduct was lawful incident to an arrest inside a home).
    42*. Id.* at 754 ("No search warrant had been issued.").
    43. *Id.* (describing the areas searched by the officers, including the attic, garage, three bedrooms, and the family's workshop).
    44*. Id.*
    45*. Id.* (also noting that Mr. Chimel's conviction for two counts of burglary was upheld below by the California appellate court and the Supreme Court of California).

home were obtained unlawfully in violation of the Fourth Amendment.[46] Thus, in *Chimel*, the Supreme Court had to decide whether police officers could conduct a search of a home incident to arrest without a warrant. And, if so, how far that search may extend into the home. As the Court acknowledged, prior decisions on these issues had been "far from consistent, as even the most cursory review makes evident."[47]

The Court ultimately held that the officers violated Mr. Chimel's Fourth Amendment rights when they engaged in a warrantless search of his entire home incident to arrest.[48] The justices were careful to acknowledge that some types of searches incident to arrest are necessary to remove weapons and to protect officer safety.[49] They also agreed that an officer may reasonably search for and seize easily accessible evidence that may be destroyed or concealed if not for law enforcement action.[50] Nevertheless, the Court held that these types of searches must be limited to areas where an arrestee "might reach in order to grab a weapon or evidentiary items."[51] This reasoning does not extend to a broader search of a home, like the one conducted in the Chimels' home.[52]

Finally, the Court acknowledged that any rule broadly permitting police to search a suspect's home incident to arrest inside that home could give police a perverse incentive. Officers may prefer to wait until a suspect enters their home before executing an arrest as it would give the officers an extensive license to engage in an otherwise unwarranted and unconstitutional search.[53] Thus, after *Chimel*, the Court made clear that searches of homes incident to arrest were narrowly limited to a relatively small area around the arrestee. And these searches must generally be done to ensure officer safety or to preserve evidence.[54] However, *Chimel* did not address whether a similar rule would apply to other searches incident to arrest, most notably searches of automobiles.

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46. *Id.* at 754–55.

47. *Id.* at 755.

48. *Id.* at 763–64 (holding that "[t]here is no comparable justification, however, for routinely searching any room other than that in which an arrest occurs—or, for that matter, for searching through all the desk drawers or other closed or concealed areas in that room itself," and saying that this violated the Fourth Amendment).

49. *Id.* at 762–63 ("Otherwise, the officer's safety might well be endangered, and the arrest itself frustrated.").

50. *Id.* at 763 ("In addition, it is entirely reasonable for the arresting officer to search for and seize any evidence on the arrestee's person in order to prevent its concealment or destruction.").

51. *Id.*

52. *Id.* at 763–64.

53. *Id.* at 767 (noting that the Court cannot say that such a tactic was used here, but also acknowledging that if the police had executed the arrest warrant while the defendant was at work, the officers would clearly have no grounds for a search of his home absent a warrant).

54. *See id.* at 764.

B. New York v. Belton

In *New York v. Belton*, the Court next considered how to apply its doctrine regarding searches incident to arrest to the context of automobiles.[55] The case originated from the arrest of Roger Belton in 1978 by a New York state police officer after a routine traffic stop.[56] Shortly after stopping a vehicle for speeding, the officer discovered that none of the four men inside the vehicle owned or were related to the vehicle's owner.[57] The officer also claimed to smell marijuana inside the vehicle and observed an envelope on the floorboard labeled "Supergold."[58] The officer then ordered all four men to exit the car and placed them under arrest for marijuana possession.[59] The officer searched each individual and opened the envelope to discover marijuana.[60] Thereafter, he read each arrestee their *Miranda* warnings and began searching the vehicle, including the passenger compartment.[61] In the back seat of the car, he unzipped the pocket of a black jacket belonging to Mr. Belton, where the officer claimed to find cocaine.[62]

At trial, Mr. Belton attempted to suppress the cocaine found inside his jacket, arguing that it was seized in violation of the Fourth Amendment.[63] When the case reached the Supreme Court, it presented a novel question of how police should apply the language from *Chimel* to searches of vehicles incident to arrest.[64] Unlike in *Chimel*, the Court in *Belton* began its analysis with a rather lengthy discussion of the importance of clarity in rules regulating law enforcement. Quoting from *Dunaway v. New York*,[65] the Court emphasized that police need "[a] single familiar standard" that can "guide police officers, who have only limited time and expertise to reflect on and balance the social and individual interests involved in the specific circumstances they confront."[66] In the wake of *Chimel*, the Court believed that lower courts had been unable to develop a "workable definition of 'the area within the immediate control of the arrestee'" that may be subject to search without a warrant.[67]

To create a "workable" solution, the Court held that when a police officer has lawfully arrested a vehicle occupant, "he may, as a contemporaneous

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55. 453 U.S. 454 (1981).

56. *Id.* at 455–56 (describing the circumstances of the traffic stop).

57. *Id.* at 455.

58. *Id.* at 455–56.

59. *Id.* at 456.

60. *Id.*

61. *Id.*

62. *Id.*

63. *Id.* (noting that Mr. Belton actually pleaded guilty to a lesser-included offense, but ultimately preserved his claim that the cocaine was unlawfully seized in violation of the U.S. Constitution).

64. *Id.* at 457–58 (citing and quoting *Chimel* and identifying this case as an extension of the debate from *Chimel*).

65. 442 U.S. 200 (1979).

66. *Belton*, 453 U.S. at 458 (quoting Dunaway v. New York, 442 U.S. 200, 213–14 (1979)).

67. *Id.* at 460.

incident of that arrest, search the passenger compartment of that automobile."[68] By extension, police can, by default, search jackets or clothing found inside the vehicle as well. This included Mr. Belton's jacket.[69]

Thus, *Belton* almost immediately stood for the proposition that, after arresting an occupant of a car, police have largely unfettered discretion to conduct warrantless searches of a vehicle—including compartments, bags, clothing, and other items found inside the vehicle—without violating the Fourth Amendment. At the time, police departments across the country widely understood *Belton* to grant police officers the ability to conduct automatic vehicle searches incident to traffic arrests.[70]

C. Arizona v. Gant

In 2009—around three decades after the Court's holding in *Belton*—the Supreme Court again considered the constitutionality of vehicle searches incident to arrest in *Arizona v. Gant*.[71] In 1999, police in Tucson, Arizona, received an anonymous tip that a home was being used to sell drugs.[72] Two officers knocked on the front door of the home in question and Rodney Gant answered.[73] Mr. Gant identified himself to the officers and told the officers that he was not the owner of the home, but that the owner would return later.[74] Based on the information the officers received from this conversation, they discovered that Mr. Gant had an outstanding warrant for a suspended license.[75]

When the officers returned later that evening, they observed Mr. Gant pull into the driveway in a vehicle.[76] The officers called to Mr. Gant, who exited his vehicle and met the officers about ten to twelve feet from his car.[77] The officers then arrested and handcuffed Mr. Gant, and eventually placed him in the back seat of a patrol car before searching his car.[78] Relying on *Belton*, the officers believed that such a search was per se permissible because it was

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68. *Id.*

69. *Id.* at 462–63.

70. Arizona v. Gant, 556 U.S. 332, 341 (2009) ("[O]ur opinion [in *Belton*] has been widely understood to allow a vehicle search incident to the arrest of a recent occupant even if there is no possibility the arrestee could gain access to the vehicle at the time of the search."). In fact, courts after *Belton* even went as far as upholding vehicle searches incident to arrest after the arrestee had left the vehicle at the scene. *Id.* at 342–43. And the Court noted that "it appears that the State's reading of *Belton* has been widely taught in police academies and that law enforcement officers have relied on the rule in conducting vehicle searches during the past 28 years." *Id.* at 349.

71. *Id.*

72. *Id.* at 335.

73. *Id.* at 335–36.

74. *Id.* at 336.

75. *Id.*

76. *Id.* The officers confirmed Mr. Gant's identity by shining a light into the vehicle. *Id.*

77. *Id.* (noting also that Mr. Gant was initially around thirty feet away from the officers, who called his name and eventually met him about halfway between the car and their original location).

78. *Id.* (detailing how other arrestees at the scene were already similarly confined).

incident to Mr. Gant's arrest while he was inside (or near) that vehicle.[79] The officers allegedly found a small plastic bag of cocaine in the pocket of a jacket on the back seat of his car.[80]

Mr. Gant faced charges for possession of a narcotic and drug paraphernalia.[81] He challenged the admission of the cocaine evidence, arguing that it violated the Fourth Amendment.[82] When asked why the officers conducted the search of Mr. Gant's vehicle incident to his arrest, one officer responded, "[b]ecause the law says we can do it."[83]

Indeed, the Court acknowledged that many courts and police departments believed that *Belton* gave officers complete discretion to search anywhere in a vehicle, incident to the arrest of one of the vehicle's occupants.[84] But most justices in *Gant* believed that an expansive reading of *Belton* "untether[ed] the rule from the justification underlying the *Chimel* exception."[85] Instead, the Court narrowed the widely understood meaning of *Belton*, holding that officers may only search vehicles incident to the arrest of an occupant when justified by one of the original *Chimel* factors—that is, when necessitated by an immediate risk to officer safety or the preservation of evidence.[86] In the present case, officer safety could not justify the search of Mr. Gant's car, as the police officers on the scene outnumbered the potential suspects.[87] Mr. Gant was not within reaching distance of the car and was handcuffed inside a patrol car at the time of the search.[88] Since Mr. Gant was arrested for a suspended license, and not for a drug violation, there was no reason police would "expect to find evidence in the passenger compartment of Gant's car" related to this offense.[89]

Additionally, the Court rejected Arizona's officer safety arguments,[90] in part because other available doctrines give police officers the ability to engage in searches of limited scope during traffic stops to protect officer well-being.[91] So, too, the Court rejected Arizona's argument that *Belton* searches are justified by law enforcement's need for administratively simple,

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79. *Id.* at 336–37.

80. *Id.* (noting that one officer also allegedly found a gun).

81. *Id.*

82. *Id.* ("Gant argued that *Belton* did not authorize the search of his vehicle because he posed no threat to the officers after he was handcuffed in the patrol car and because he was arrested for a traffic offense for which no evidence could be found in his vehicle.").

83. *Id.* at 337.

84. *See supra* note 70 and accompanying text.

85. *Gant*, 556 U.S. at 343.

86. *Id.* at 344 ("Because police could not reasonably have believed either that Gant could have accessed his car at the time of the search or that evidence of the offense for which he was arrested might have been found therein, the search in this case was unreasonable.").

87. *Id.*

88. *Id.*

89. *Id.*

90. *Id.* at 346 ("Contrary to the State's suggestion, a broad reading of *Belton* is also unnecessary to protect law enforcement safety . . . .").

91. *Id.* at 347 ("These exceptions together ensure that officers may search a vehicle when genuine safety or evidentiary concerns encountered during the arrest of a vehicle's recent occupant justify a search.").

bright-line rules.[92] The justices believed that these arguments undervalued the privacy interests at stake, as *Belton* gave police "unbridled discretion to rummage at will among a person's private effects" inside their vehicle incident to any arrest inside or near that vehicle.[93]

Thus, *Gant* significantly changed the way that police academies trained officers to conduct searches of vehicles incident to arrest. During the twenty-eight years after *Belton*, police academies across the country widely taught officers that they could search any part of a vehicle if they arrested an occupant of that vehicle.[94] But after *Gant*, officers had to employ a multipart test to determine whether officer safety or evidentiary preservation concerns could justify a search of limited scope within the reaching range of the arrestee.[95]

In his lengthy dissenting opinion, Justice Alito argued that the new rule established in *Gant* "may endanger arresting officers" and is "virtually certain to confuse law enforcement officers and judges for some time to come."[96] Justice Alito worried that the majority misunderstood how police conduct arrests during traffic stops. Officers normally "handcuff the arrestee and remove him to a secure place before conducting a search incident to the arrest."[97] If the ability of an officer to conduct a search of a vehicle incident to arrest turns on whether he chooses to secure an arrestee before such a search, then such a rule could "create a perverse incentive for an arresting officer to prolong the period during which the arrestee is kept in an area where he could pose a danger to the officer."[98] And more generally, Justice Alito believed that *Gant* unjustifiably disrupted precedent relied upon by law enforcement without adequate justification.[99]

D. Gant *and Pretextual Policing*

Although *Gant* was primarily about the ability of officers to search vehicles incident to arrest, the effects of the decision should not be understood in a vacuum. By upending the widely understood rule in *Belton*—which most police departments interpreted to permit automatic searches of an entire vehicle incident to arrest[100]—the *Gant* decision may have also disrupted a common policing tactic of pretextually targeting suspicious drivers for stops, arrests, and subsequent searches. Before *Gant*, the *Belton* decision, among other overlapping criminal procedure rulings,

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92. *Id.* at 344–47 (acknowledging the arguments in favor of a simple bright-line rule, but then rejecting them).

93. *Id.* at 345.

94. *Id.* at 349 ("[I]t appears that the State's reading of *Belton* has been widely taught in police academies and that law enforcement officers have relied on the rule in conducting vehicle searches during the past 28 years.").

95. *Id.* at 352 (Scalia, J., concurring) (reiterating this two-part test).

96. *Id.* at 355–56 (Alito, J., dissenting).

97. *Id.* at 362.

98. *Id.* (quoting United States v. Abdul-Saboor, 85 F.3d 664, 669 (D.C. Cir. 1996)).

99. *See id.* at 358–61 (identifying the importance of law enforcement coming to rely on *Belton* and arguing that the new rule is neither justified nor workable).

100. *See id.* at 349 (majority opinion).

gave officers the wide-ranging ability to search some vehicles for pretextual reasons.[101] As one group of commentators explained, this was particularly common among drug interdiction units across the country.[102] As they detailed:

> Police have used *Belton* searches in conjunction with arrests for minor traffic offenses as a key strategy in ferreting out drugs. Officers observe a vehicle that they suspect may be involved in drugs. They might have a hunch, or they may be relying on intelligence about the vehicle. They follow the vehicle and then establish a pretext for pulling it over, often relying on minor traffic violations. When officers pull over a vehicle, they speak with the driver, use their senses to look for any criminal evidence in plain view, and ask the driver for his license, registration, and proof of insurance. If the driver is unable to produce any of these three things, an officer may place him under arrest and may search the vehicle's passenger compartment.[103]

This practice was the result of not just *Belton*, but the Court's rulings in other cases involving police power during traffic stops, including *Whren v. United States*[104] and *Atwater v. Lago Vista*.[105] In *Whren*, the Court held that officers could lawfully conduct pretextual traffic stops.[106] That is, as long as an officer observes at least some objective violation of the traffic code, the officer may lawfully conduct a traffic stop—even if the actual reason for the stop is to investigate an officer's hunch or suspicion that falls short of reasonable suspicion or probable cause.[107] This case originated from a traffic stop in Washington, D.C., after officers claimed to observe two Black men

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101. Indeed, as Professor Wayne A. Logan observed, "the search incident exception [at the time of *Belton*] evolved to swallow the rule, so much so that the parameters and rationales originating the exception are now only vaguely recognizable in many decisions of courts across the land" and in most cases are now "largely immune to constitutional scrutiny or control." Wayne A. Logan, *An Exception Swallows a Rule: Police Authority to Search Incident to Arrest*, 19 YALE L. & POL'Y REV. 381, 383–84 (2001); *see also* Seth W. Stoughton, *Modern Police Practices: Arizona v. Gant's Illusory Restriction of Vehicle Searches Incident to Arrest*, 97 VA. L. REV. 1727, 1728–29 n.9 (2011) (stating that "[c]ritics of vehicle searches incident to arrest have expressed concern over the way the doctrine incentivizes pretextual stops and arrests").

102. Michael C. Gizzi & R. Craig Curtis, *The Impact of* Arizona v. Gant *on Search and Seizure Law as Applies to Vehicle Searches*, 1 U. DENV. CRIM. L. REV. 30, 30–31 (2011) ("Although difficult to quantify, law enforcement agents find evidence supporting drug arrests through this process often enough to create a general perception among officers that this is a highly effective tactic for drug interdiction.").

103. *Id.* at 30; *see also* Stoughton, *supra* note 101, at 1728 n.9 (also identifying the combination of *Whren*, *Atwater*, and *Belton* as potentially granting wide authority to police officers to engage in searches incident to arrest pre-*Gant*, and stating "[u]nder this line of cases, an officer who arrested any vehicle occupant for any offense—even a pretextual arrest—was authorized to search the vehicle incident to arrest").

104. 517 U.S. 806 (1996).

105. 532 U.S. 318 (2000).

106. *Whren*, 517 U.S. at 809, 819 ("Here the District Court found that the officers had probable cause to believe that petitioners had violated the traffic code . . . [which] rendered the stop reasonable under the Fourth Amendment . . . .").

107. *Id.* at 813 ("Subjective intentions play no role in ordinary, probable-cause Fourth Amendment analysis.").

sitting at a stop sign for "more than twenty seconds" before the driver allegedly looked at the lap of another passenger.[108] When the officers made a U-turn to investigate further, they claimed the vehicle suddenly turned without signaling and began driving at high speed.[109] The officers used this as their objective basis for the traffic stop.[110] The evidence suggested that the officers, who were assigned to patrol a "high drug area," actually decided to stop the car because of a hunch that the occupants of the vehicle were involved in other types of criminal behavior.[111] When the officers approached the car, they claimed to see two large plastic bags of crack cocaine in the hands one of the car's passengers, Michael Whren.[112] Officers arrested both Mr. Whren and the driver, James L. Brown.[113]

Mr. Whren and Mr. Brown attempted to suppress the drug evidence obtained during the stop by arguing that the officers' justification for the traffic stop was impermissibly pretextual, constituting a violation of the Fourth Amendment.[114] They argued that if officers were allowed to stop individuals for pretextual reasons, they could follow any driver long enough to eventually find some "technical violation" that could justify a traffic stop.[115] And this kind of discretionary power, they argued, would result in some officers stopping motorists for "decidedly impermissible factors," such as the race of the driver or the passengers.[116]

In a unanimous decision, the Court rejected Mr. Whren's concerns, holding that pretextual stops do not violate the Fourth Amendment.[117] If a police officer can identify some objective violation of the traffic code, the officer may conduct a vehicle stop, even if the officer is primarily interested in using that stop to investigate a hunch or suspicion that, by itself, does not rise to the level of probable cause or reasonable suspicion.[118]

Scholars widely criticized *Whren*, arguing that police officers were more likely to target racial minorities for pretextual stops than white drivers.[119]

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108. *Id.* at 808.
109. *Id.*
110. *Id.*
111. *Id.* at 808–10.
112. *Id.* at 809.
113. *Id.*
114. *Id.*
115. *Id.* at 810.
116. *Id.*
117. *Id.* at 807, 819.
118. *Id.* at 812–13.
119. Gabriel J. Chin & Charles J. Vernon, *Reasonable but Unconstitutional: Racial Profiling and the Radical Objectivity of* Whren v. United States, 83 GEO. WASH. L. REV. 882, 884 & n.2, 886 (2015) (providing a list of existing studies at the time that argued that *Whren* had contributed to or legitimated racial profiling by law enforcement); *see also* Tracey Maclin, *Race and the Fourth Amendment*, 51 VAND. L. REV. 333, 344–54 (1998) (linking pretextual stops and racial profiling); Phyllis W. Beck & Patricia A. Daly, *State Constitutional Analysis of Pretext Stops: Racial Profiling and Public Policy Concerns*, 72 TEMP. L. REV. 597, 597 (1999) ("The primary concern with pretext stops is that they facilitate racial profiling, the process of singling out drivers based on their race."); Abraham Abramovsky & Jonathan I. Edelstein, *Pretext Stops and Racial Profiling After* Whren v. United States*: The New York and New Jersey Responses Compared*, 63 ALB. L. REV. 725, 726 (2000) ("[T]he *Whren* Court

Professor David A. Harris described the decision as "profoundly dangerous" and predicted that police would "use the traffic code to stop a hugely disproportionate number of African-Americans and Hispanics."[120] Professor I. Bennett Capers wrote that *Whren* "essentially green-lighted the police practice of singling out minorities for pretextual traffic stops in the hope of discovering contraband" because *Whren* allowed police to "use race as an 'unofficial' proxy for suspicion."[121] Professor David A. Sklansky argued that the justices in *Whren* illustrated a "disregard for the distinctive concerns of racial minorities."[122] And Professor Devon W. Carbado claimed that after *Whren*, "racial profiling claims are not constitutionally cognizable" under the Fourth Amendment because "race matters in the Fourth Amendment context only to the extent that a police officer's conduct is overtly racially coercive."[123]

Additionally, after an officer conducts a pretextual stop pursuant to *Whren*, the U.S. Constitution permits officers to arrest the driver for any criminal offense, including traffic violations in some cases—even if the arresting offense is not one that ordinarily could lead to imprisonment under state law. This holding came from the Court's controversial ruling in *Atwater*.[124] In that case, a police officer in Lago Vista, Texas, conducted a routine traffic stop involving Gail Atwater and her two children.[125] The officer observed Ms. Atwater's three-year-old and five-year-old children sitting in the front seat of her pickup truck without seatbelts.[126] As the officer approached the truck, he yelled "[w]e've met before" and "[y]ou're going to jail."[127] The officer then handcuffed Ms. Atwater, "drove her to the local police station, where booking officers had her remove her shoes, jewelry, and eyeglasses, and empty her pockets."[128] Officers at the station took a mug shot of Ms. Atwater and placed her in a jail cell for one hour before she appeared before a magistrate judge.[129] The judge ordered her released on $310 bond.[130] Ms. Atwater faced charges for driving without a seatbelt, failing to secure her children, driving without a license, and failure to provide the officer with her

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validated one of the most common methods by which racial profiles are put into effect—the pretext stop.").

120. David A. Harris, *"Driving While Black" and All Other Traffic Offenses: The Supreme Court and Pretextual Traffic Stops*, 87 J. CRIM. L. & CRIMINOLOGY 544, 545–46 (1997).

121. I. Bennett Capers, *Rethinking the Fourth Amendment: Race, Citizenship, and the Equality Principle*, 46 HARV. C.R.-C.L. L. REV. 1, 33–34 (2011).

122. David A. Sklansky, *Traffic Stops, Minority Motorists, and the Future of the Fourth Amendment*, 1997 SUP. CT. REV. 271, 274, 278–79.

123. Devon W. Carbado, *(E)racing the Fourth Amendment*, 100 MICH. L. REV. 946, 1033, 1044 (2002).

124. Atwater v. Lago Vista, 532 U.S. 318, 318 (2000).

125. *Id.* at 323–24.

126. *Id.* at 324 (noting that the observation of the children not wearing their seatbelts was apparently the violation that justified the traffic stop).

127. *Id.*

128. *Id.* (providing further details about the handling of the children during the arrest and booking).

129. *Id.*

130. *Id.*

insurance documentation.[131]   Under Texas law, the offenses are misdemeanors punishable by mere fines and no imprisonment.[132]

Ms. Atwater filed a civil rights suit against the officer and the municipality, arguing that her arrest violated the Fourth Amendment.[133] She argued that it constituted an unreasonable seizure to arrest an individual for an offense that is not punishable by imprisonment under state law.[134] In a 5–4 decision, the Court held that officers are permitted to arrest individuals without a warrant for minor misdemeanor offenses, including those that can only result in fines.[135] And of course, if an officer exercises their discretion to conduct such an arrest, under *Belton*, the officer also has broad discretion to conduct a search of that vehicle incident to that arrest.[136]

Thus, after *Whren*, *Atwater*, and *Belton*, it seems theoretically plausible that officers could use then-existing criminal procedure rules to pretextually justify stops, arrests, and vehicle searches of suspects they found suspicious. In fact, there is reason to believe that Mr. Gant himself may have been a victim of this confluence of criminal procedure rules. There was evidence that the officers in *Gant* knew how to navigate the then-existing rules to justify otherwise unlawful searches. Remember, in that case, the officers suspected Mr. Gant of being part of a drug operation.[137] Only after speaking with Mr. Gant inside a suspected drug house did the officers discover Mr. Gant's outstanding warrant.[138] The officers could have arrested Mr. Gant in numerous different ways, yet they waited until he had just stepped out of his car.[139] They then elected to arrest Mr. Gant for a suspended license offense and used his proximity to the car to justify a search of his vehicle.[140] There was no reason for the officers to fear for their safety, nor was there any reason to believe that the officers would uncover evidence related to the suspended license offense that served as the basis for the warrant. And as noted above, one officer candidly acknowledged at trial that the officers chose to arrest Mr. Gant in this manner and to conduct a search of his vehicle because they understood the law to allow them such a search.[141]

Affording such wide discretion to officers may result in greater harms to individuals of color than white individuals, as prior research has shown that officers are more likely to be suspicious of individuals of color, due in part

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131. *Id.* (noting that all but the seatbelt violation was dismissed, and Ms. Atwater ultimately merely paid a fifty-dollar fine).

132. *Id.* at 323 (citing and discussing these Texas laws at the beginning of the majority opinion; also noting that Texas law still expressly permits officers to arrest individuals for these offenses).

133. *Id.* at 325.

134. *Id.*

135. *Id.* at 354 ("Atwater's arrest satisfied constitutional requirements.").

136. *See supra* Part II.B (discussing the *Belton* decision).

137. Arizona v. Gant, 556 U.S. 332, 335–36 (2009) (describing how the officers were responding to a tip about drug sales at the house).

138. *Id.* at 336.

139. *Id.*

140. *Id.*

141. *See id.* at 337 (noting that when asked why they chose to search Mr. Gant's car, the officer answered, "[b]ecause the law says we can do it.").

to implicit bias.[142]   All of this suggests that by curtailing police power to engage in searches incident to arrest, the *Gant* decision may have not just reduced the frequency of vehicle searches. The decision may have also reduced officer incentives to engage in pretextual stops and arrests as well. If an officer is unable to search a suspect's vehicle automatically incident to an arrest, then such pretextual stops and arrests may be more trouble than they are worth.

As a result, this Article will examine not just the effect of *Gant* on searches incident to arrest, but also on earlier actions by law enforcement, including stops and arrests. It may be that by removing the opportunity to conduct a search of a vehicle, the *Gant* decision also reduced the incentive for police to target drivers for both pretextual stops (under *Whren*) and pretextual arrests (under *Atwater*). And since prior empirical evidence has tied these pretextual policing tactics to patterns of possible racial profiling,[143] this Article also considers whether the effects of *Gant* were experienced differently across racial groups, as explained in Parts II and III.

E. Existing Literature and Reactions to Gant

Leading up to the *Gant* decision, twenty-five states, the National Association of Police Organizations, the International Association of Chiefs of Police, the National Sheriff's Association, and other law enforcement groups filed amicus briefs urging the Court to maintain *Belton*'s bright-line rule to protect officer safety.[144] Meanwhile, defense and civil liberties organizations urged the Court to "curb the widespread police practice of using traffic arrests as pretexts for conducting 'purely exploratory searches.'"[145] Members of the defense bar celebrated the *Gant* decision, while policing officials lamented how the decision "took a tool we've had for 25 years and removed it from our toolbox."[146]

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142. *See, e.g.*, L. Song Richardson, *Implicit Racial Bias and Racial Anxiety: Implications for Stops and Frisks*, 15 Ohio St. J. Crim. L. 73, 75–81 (2017) (documenting some of the existing literature on this subject matter).

143. *See generally* Stephen Rushin & Griffin Edwards, *An Empirical Assessment of Pretextual Stops and Racial Profiling*, 73 Stan. L. Rev. 637 (2021) (finding that the *Arreola* decision in Washington, which granted officers the ability to engage in stops akin to pretextual stops, was associated with an uptick in stops of nonwhite drivers relative to white drivers).

144. *See, e.g.*, Barbara E. Armacost, Arizona v. Gant*: Does It Matter?*, 2009 Sup. Ct. Rev. 275, 278 n.19 (citing these briefs).

145. *Id.* at 278 (quoting Brief for Amicus Curiae National Association of Criminal Defense Lawyers in Support of Respondent at 8–11, Arizona v. Gant, 556 U.S. 332 (2009) (No. 07-542)).

146. *Id.* at 279 (quoting Brian Smith, *Local Opinions Mixed on Vehicle Search Decisions*, Richmond Reg. (May 2, 2009), https://www.richmondregister.com/news/local_news/local-opinions-mixed-on-vehicle-search-decision/article_090db52e-cd1c-53c9-a2ec-9a3ca764e29c.html [https://perma.cc/4WFT-X8VS]).

Numerous scholars wrote about the implications of the *Gant* decision for policing.[147] Some argued that *Gant* increased doctrinal confusion,[148] while others supported the decision.[149] Some empirical research has found that police executive knowledge of the doctrinal requirements of *Gant* and training on its holding have been uneven and inconsistent, raising questions about whether departments would fully comply with the rule.[150] A slew of student comments and notes discussed the efficacy of the decision.[151] Professor Seth W. Stoughton predicted that *Gant* may not significantly constrain police searches because of the availability of alternative justifications and the relative expansiveness of the new two-part *Gant* test.[152] Professor Frank Rudy Cooper argued that *Gant* may not have done enough to address how pretextual stops could still facilitate racial profiling.[153]

Less common in the scholarly literature, though, are empirical assessments of the effects of *Gant*.[154] One prior empirical study by Professors Ethan D. Boldt and Michael C. Gizzi attempted to evaluate the effects of *Gant* on police behavior by using time series intervention analysis and traffic data from two states.[155] They found some evidence that police may be turning to alternative means to circumvent the more restrictive rule established by

147. *See generally* Armacost, *supra* note 144 (offering a range of predictions of how *Gant* may influence police behavior).

148. *See generally* George M. Dery II, *A Case of Doubtful Certainty: The Court Relapses into Search Incident to Arrest Confusion in* Arizona v. Gant, 44 IND. L. REV. 395 (2011) (worrying about the uncertainty created by the *Gant* decision).

149. *See generally* Michael Goodin, Arizona v. Gant*: The Supreme Court Gets It Right (Almost)*, 87 U. DET. MERCY L. REV. 114 (2010) (expressing only minor reservations and general agreement with the Court's decision); Myron Moskovitz, *The Road to Reason:* Arizona v. Gant *and the Search Incident to Arrest Doctrine*, 79 MISS. L.J. 181 (2009) (generally supporting the Court's doctrinal shift in *Gant*).

150. *See generally* Christopher Totten & Sutham Cobkit, *Police Vehicle Searches Incident to Arrest: Evaluating Chiefs' Knowledge of* Arizona v. Gant, 11 N.Y.U. J.L. & LIBERTY 257 (2017); James A. Purdon, Henry F. Fradella, Christopher D. Totten & Gang Lee, *Police Officers' Knowledge of* Gant, 24 NEW CRIM. L. REV. 468 (2021) (finding that although the overwhelming majority of officers received training in *Gant*, many applied it incorrectly in practice).

151. *See, e.g.*, Jason Hermele, Comment, Arizona v. Gant*:   Rethinking the Evidence-Gathering Justification for the Search Incident to Arrest Exception, and Testing a New Approach*, 87 DENV. L. REV. 175 (2009); Jeffrey R. Beck, Note, Arizona v. Gant*: Heightening a Person's Expectation to Privacy in a Motor Vehicle Following Search Incident to Arrest*, 55 S.D. L. REV. 299 (2010); Jacob R. Brown, Comment, *Arrested Development:* Arizona v. Gant *and Article I, Section 7 of the Washington State Constitution*, 85 WASH. L. REV. 355 (2010); Justin Casson, Comment, Arizona v. Gant*: Just Another Speed Bump?*, 45 GONZ. L. REV. 797 (2010); Jack Blum, Note, Arizona v. Gant*: Missing an Opportunity to Banish Bright Lines from the Court's Vehicular Search Incident to Arrest Jurisprudence*, 70 MD. L. REV. 826 (2011); Anthony M. Ruiz, Note, *Defining* Gant*'s Reach: The Search Incident to Arrest Doctrine After* Arizona v. Gant, 89 N.Y.U. L. REV. 337 (2014).

152. Stoughton, *supra* note 101.

153. *See generally* Frank Rudy Cooper, *Post-Racialism and Searches Incident to Arrest*, 44 ARIZ. ST. L.J. 113 (2012).

154. At least one empirical study evaluated police deployment of the *Belton* doctrine, pre-*Gant*. *See* Myron Moskovitz, *A Rule in Search of a Reason: An Empirical Reexamination of* Chimel *and* Belton, 2002 WIS. L. REV. 657, 674–76.

155. Ethan D. Boldt & Michael C. Gizzi, *The Implementation of Supreme Court Precedent: The Impact of* Arizona v. Gant, 6 J.L. & CTS. 355 (2018).

Gant.[156] But this does not foreclose the need for additional research. Our study builds on Boldt and Gizzi's important findings in several ways. First, we take advantage of the expansive Stanford Open Policing Project database to evaluate the effect of *Gant* across multiple states and agencies. Second, our Article tests many of the doctrinal assumptions underlying the debate in *Gant*, including the effect of *Gant* on officer safety. Third, our Article explores the differential effect of *Gant* on drivers of color relative to white drivers. As we explain more in Part IV, we believe that the disparate impact of seemingly neutral procedural decisions like *Gant* on racial minorities have received less attention by many courts and scholars. Finally, this Article uses a different methodological approach—difference-in-differences and triple difference frameworks—to assess *Gant*'s impact on police behavior and officer safety. We also take advantage of jurisdictional variation in state laws on vehicle searches incident to arrest, rather than relying on time series analysis. In these ways, our Article builds on prior work and contributes to the literature on policing.

II. METHODOLOGY

This Article utilizes a data set of millions of traffic stops to analyze how jurisdictional variations in judicial doctrines on vehicle searches incident to arrest influence police behavior. It also examines the effect of these decisions on officer safety. Until recently, much of this type of research was not possible due to limited traffic stop data. But emerging data sets, like the Stanford Open Policing Project data set[157] used in this Article, allow researchers to take advantage of jurisdictional variation to test many of the assumptions underlying criminal procedure doctrines. Part II describes our methodology. Part II.A explores the variation in state approaches to vehicle searches incident to arrest. This jurisdictional variation allows us to compare states that followed *Belton* and *Gant* with states that adopted different doctrinal approaches. Part II.B describes the data set used in this Article. Part II.C presents our methodological choices and models.

A. Jurisdictional Variation

Although the shift from *Belton* to *Gant* was a significant change for much of the country, some states had already made similar alterations in state law between 1981 and 2009. The National Association of Federal Defenders (NAFD) filed an amicus brief in the *Gant* litigation discussing this jurisdictional variation in detail. Figure 1 visually illustrates the progression of state court decisions, as documented by the NAFD brief in *Gant*, that established more restrictive rules on searches of vehicles incident to arrest. Many of these cases established rules like the Supreme Court did in *Gant* in 2009. Thus, although most police departments in the country between 1981 and 2009 trained officers that they could lawfully search anywhere in a

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156*. Id.*
157. *See* STANFORD OPEN POLICING PROJECT, *supra* note 22.

vehicle incident to the arrest of a vehicle occupant under *Belton*, officers in these states were limited at various points by a more restrictive doctrine.

Figure 1: Timeline of State Departures from *Belton* Rules[158]
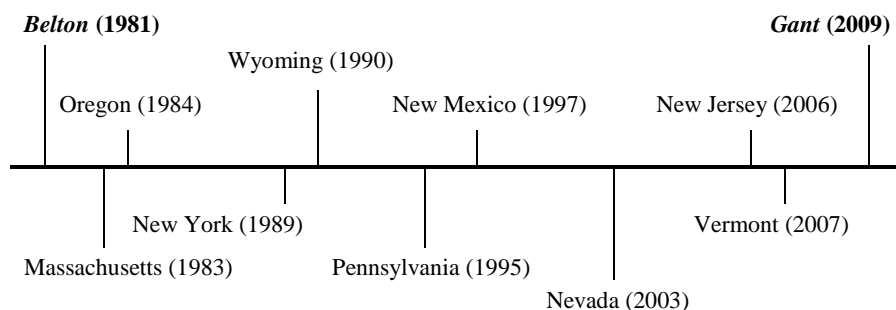
For example, one apparent deviation from *Belton* came in 1983 in *Commonwealth v. Toole*,[159] where the Massachusetts Supreme Judicial Court held that police officers could not automatically search a vehicle incident to the arrest of a former occupant of that vehicle.[160] The case originated out of a 1981 traffic stop that culminated in the arrest of Richard Toole for an outstanding assault and battery warrant.[161] After handcuffing Mr. Toole and placing him in a squad car with two state troopers, another trooper searched his vehicle.[162] That officer found a .45-caliber weapon behind one of the seats.[163] Mr. Toole ultimately faced charges for unlawfully carrying a

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158. In constructing this timeline, we rely primarily on the amicus brief filed by the National Association of Federal Defenders in *Arizona v. Gant*. *See* Brief of the National Association of Federal Defenders as Amicus Curiae in Support of Respondent, *supra* note 17, at 8–9 n.2. This brief relied on the years in which the state courts in each jurisdiction explicitly rejected automatic search doctrines for vehicles incident to arrest. In some cases, the rejection of automatic vehicle searches incident to arrest occurred more gradually over time. The years listed above represent the years by which the National Association of Federal Defenders considered the doctrinal trend clearly established in these states.

159. 448 N.E.2d 1264 (Mass. 1983).

160*. Id.* at 1266–67. This case receives particular discussion here because it serves as the basis of our empirical study in this Article. It is also significant because, unlike in some jurisdictions mentioned in Figure 1 that experienced somewhat more gradual shifts in doctrines, the Massachusetts Supreme Judicial Court issued a relatively unambiguous rule in *Toole* that closely mirrored the U.S. Supreme Court's later ruling in *Gant*.

161*. Id.* at 1265–66.

162*. Id.* at 1266 (noting that this happened after the officers ordered the defendant out of the cab and conducted a "routine 'pat-frisk'" that allegedly found "an empty holster and an ammunition clip containing .45 caliber bullets").

163*. Id.* (noting that the defendant told the officers that he did not have a firearms identification card).

firearm.[164] At trial, the defendant attempted to suppress the firearm, arguing that police came across the weapon pursuant to an unlawful search.[165]

On appeal, the Massachusetts Supreme Judicial Court held that the officer's search of Mr. Toole's vehicle violated his rights under Massachusetts law.[166] In 1974, the legislature in Massachusetts had adopted a more restrictive law on officer searches incident to arrest than that required by the U.S. Supreme Court under the Fourth Amendment.[167] The 1974 amendment to state law essentially codified the principles expressed in Justice Thurgood Marshall's dissent in *United States v. Robinson*.[168] On this basis, the court held that Massachusetts police officers could not rely exclusively on the *Belton* rule to justify any vehicle searches incident to arrest of one of the vehicle's occupants; instead, officers needed to find some other "constitutionally acceptable basis for the search."[169] Thus, in the years after *Belton*, when most officers across the country were being trained to search vehicles incident to arrest at-will, the courts in Massachusetts more strictly regulated this tactic.

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164. *Id.*

165. Procedurally, the lower court granted the defendant's motion to suppress, the state appealed, and the issue was then presented to the Massachusetts Supreme Judicial Court. *See id.*

166. *Id.* ("We affirm the order allowing the defendant's motion to suppress the gun.").

167. *Id.* at 1266 n.3 (describing the history of Massachusetts General Law, chapter 276, section 1). That state law provides:

> A search conducted incident to an arrest may be made only for the purposes of seizing fruits, instrumentalities, contraband and other evidence of the crime for which the arrest has been made, in order to prevent its destruction or concealment; and removing any weapons that the arrestee might use to resist arrest or effect his escape. Property seized as a result of a search in violation of the provisions of this paragraph shall not be admissible in evidence in criminal proceedings.

MASS. GEN. LAWS ch. 276, § 1 (2022).

168. 414 U.S. 218 (1973); *Toole*, 448 N.E.2d at 1267 ("The 1974 amendment of § 1 adopts the principles expressed in the dissent in the *Robinson* case regarding the proper scope of a search incident to arrest.").

169. *Toole*, 448 N.E.2d at 1268.

In the years that followed, New York,[170] Wyoming,[171] Pennsylvania,[172] New Mexico,[173] Nevada,[174] New Jersey,[175] and Vermont[176] all handed down rulings at the state level articulating principles that appeared to be more restrictive than the *Belton* test for searches incident to arrest.[177] As explained below, this jurisdictional variation allows us to employ various statistical methods to estimate the effect of *Gant* on police behavior and safety.

B. Data Sets

This Article relies on two data sets. First, to analyze the effect of *Gant* and *Gant*-like state equivalents on officer safety, we use the Law Enforcement Officer Killed and Assaulted (LEOKA) Data Collection.[178] This database, updated annually by the Federal Bureau of Investigation, documents "felonious deaths, accidental deaths, and assaults of duly sworn city, university and college, county, state, tribal, and federal law enforcement officers."[179] This database provides reasonably reliable estimates of police officer deaths and injuries in the line of duty over time across the many American police departments. Because the data are broken down by jurisdiction, we can compare officer assaults in jurisdictions that adopted *Belton*-like rules with jurisdictions that adopted *Gant*-like rules. Prior studies examining officer safety have used LEOKA data.[180]

Second, to explore the effects of these shifting doctrinal rules on officer conduct during traffic stops, we rely on the recently released Stanford Open

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170. *See* People v. Blasich, 541 N.E.2d 40 (N.Y. 1989) (holding that police may not automatically search a vehicle incident to the arrest of a person inside the vehicle; instead, officers must identify another applicable exception to conduct warrantless searches, or otherwise have probable cause).

171. *See* Vasquez v. State, 990 P.2d 476 (Wyo. 1990) (upholding a relatively narrow rule that requires that vehicle searches be reasonable because of a concern for officer or public safety).

172. *See* Commonwealth v. White, 669 A.2d 896 (Pa. 1995) (holding that, absent exigent circumstances, a police officer may not automatically search a vehicle incident to the arrest of a vehicle occupant).

173. *See* State v. Arredondo, 944 P.2d 276 (N.M. Ct. App. 1997) (reaffirming that bright-line rules permitting automatic vehicle searches incident to arrest violated the New Mexico Constitution).

174. *See* Camacho v. State, 75 P.3d 370 (Nev. 2003) (finding that it violated the Nevada Constitution to conduct a warrantless vehicle search incident to arrest without probable cause or exigent circumstances).

175. *See* State v. Eckel, 888 A.2d 1266 (N.J. 2006) (reaching a conclusion similar to that in the later *Gant* decision and finding that a vehicle search incident to the arrest of an occupant may only be justified on safety or evidentiary grounds).

176. *See* State v. Bauder, 924 A.2d 38 (Vt. 2007) (reaching a similar conclusion to that in the later *Gant* decision).

177. We rely on the states and case years identified by the National Association of Federal Defenders in their amicus brief. Brief of the National Association of Federal Defenders as Amicus Curiae in Support of Respondent, *supra* note 17.

178. *Law Enforcement Officers Killed and Assaulted*, *supra* note 23.

179. *Id.*

180. *See, e.g.*, Woods, *supra* note 30, at 646–54 (explaining the use of this statistical database).

Policing Project database.[181] Several recent empirical studies have relied on this data in analyzing police traffic stop behavior.[182] Only around eighty-eight state and local law enforcement agencies had provided data to the researchers at Stanford at the time of this Article's publication. Of these, thirty-one agencies had reported whether traffic stops resulted in arrests or searches. And of those thirty-one agencies reporting sufficient data, thirteen of them had reported this data both before and after the *Gant* decision.

These include the Maryland state patrol,[183] Massachusetts state patrol,[184] the Montana state patrol,[185] the Rhode Island state patrol,[186] the San Francisco Police Department,[187] the South Carolina state patrol,[188] and numerous police departments in North Carolina, including the Charlotte police department,[189] the Durham Police Department,[190] the Fayetteville Police Department,[191] the Greensboro Police Department,[192] the Raleigh Police Department,[193] the Winston-Salem Police Department,[194] and the North Carolina state patrol.[195] Of these agencies, twelve appeared to follow the *Belton* rule on vehicle searches incident to arrest before 2009, while one of them (the Massachusetts state patrol) followed its state's more restrictive rule that mirrored *Gant*. Then from 2009 onward, all thirteen of these agencies followed *Gant* or *Gant*-like limitations on vehicle searches incident to arrest.

In most cases, the Stanford Open Policing Project data sets include other variables, such as the time of the stop, the driver's race, the driver's sex, the driver's age, the presence of contraband, whether the officer issued a citation, whether the officer conducted a frisk, the stated reason for the traffic stop, and the stated violation.[196] In total, the merged data sets from these thirteen

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181. STANFORD OPEN POLICING PROJECT, *supra* note 22 (click on "data" and scroll to each respective jurisdictional database).

182. *See, e.g.*, Pierson et al., *supra* note 22, at 736 (describing the data set and using it to examine broad patterns of racial disparities in traffic stops across the United States); Rushin & Edwards, *supra* note 143, at 667–73 (describing the use of this data set to examine the relationship between doctrines on pretextual traffic stops in Washington and the number of stops of nonwhite drivers relative to white drivers).

183. STANFORD OPEN POLICING PROJECT, *supra* note 22 (containing 3,587,052 stops in this data set from December 2006 to March 2014).

184. *Id.* (containing 3,416,238 stops in this data set from December 2006 to December 2015).

185. *Id.* (containing 825,107 stops in this data set from December 2008 to December 2016).

186. *Id.* (containing 509,671 stops in this data set from January 2005 to December 2015).

187. *Id.* (containing 905,070 stops in this data set from December 2006 to June 2016).

188. *Id.* (containing 8,983,807 stops in this data set from December 2004 to December 2016).

189. *Id.* (containing 1,598,453 stops in this data set from December 1999 to December 2015).

190. *Id.* (containing 326,024 stops in this data set from December 2001 to December 2015).

191. *Id.* (containing 486,998 stops in this data set from January 2000 to December 2015).

192. *Id.* (containing 600,031 stops in this data set from January 2000 to December 2015).

193. *Id.* (containing 856,400 stops in this data set from December 2001 to December 2015).

194. *Id.* (containing 452,560 stops in this data set from January 2000 to December 2015).

195. *Id.* (containing 20,286,645 stops in this data set from December 1999 to December 2015).

196. *Id.*

agencies document around forty-two million stops that occurred between 1999 and 2016.[197]

One immediate challenge that we face in using this data set is the definition of "search" used by jurisdictions across the country. Some jurisdictions provide details on the circumstances or justification for searches, including "inventory," "probable cause," "other," or "plain view." Other jurisdictions group together these searches into a single, catchall category (normally labeled "search").[198] Some jurisdictions also break out the data to include additional types of privacy invasions like frisks of persons.[199] Given that we use data from multiple jurisdictions—some that provide this context, and some that do not—we run our analyses using the common "search" variable found in each jurisdiction's database. We recognize that this will be overinclusive in some circumstances. For some jurisdictions, this will cover searches that are not traditional vehicle searches incident to arrest justified under *Belton* or *Gant*. This is an unavoidable limitation of the available data.

Nevertheless, our study overcomes this challenge because we employ difference-in-differences and triple-difference frameworks. Whatever the varied definition of "search" used by individual jurisdictions, we think it is unlikely these definitions changed over time. So long as each agency's internal "search" definition remained the same throughout our time period (before and after *Gant* in 2009), the results should not be biased. Still, we recommend readers understand this limitation in the available data and avoid making definitive causal conclusions based on our findings. Although our findings can demonstrate correlation and facilitate theory building, our findings cannot demonstrate a definitive, causal connection between *Gant* or *Gant*-like state rules and subsequent changes in officer behavior.

C. Models

To measure the effect of *Gant* on officer assaults, we take advantage of the jurisdictional variation in doctrines on vehicle searches incident to arrest identified in Figure 1.[200] The LEOKA database generally identifies the circumstances surrounding officer assaults. We are primarily interested in officer assaults that occurred during a "traffic pursuit or stop." Traffic assaults are thankfully rare. Between 1985 and 2015, 4 percent of the state-year observations report no traffic assaults, and around 21 percent of the state-year observations[201] report fewer than 15 traffic assaults per state

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197. The merged data set covers approximately 42,834,056 traffic stops in total.

198. Amy Shoemaker, Johann Gaebler & Daniel Jenson, *Open Policing Project*, GITHUB (Jan. 7, 2021), https://github.com/stanford-policylab/opp/blob/master/data_readme.md [https://perma.cc/K9QG-BJJ4].

199. *Id.*

200. We conduct this analysis from 1985 onward because of limited data availability.

201. This data is organized as a panel series data set meaning that we follow states across time. As such, the smallest unit of measure is any given state in any given year. We define this unit of measure as state-year observations.

per year.[202]   The frequency of zero outcomes, coupled with the noncontinuous nature of the outcome variable (all numbers are truncated at zero because there cannot be a negative number of assaults, nor can there be 0.5 assaults), presents some challenges to our estimation strategy. There are multiple ways to address this challenge. Ultimately, we estimate all feasible methods and report most of them with the same conclusion. The baseline model attempts to explain state-year to state-year variation in officer traffic assaults by changes to laws on vehicle searches incident to arrest. Formally, this model looks similar to other difference-in-differences regressions:

$$O_{kt}=\alpha+\varphi Gant_t+X_t+Y_k+\varepsilon$$

where the outcome, *O*, is measured in state, *k*, at time, *t*. *Gant* is a dummy variable that flags if the state-year observation is subject to a *Gant*-like rule; X_t is a vector of year dummy variables that vary by time, *t*; and Y_k is a vector of state dummy variables that vary by state, *k*. The primary challenge is exactly how to model the outcome—officer traffic assaults. One approach is to include the number of officer traffic assaults per state per year as the outcome and use Ordinary Least Squares (OLS) to estimate φ. Although this way is the most straightforward, OLS assumes a continuous and normally distributed outcome variable—both conditions which are likely violated in this context. Even if not, if we were to evaluate count data, this may skew the data given that we look at multiple jurisdictions of widely varied sizes. For instance, an increase of fifteen assaults in a sparsely populated state like Wyoming means something very different than an increase of fifteen assaults in a highly populated state like California. To adjust for population, we also scale the outcome variable by population and, alternatively, by the total number of overall assaults of officers. This addresses comparability across states but does not address the OLS assumption of normality in the outcome. To address this, we also take the natural log of the assault per capita rate and the traffic assaults per total assaults rate. Additionally, we report each of these iterations with and without population weights, though recent research recommends not weighting.[203]   Lastly, we also model the officer traffic assaults with Poisson regression techniques that can handle count data.

  Next, we evaluate the effects of *Gant* on traffic enforcement behaviors by police officers. Given the nature and limitations of the data, there are a number of issues that require careful consideration for empirically estimating the effect *Gant* has had on officer-driver interactions. Standard empirical estimation in policing issues typically exploits jurisdictional variation in

  202. Jacob Kaplan, *Jacob Kaplan's Concatenated Files: Uniform Crime Reporting Program Data: Law Enforcement Officers Killed and Assaulted (LEOKA) 1960–2020*, OPENICPSR, https://www.openicpsr.org/openicpsr/project/102180/version/V11/view (Sept. 22, 2021) [https://perma.cc/PYY6-NKJD].

  203. *See* Steven N. Durlauf, Salvador Navarro & David A. Rivers, *Model Uncertainty and the Effect of Shall-Issue Right-to-Carry Laws on Crime*, 81 EUR. ECON. REV. 32, 34 (2016) (finding minimal support for the need for population weights).

policy or law.[204] In doing so, difference-in-differences frameworks compare two groups: a jurisdiction that experienced a change in the policy (the "treatment" group) to a jurisdiction where that policy was unchanged over the same time period (the "control" group).[205]

Typically, the treatment group experiences some policy shift that the control group does not. In the present case, though, we are limited in the kind of control group we can construct from the traffic stop data available through the Stanford Open Policing Project database. As described in Part II.B, we identified twelve jurisdictions in the Stanford Open Policing Project database where the *Gant* decision altered state laws on searches incident to arrest.[206] We use these twelve jurisdictions as our treatment group. We were only able to identify one agency—the Massachusetts state patrol—where the state rules on searches incident to arrest were largely unchanged by *Gant*,[207] and data is available from both before and after the *Gant* decision (December 2006 through December 2015). This is because, in 1983, the Massachusetts Supreme Judicial Court departed from the *Belton* decision in *Toole* by limiting vehicle searches incident to arrest to circumstances where safety or evidentiary preservation necessitated it.[208] So throughout the time period covered by the Stanford Open Policing Project database, Massachusetts used a rule similar to *Gant* that was largely kept intact. As such, Massachusetts provides the only baseline comparison or control group that we can use for our difference-in-differences framework.

It is less than ideal to have a single jurisdiction, even a large agency like the Massachusetts state patrol, as our control group. Ideally, we would have multiple agencies contributing to the control group to provide an accurate

204. *See, e.g.*, Richard Rosenfeld, Michael J. Deckard & Emily Blackburn, *The Effects of Directed Patrol and Self-Initiated Enforcement on Firearm Violence: A Randomized Controlled Study of Hot Spot Policing*, 52 CRIMINOLOGY 428, 434, 439–43 (2014) (relying on difference-in-differences to estimate the effect of hot spot policing tactics); Rushin & Edwards, *supra* note 143, at 683–85 (describing another use of difference-in-differences to evaluate the effect of a change in law on police behavior).

205. Marianne Bertrand, Esther Duflo & Sendhil Mullainathan, *How Much Should We Trust Differences-in-Differences Estimates?*, 119 Q.J. ECON. 249, 250 (2004) (stating that this methodology is particularly useful when interventions are the equivalent of "random, conditional on time and group fixed effects" but also acknowledging concerns about endogeneity). For more examples of difference-in-differences estimation strategies, see generally John J. Donohue, *Guns, Crime, and the Impact of State Right-to-Carry Laws*, 73 FORDHAM L. REV. 623 (2004); Justin Wolfers, *Did Unilateral Divorce Laws Raise Divorce Rates?: A Reconciliation and New Results*, 96 AM. ECON. REV. 1802 (2006); Griffin Edwards, *Doing Their Duty: An Empirical Analysis of the Unintended Effect of* Tarasoff v. Regents *on Homicidal Activity*, 57 J.L. & ECON. 321 (2014). For a brief literature review on the use of difference-in-differences estimation, see Michael Lechner, *The Estimation of Causal Effects by Difference-in-Difference Methods*, 4 FOUNDS. & TRENDS ECONOMETRICS 165, 168–69 (2010). *See also* Elizabeth A. Stuart, Haiden A. Huskamp, Kenneth Duckworth, Jeffrey Simmons, Zirui Song, Michael E. Chernew & Colleen L. Barry, *Using Propensity Scores in Difference-in-Differences Models to Estimate the Effects of a Policy Change*, 14 HEALTH SERVS. & OUTCOMES RSCH. METHODOLOGY 166, 167 (2014) (describing how social scientists have used this methodology to evaluate the effects of legal changes).

206. *See infra* Part III.A (particularly Figure 1).

207. *See infra* Part III.A (describing the *Toole* decision).

208. *See infra* Part III.A.

depiction of baseline traffic behavior. This is an unfortunate limitation of our methodology necessitated by the lack of jurisdictional variation and traffic data. Nonetheless, Massachusetts does allow us at least a first pass at a difference-in-differences estimate. In its most basic form, the difference-in-differences approach is formalized through a multiple regression framework as the following equation:

$$O_{kt}=\alpha+\partial affected\ states_k+\varphi post\ Gant_t+\beta affected\ states*post\ Gant_{kt}+\varepsilon$$

where the outcome, *O*, is measured in region, *k*, at time, *t*. *Affected states* is a dummy variable that varies by region and that flags the groups that were subjected to the *Gant* ruling that did not previously have a similar law. The variable *post Gant* is a time dummy variable that flags all observations that occurred after the time at which *Gant* was decided, and varies by time, *t*. And the difference-in-differences estimate, β, is the interaction between those two variables. This compares traffic behavior in *Gant* regions after *Gant* to before, and then compares that same difference to Massachusetts before and after *Gant*. Note that in this specification there is no designation between race, as all outcomes are aggregated together. That is, if there were a differential effect between white and nonwhite drivers, this estimation would mask that effect. We use this model to estimate the effects of *Gant* on the number of traffic stops, arrests, searches, searches that co-occur with arrests, and on the collection of contraband during a traffic stop.

Next, we recognize that *Belton* may have incentivized pretextual policing that disproportionately impacted individuals of color.[209] As a result, the effects of *Gant*'s rollback of the *Belton* rule may have resulted in a larger shift in police behavior against individuals of color relative to white individuals. To test this hypothesis, we employ multiple approaches. To begin, we use a difference-in-differences framework that includes only the twelve available jurisdictions that followed *Belton* until they were forced to adopt the *Gant* rule in 2009. In this model, white drivers serve as the control group (akin to the Massachusetts state patrol in the previous model), with nonwhite drivers receiving the treatment. Formally, it would look very similar:

$$O_{ikt}=\alpha+\partial nonwhite_i+\varphi post\ Gant_t+\beta nonwhite_i*post\ Gant_{it}+\varepsilon$$

where the outcome, *O*, is measured by race, *i*, in county, *k*, at time, *t*. The variable *nonwhite* is a dummy variable that flags the observations that measure the count of nonwhite traffic stops. The variable *post Gant* is the same as before. And again, the difference-in-differences estimate, β, is the interaction between those two variables. This approach is attractive in that it does not require reliance on a single state as a control group. And arguably, the U.S. Supreme Court's decision in *Gant* may have served as an unexpected

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209. *See supra* Part II.B (discussing the interaction between *Belton*, *Whren*, and *Atwater*).

shift in doctrine sufficient to avoid endogeneity concerns. Nevertheless, we recognize that this approach may not control for changes in driving behavior that may correlate with *Gant*. If one racial group, for instance, changed driving habits more than the other in response to *Gant*, the results of this methodology may pick up changes in driving behavior rather than changes in police conduct.[210]

Thus, as a final way of estimating the differential effect of *Gant* on race, we employ a triple-difference model. This approach calculates the difference-in-differences equations for white and nonwhite individuals for the twelve jurisdictions that followed *Belton* before 2009 and *Gant* after 2009 (our treatment). It then compares this to the difference-in-differences for white and nonwhite individuals in the Massachusetts state patrol data (our control group). The resulting difference between these two difference-in-differences tells us whether the gap between the treatment of white and nonwhite drivers in our treatment group shifted relative to our control group. Prior studies have used this type of triple-difference approach to estimate the racially disparate effects of a change in law regulating police behavior.[211]

III. The Effects of *Gant* on Policing

The debate surrounding *Belton* and *Gant*—and searches incident to arrest more generally—raises two major questions. First, do limitations on the ability of police officers to search places incident to arrest put officer safety at risk? If so, this threat may be particularly pronounced in the context of arrests made in automobiles or as part of traffic stops. Second, does the rather technical shift from *Belton* to *Gant* make a difference in police behavior? And, if police officers used the generous *Belton* rule in conjunction with the rules from *Whren* and *Atwater* to conduct pretextual stops and arrests, did the shift from *Belton* to *Gant* also contribute to a reduction in the pretextual targeting of individuals, particularly racial minorities?[212]

As explained in this Part, we find no evidence that *Gant* reduced officer safety. Additionally, we find that in the aggregate, *Gant* was associated with few statistically significant changes in officer behavior. However, we find some evidence that the effects of *Gant* were felt most acutely by individuals of color, who saw traffic stops, arrests, searches, and searches incident to arrest decline relative to white individuals. Parts III.A–D walk through the results of our empirical examination.

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210. This, of course, assumes that the average driver was aware of the *Gant* decision and consciously changed their driving habits accordingly. This seems unlikely, in our estimation. But we flag it as a potential issue nonetheless.

211. Rushin & Edwards, *supra* note 143, at 690–93 (using triple-difference to estimate the differential effect of daylight on traffic stops of white and nonwhite drivers before and after a shift in Washington law).

212. *See supra* Part II.B (describing the importance of *Whren* and *Atwater* in relationship to *Gant* and *Belton*).

A. The Effect of Gant *on Officer Safety*

Contrary to the predictions of some law enforcement advocates,[213] we fail to find any evidence that *Gant* contributed to increased officer assaults. First, it may be useful to examine the trends in total officer assaults over time. The dashed trend line represents the number of assaults of officers in jurisdictions that have adopted restrictive rules on vehicle searches incident to arrest similar to *Gant* throughout this time period (our control group). The solid trend line represents jurisdictions that followed the *Belton* rule through 2009 and *Gant* thereafter (our treatment group). The dashed vertical line signifies the date of the *Gant* decision.

Figure 2: Officer Traffic Assaults of Per Capita Treatment (Solid Line) and Control (Dashed Line) Jurisdictions
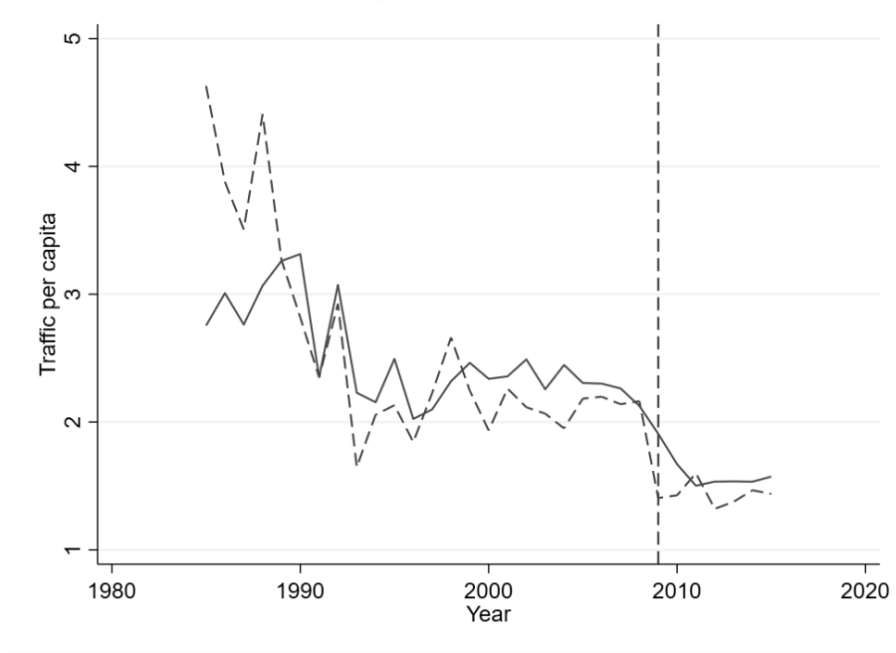
As seen in Figure 2, there does not appear to be any obvious, visual evidence for changes in the number of officer assaults per capita before and after *Gant*. The trend lines for both groups move roughly together. This suggests that the relative danger faced by officers during traffic stops was generally unchanged by the *Gant* Court restricting officer power to search vehicles incident to arrest. But it may be that the total risk faced by law enforcement officers has changed over this time period, skewing the trend lines in Figure 2. To address this possibility, Figure 3 graphs the number of traffic assaults as a proportion of all officer assaults in both our treatment (solid line) and control jurisdictions (dashed line).

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213. *See generally* Brief for National Association of Policing Organizations, Inc. as Amici Curiae Supporting Petitioner, *supra* note 14.

Figure 3: Traffic Assaults as Proportion of All Officer Assaults in
Treatment (Solid Line) and Control (Dashed Line) Jurisdictions
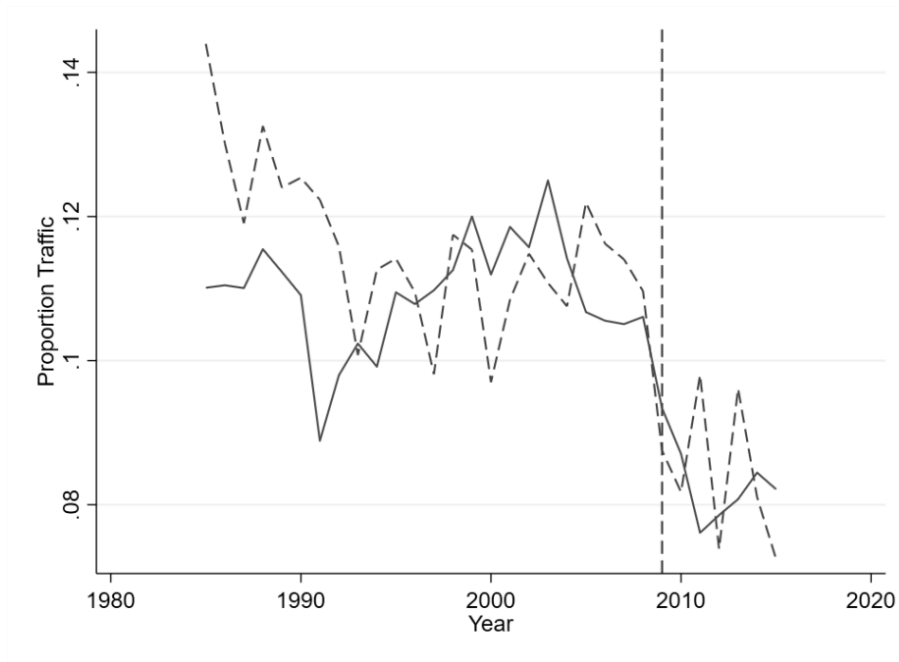
Figure 3 shows that the proportion of all officer assaults that occurred during traffic stops remained relatively similar in both control and treatment jurisdictions over time, regardless of the *Gant* decision. This is mostly consistent with the hypothesis that *Gant* exerted little to no effect on officer safety during traffic stops. To further test this hypothesis, Table 1 reports the results of our more sophisticated modeling to estimate *Gant*'s effects on the frequency of traffic assaults.

Table 1: Effect of *Gant*-like Restrictions on Traffic Assaults

	Traffic Assaults/ Total Assaults		ln (Traffic Assaults/ Total Assaults)		Traffic Assaults per capita		ln (Traffic Assaults per capita)		Traffic Assaults Count	
									Poisson	OLS
Gant Effect	0.001	0.000	0.024	0.012	-0.033	-0.037	0.203	0.125	1.250	0.443
	(0.012)	(0.009)	(0.120)	(0.093)	(0.431)	(0.285)	(0.160)	(0.148)	(8.682)	(0.433)
Population Weights		X		X		X		X		
Sample Size	1,471	1,459	1,459	1,459	1,519	1,519	1,459	1,459	1,471	1,459
(pseudo) R Squared	0.423	0.485	0.470	0.496	0.722	0.775	0.662	0.911	.	0.397

Notes: All regressions include controls for the number of male officers, male civilian employees, female officers, and female civilian employees. Weighted regressions are weighted by the square root of the population. Logged regressions coefficients report the percent change in assaults where rates regressions report the change in rates. The count regression coefficients report the change in count of assaults. All standard errors are clustered at the state level, though no result changes significance when using robust standard errors, and each regression includes state- and year-fixed effects. Although we do not include regression results for the count data weighted by state population, that does not change the result.

$^\wedge p < 0.10$, $\dagger p < 0.05$, $\ddagger p < 0.01$

Table 1 finds no evidence that *Gant* caused any statistically significant change in officer assaults. Regardless of whether we examine traffic assault counts, traffic assaults per capita, or traffic assaults as a proportion of all officer assaults, *Gant* is associated with no statistically significant change in our treatment group relative to our control group. The results in Table 1 remain unchanged, regardless of whether we use rates, logged rates, or counts. They are also insensitive to the introduction of controls. At most, our models suggest that *Gant* was associated with no more than a very small and statistically insignificant increase in officer assaults.

B. *The Effect of* Gant *on Searches Incident to Arrest*

Next, we examine the effect of *Gant* on officer behavior. In Figure 4, we begin by comparing the frequency of searches that co-occur with arrest in our control and treatment groups across this time period. The solid trend line represents the frequency of these types of searches in the Massachusetts state patrol database, which serves as our control. The dashed trend line represents jurisdictions that followed *Belton* through 2009 and *Gant* thereafter (our treatment group). Like in Figures 2 and 3, the dashed vertical line signifies the date of the *Gant* decision. If *Gant* influenced officer searches incident to arrest, we would expect the gap between these two lines to change after 2009.

Figure 4: Effect of *Gant* on Searches Incident to Arrest Treatment (Dashed Line) and Control (Solid Line) Jurisdictions
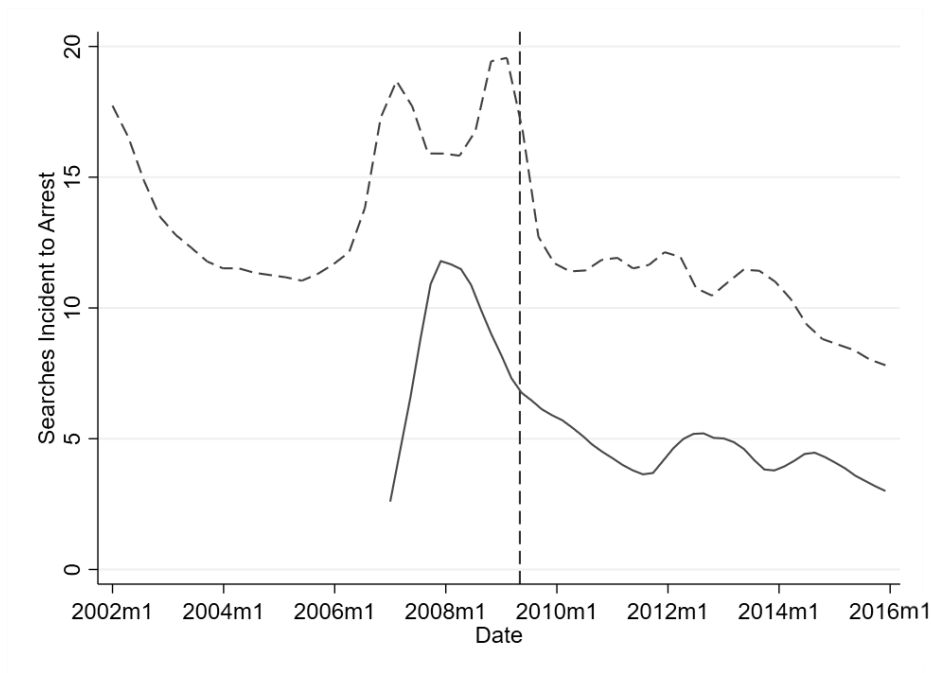
As seen in Figure 4, the two trend lines generally move together, and the gap between the two lines remains relatively stable throughout the time period. This suggests that, in the aggregate, *Gant* may have had little effect on the overall number of searches incident to arrest. This may be because, even after *Gant*, police officers are still able to use other doctrinal tools like inventory searches to engage in some vehicle searches incident to arrest.[214] *Gant* could have simply resulted in some officers shifting from using the *Belton* doctrine to justify vehicle searches incident to arrest to using the inventory search doctrine to justify many of these same searches.

But as discussed in Part II.D, there is also reason to believe that *Gant*'s narrowing of officer discretion to search vehicles incident to arrest particularly limited pretextual policing tactics that disproportionately impact individuals of color.[215] If this is the case, then we might expect the data in Figure 4 to mask the more nuanced changes in police behavior that is directed at individuals of color. To consider this possibility, Figure 5 compares the number of searches incident to arrest of nonwhite individuals (dashed trend line) and white individuals (solid line) in our treatment jurisdictions.

Figure 5: Effect of *Gant* on Searches Incident to Arrest for White (Solid Line) and Nonwhite (Dashed Line) Individuals in Treatment Jurisdictions

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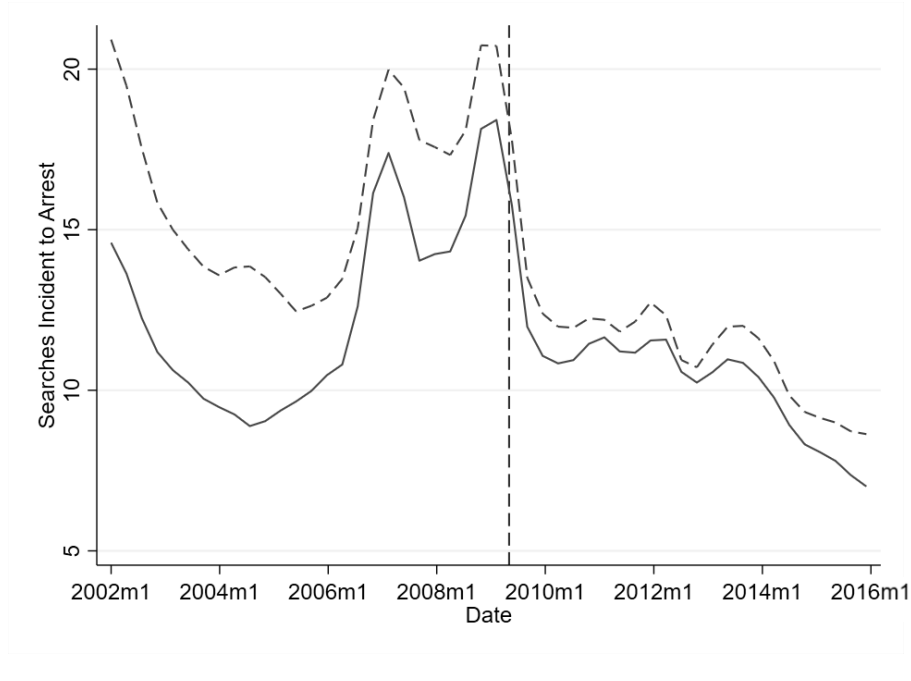
214. *See supra* note 26.

215. As discussed earlier in the Article, criminal procedure rulings often have disparate effects on individuals of color. For example, prior research has argued that seemingly race-neutral doctrines permitting stops and frisks, pretextual stops, and consent searches disparately impact Black and Hispanic individuals more often than white individuals. *See supra* Part II.D.

As shown in Figure 5, searches incident to arrest for nonwhite individuals were generally higher than for white individuals throughout this time period. The gap between the two trend lines narrows around the time of the *Gant* decision. Nonwhite individuals experience a greater decline in searches incident to arrest after *Gant* than white individuals. This is consistent with the hypothesis that the capacious understanding of police authority under *Belton* disproportionately harmed individuals of color. And by narrowing this rule, *Gant* may have disproportionately benefited these same communities of color. To further test these theories, Tables 2 and 3 present the results of our difference-in-differences and triple-difference models. Table 2 explores the aggregate effect of *Gant* on police officer behavior, including the frequency of stops, searches, arrests, searches incident to arrest, and the discovery of contraband. It does not break down police behavior by the race of the individual targeted.

Table 2: Difference-in-Differences Estimates of the Effect of *Gant* on Police Behavior Without Regard to Race

	Stops		Arrests		Searches		Search | Arrest		Contraband	
	OLS	Poisson	OLS	Poisson	OLS	Poisson	OLS	Poisson	OLS	Poisson
Gant Effect	0.184	195.329†	-0.112	2.806	0.134	25.061‡	0.074	15.414‡	0.128	4.658
	(0.126)	(83.011)	(0.209)	(3.253)	(0.125)	(3.866)	(0.128)	(3.347)	(0.118)	(1.061)
Sample Size	30,683	30,683	30,683	30,683	30,683	30,683	30,683	30,683	30,683	30,683
(pseudo) R Squared	0.086	0.403	0.034	0.236	0.058	0.342	0.068	0.296	0.015	0.202

Notes: All regressions include controls for subject age and gender. OLS outcomes are transformed to logged rates, while Poisson outcomes are counts with the exposure set to the population. OLS results report percent changes in the outcome and Poisson regressions report marginal changes or changes in the counts. All standard errors are clustered at the county level.

^p < 0.10, †p < 0.05, ‡p < 0.01

Table 2 generally fails to find any consistent evidence that *Gant* influenced police behavior in the aggregate. Under most modeling assumptions, we fail to find any statistically significant change in stops, arrests, searches, searches incident to arrest, or the discovery of contraband. But these estimates look at all individuals without consideration of race. If *Belton* incentivized pretextual policing that disproportionately impacted racial minorities, we would expect the effects of *Gant* to also be uneven based on race. Table 3 presents the results of our triple-difference estimations testing *Gant*'s effect on police behavior by race. For this analysis, we divide the traffic stop data into two categories: those identified in the data as "white" and those identified in the data as "nonwhite."[216] The resulting regressions specifically show the estimated effect of *Gant* on the white population relative to the nonwhite population in treatment jurisdictions relative to our control jurisdiction, the Massachusetts state patrol.

As an additional test of the differential effect of *Gant* on nonwhite populations, we also produce in Table 4 the results of a narrower difference-in-differences estimate that focuses exclusively on the changes in coercive police tactics directed at nonwhite individuals relative to white individuals in our treatment jurisdictions. Essentially, Table 4 removes any consideration of the Massachusetts state patrol as a control. Instead, it simply compares changes in policing tactics directed at individuals of color before and after *Gant* relative to the changes experienced by white individuals over the same time period. In this model, white individuals serve as our control, and individuals of color operate as our treatment group.

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216. For more information on the categorization of "white" and "nonwhite" individuals in our data sets, see Part III.D (describing the relatively few cases where officers failed to identify race). Because of the relatively few cases where officers failed to identify race, we chose to categorize as "nonwhite" all individuals not labeled as "white" in the data sets. The data sets in this study did not raise the same complications for race classification as prior studies utilizing Stanford Open Policing Project data. *See* Rushin & Edwards, *supra* note 143, at 668–69.

Table 3: Triple-Difference Estimates of the Effect of *Gant* on Police Behavior by Race

	Stops		Arrests		Searches		Search | Arrest		Contraband	
	OLS	Poisson	OLS	Poisson	OLS	Poisson	OLS	Poisson	OLS	Poisson
Gant Effect on Nonwhites	-0.463‡	-73.311^	-0.386‡	-4.957‡	-0.254‡	-4.302†	-0.265‡	-2.626†	0.056	-0.288
	(0.082)	(39.440)	(0.134)	(1.450)	(0.092)	(1.907)	(0.102)	(1.209)	(0.090)	(0.586)
Sample Size	72,835	72,835	72,835	72,835	72,835	72,835	72,835	72,835	72,835	72,835
(pseudo) R Squared	0.160	0.227	0.036	0.115	0.052	0.200	0.072	0.193	0.018	0.107

Notes: All regressions include controls for subject age and gender. OLS outcomes are transformed to logged rates, while Poisson outcomes are counts with the exposure set to the population. OLS results report percent changes in the outcome and Poisson regressions report marginal changes or changes in the counts. All standard errors are clustered at the county level.

^p < 0.10, †p < 0.05, ‡p < 0.01

Table 4: Difference-in-Differences Estimates of the Effect of *Gant* on Police Behavior by Race

	Stops		Arrests		Searches		Search | Arrest		Contraband	
	OLS	Poisson	OLS	Poisson	OLS	Poisson	OLS	Poisson	OLS	Poisson
Gant Effect on Nonwhites	-0.351‡	14.096	-0.276‡	-3.077‡	-0.120‡	-1.531	-0.132‡	-2.211†	0.063	0.029
	(0.061)	(19.792)	(0.055)	(1.131)	(0.045)	(1.543)	(0.044)	(0.985)	(0.040)	(0.380)
Sample Size	69,636	69,636	69,636	69,636	69,636	69,636	69,636	69,636	69,636	69,636
(pseudo) R Squared	0.129	0.071	0.027	0.027	0.019	0.050	0.018	0.027	0.008	0.040

Notes: All regressions include controls for subject age and gender. OLS outcomes are transformed to logged rates, while Poisson outcomes are counts with the exposure set to the population. OLS results report percent changes in the outcome and Poisson regressions report marginal changes or changes in the counts. All standard errors are clustered at the county level.

^p < 0.10, †p < 0.05, ‡p < 0.01

Tables 3 and 4 display moderately firmer results. Across most modeling assumptions, we find that *Gant* was associated with a greater reduction in coercive action against nonwhite individuals relative to white individuals. This includes drops in stops, arrests, searches, and searches incident to arrest. The models vary somewhat in the magnitude of this drop. In most cases, though, the models agree that the reduction in coercive police actions directed at nonwhite individuals is statistically significant. After *Gant*, nonwhite individuals experienced a greater decline in traffic stops, arrests, searches, and searches incident to arrest. In our OLS models using the triple-difference analysis, we find *Gant* associated with a significant decline in traffic stops, arrests, searches, and searches incident to arrest for nonwhite individuals relative to white individuals. Our Poisson models in Table 3 find similarly statistically significant drops in the same categories of police behavior. Using the difference-in-differences approach, the OLS models find significant reductions in the targeting of nonwhite individuals after *Gant* relative to white individuals, but the Poisson models reach less consistent findings. Across all models, we fail to find any evidence that this reduction in police targeting had any statistically significant effect on the likelihood of police uncovering contraband.

Overall, these findings are potentially consistent with the hypothesis that *Belton* may have facilitated pretextual policing that resulted in racial profiling. Although *Gant* may not have resulted in widespread shifts in police behavior toward many drivers, its limitation on police power to conduct vehicle searches incident to arrest may have somewhat reduced the incentive for officers to engage in some policing tactics, disproportionally benefitting individuals of color.

C. Event Studies

Next, as a robustness check, we measure the dynamic effect of *Gant* over time and test the assumption of pretreatment parallel trends. To do this, Figure 6 displays the point estimates and confidence interval bands for the dynamic triple-difference estimates in Part IV. This methodology plots the differentials between trends in searches incident to arrest of white and nonwhite individuals in treatment and control jurisdictions over time. The line that extends above and below each point represents confidence intervals. If a line is entirely above or below zero, then we can say with some level of confidence that the differential between trends for nonwhite and white individuals is statistically significant (i.e., we reject the null hypothesis). But if the confidence interval extends above and below zero, then we cannot reject the null hypothesis. So, if *Gant* drove subsequent changes in police behavior in treatment of individuals of color in treatment jurisdictions relative to control jurisdictions, we would expect the differentials to become statistically significant only around the time of *Gant* in 2009.

Figure 6: Triple-Difference Event Study for Effect of *Gant* on Searches
Incident to Arrest for Nonwhite Individuals in Treatment Relative to
Control Jurisdictions
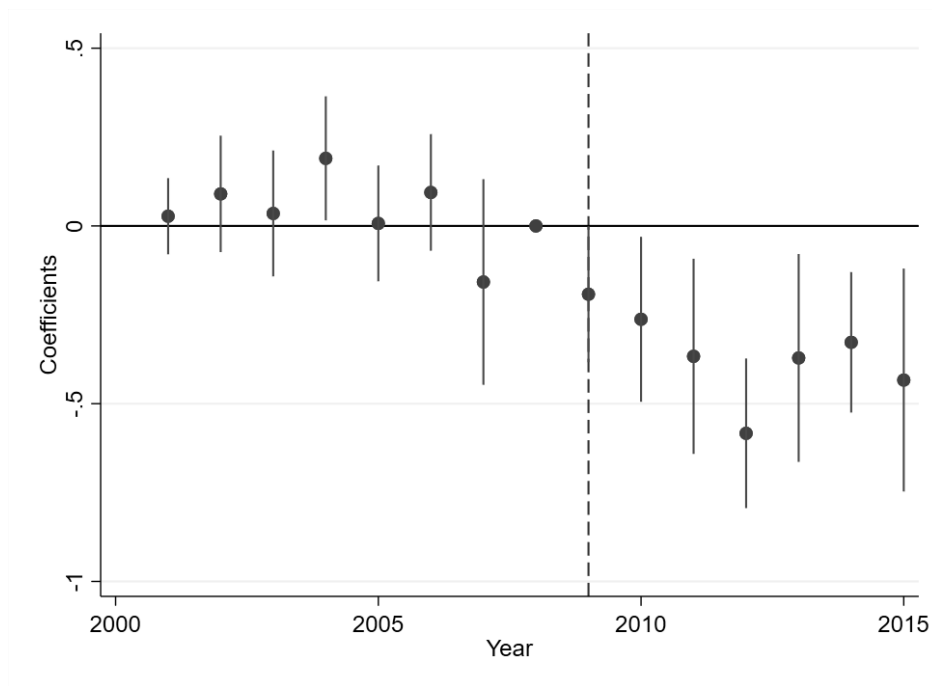
In most years before *Gant*, the confidence intervals extend above and below zero. These differentials only become consistently significant after the *Gant* decision. As an additional test, in Figure 7, we remove the additional difference from our analysis. This figure looks merely at the differentials in searches incident to arrest for white and nonwhite drivers only in treatment jurisdictions.

Figure 7: Difference-in-Differences Event Study for Effect of *Gant* on Searches Incident to Arrest for Nonwhite Individuals in Treatment Jurisdictions
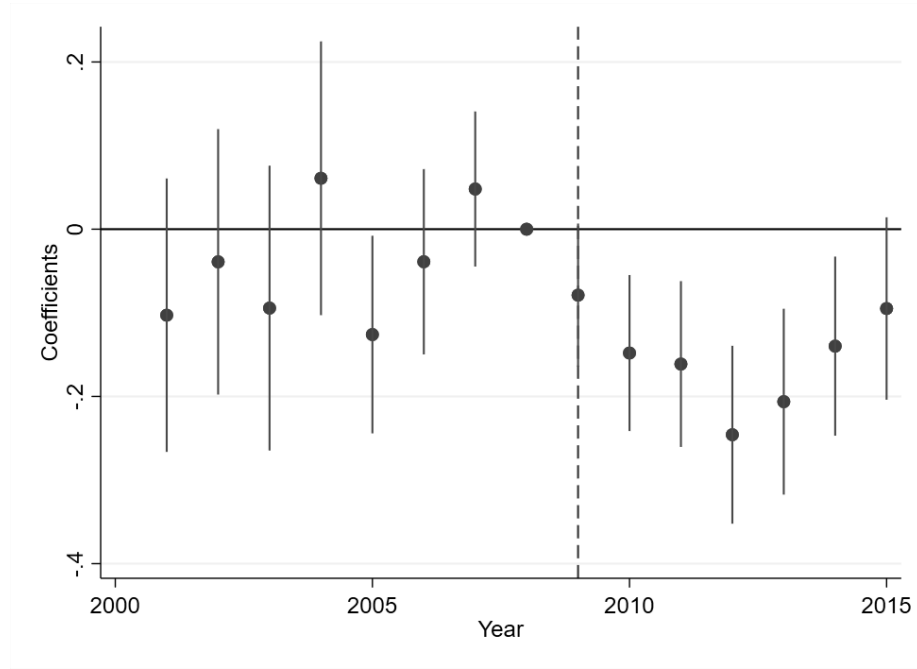
Again, we see the confidence intervals extend above and below zero in the year leading up to *Gant*. After *Gant*, we see these confidence intervals generally fall below zero, bolstering the claim that *Gant* may be driving the subsequent reductions in the frequency of police vehicle searches incident to the arrests of nonwhite relative to white individuals.

D. Methodological Challenges and Limitations

Although we believe that this methodological approach provides some evidence for the effect of *Gant* on police behavior, we recognize that our study also has numerous limitations. First, despite the expansiveness of the data sets used in this study, we rely primarily on one major control group—the Massachusetts state patrol—in some of our analyses. This means that we cannot rule out the possibility that the unique culture, training, or practices of this state policing agency make a less-than-ideal comparison point.

Additionally, like any similar empirical study, we cannot account for every possible variable that may be influencing police traffic stop behaviors. Our study makes methodological choices that come with implicit trade-offs.[217] For example, one major challenge we faced in specifying our models was the

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217. For example, we make various assumptions in how we employ our difference-in-differences and our triple-difference analyses, specifically in how we account for and weigh jurisdictional population and our choice of controls.

choice between Poisson and OLS regressions. A key assumption of OLS is that the errors, and by extension the outcome, will be normally distributed. Additionally, this project is unique in that data and policy change limitations require us to compare police agencies that serve vastly different populations.[218] The nature of this project requires us to directly account for population in some way. One approach is to use OLS and take the natural log of the per capita arrest or search rate. The per capita rate addresses the issue of population scale, and the log addresses the assumption of normality. Nevertheless, this approach creates issues with reports of zero arrests or searches since the log of zero is mathematically undefined. We remedy this by adding a nominal amount to any zero entry in the data. The advantage of OLS is that it requires relatively few assumptions to generate unbiased estimators. But the drawback is that it requires some data transformation.

Alternatively, Poisson regressions can handle count and truncated data. Poisson regressions can still account for population by including population as an exposure variable with the coefficient constrained to one. However, this approach carries additional assumptions related to the Poisson distribution. Specifically, Poisson regressions assume equality between the mean and the variance of the outcome variable. Additionally, Poisson regressions report coefficients that are not always intuitive in interpretation. Thus, when we employ Poisson regressions, we transform each coefficient into marginal effects, allowing them to be interpreted in the same way as the OLS regressions.

We also recognize that attempting to control for populations raises benchmark challenges. We do not know, for example, the exact number of drivers of various races on the road at any given time.[219] The demographics of drivers on a specific highway rarely match the underlying population of the county or city where that population lies.[220] Ideally, we would prefer not to utilize population adjustments, given that residential population is a poor

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218. For example, twenty-five arrests in Big Sky County, Montana, means something very different than twenty-five arrests in the entire state of Maryland. Previous studies have been able to skirt these population issues (and other issues of baseline comparison) by restricting the geographical region to one state or jurisdiction (and assuming that population by race does not vary heterogeneously across county). *See* Rushin & Edwards, *supra* note 143, at 659–64, 669–73 (discussing the choice in that study to not adjust for population when studying trends over time in a single agency, in part because of the challenges of identifying an adequate benchmark for the number of drivers of various races on the roads patrolled by the Washington State Patrol).

219. *Id.* at 669–73 nn.182–98 (providing a list of citations demonstrating the significant challenges in developing an adequate benchmark to represent the number of drivers of various demographic categories).

220. *See, e.g.*, Geoffrey P. Alpert, Roger G. Dunham & Michael R. Smith, *Investigating Racial Profiling by the Miami-Dade Police Department: A Multimethod Approach*, 6 CRIMINOLOGY & PUB. POL'Y 25, 32 (2007) (stating that although some researchers have used census residential population as a benchmark for racial profiling studies, such data is "static" and does "not represent the fluid nature of those who drove" in a specific area); *see also Racial Profiling and Traffic Stops*, NAT'L INST. JUST. (Jan. 9, 2013), https://nij.ojp.gov/topics/articles/racial-profiling-and-traffic-stops [https://perma.cc/Y2YV-J859] (concluding that "social scientists now disregard comparisons to the census for assessing racial bias").

proxy for driving population. This means that adjustments using residential population may skew our data. Had our study analyzed a single agency, we would have relied on levels rather than per capita rates adjusted for population, consistent with prior studies.[221]   Nevertheless, because we compare data from numerous jurisdictions of widely varied sizes from across the country (and because an additional search in a sparsely populated state is more significant than an additional search in a heavily populated state), we believe it is necessary to include some type of population weighting for at least some of our models. To account for the possibility that population weighting may influence our results, we attempt to provide the results of numerous specifications of our models. Even so, we caution that our findings fall short of proving that *Gant* (or *Gant*-like state equivalents) necessarily *caused* the effects we observe.

Finally, we define "nonwhite" for the purposes of this study as any individual not coded as "white" in the requisite data set. The data used in this project include very few cases of officers failing to identify the apparent race of individuals. For example, officers in Massachusetts failed to identify a suspect's race in only 0.55 percent of all cases, and in Maryland in only 0.86 percent of cases.   Thus, we believe that our definition fairly distinguishes between those individuals believed by officers to be "white" and "nonwhite," without raising some of the challenges faced by prior researchers relying on the data from other jurisdictions or agencies in the Stanford Open Policing Project database.[222]

Overall, although evidence presented in this Article falls short of proving a definitive causal link, the results of these models and event studies bolster the hypothesis that the *Gant* decision may have influenced subsequent changes in police treatment of racial minorities.

IV. IMPLICATIONS FOR POLICING LITERATURE

Our findings have several implications for the literature on police accountability and reform. More narrowly, our results suggest that some of the concerns expressed by police advocates may have been overstated. Relatedly, our findings also demonstrate that advocates may have failed to recognize the implications of the *Gant* decision on communities of color. More generally, though, our findings contribute to a growing body of literature that suggests that rules granting frontline officers significant discretionary authority frequently contribute to racial disparities. This, we argue, should further caution policy makers to consider rules that limit discretion to ensure that officers police communities fairly and equitably.

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221. *See* Rushin & Edwards, *supra* note 143, at 669 (explaining the authors' prior decision "*not* to convert [their] dataset from raw stop numbers into rates of stops per capita" in a study of a single agency).

222*. Id.* at 668–69.

A. Refuting the Officer Danger Narrative

To begin with, our study refutes the claim that *Gant* risked officer safety. As Professor Jordan Blair Woods has previously written, police officers conduct millions of traffic stops annually, and the "dominant narrative in policing is that each one of these stops is not just highly dangerous but also potentially fatal."[223] This assumption permeates police training material and departmental culture.[224] As former police officer turned law professor Seth Stoughton bluntly concluded, "[p]olice training starts in the academy, where the concept of officer safety is so heavily emphasized that it takes on almost religious significance."[225]

Concern for officer safety has also contributed to courts granting police officers wide-ranging discretion during traffic stops.[226] Professor Alice Ristroph explained that "courts defer almost invariably to police officers' later accounts of their perceptions of danger or resistance."[227] And in making judgments about what limitations or regulations may put officer safety at risk, courts commonly defer to police expertise, as documented by Professor Anna Lvovsky.[228] Indeed, despite declining rates of officer deaths in the line of duty in recent decades,[229] narratives about officer danger continue to shape officer regulation and socialization.[230] As Professor Michael Sierra-Arévalo observed, there remains a widespread assumption that policing is a uniquely

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223. Woods, *supra* note 30, at 638–39 (discussing "[t]he idea that routine traffic stops pose grave and unpredictable danger to the police" and how it influences policing more generally).

224. Seth W. Stoughton, *Police Body-Worn Cameras*, 96 N.C. L. REV. 1363, 1397 (2018) ("One common theme can be found in 'officer survival' videos, which attempt to remind officers of the dangers of complacency by showing officers being brutally attacked, disarmed, or killed." (footnotes omitted)).

225. Seth Stoughton, *How Police Training Contributes to Avoidable Deaths*, ATLANTIC (Dec. 12, 2014), https://www.theatlantic.com/national/archive/2014/12/police-gun-shooting-training-ferguson/383681 [https://perma.cc/M8HK-4QBX] (noting how officers are shown during training "heart-wrenching dash-cam footage of officers being beaten, disarmed, or gunned down after a moment of inattention or hesitation").

226. Woods, *supra* note 30, at 638 n.8. For more examples of safety narratives influencing police regulation, see Roger Michalski & Stephen Rushin, *Police Executive Opinions of Legal Regulation*, 2018 U. ILL. L. REV. 1841, 1854–57.

227. Alice Ristroph, *The Constitution of Police Violence*, 64 UCLA L. REV. 1182, 1210 (2017). It is also worth noting that, like other scholars, Ristroph is skeptical of many of the safety concerns frequently invoked by courts to justify expansions of officer power or authority. *Id.* at 1189 ("It is doubtful whether Fourth Amendment doctrine's permissiveness of police violence maximizes officer safety or public safety, and the broad authority to use force clearly puts suspects in peril.").

228. Anna Lvovsky, *The Judicial Presumption of Police Expertise*, 130 HARV. L. REV. 1995, 2033 (2017) (explaining, for example, how "[i]n California, where judges had long approved investigatory stops based simply on public safety, they now defended that practice based on the '[e]xperienced' police officer's 'ability to perceive the unusual and suspicious'" (quoting People v. Cowman, 223 Cal. App. 2d 109, 117 (Cal. Ct. App. 1963))).

229. Michael D. White, Lisa M. Dario & John A. Shjarback, *Assessing Dangerousness in Policing: An Analysis of Officer Deaths in the United States, 1970–2016*, 18 CRIMINOLOGY & PUB. POL'Y 11, 27 (2019) ("The most compelling finding from the current study is how dramatically the dangerousness of policing has declined since 1970.").

230. Seth Stoughton, *Law Enforcement's "Warrior" Problem*, 128 HARV. L. REV. F. 225, 227 (2015) (connecting the training that officers receive about danger and safety to the broader development of a "warrior" culture within policing).

and "profoundly dangerous" profession that puts officers "in the cross-hairs of . . . criminals" at every turn.[231]

Our study contributes to this literature by refuting some of the officer danger narratives specifically relied upon by opponents of *Gant*. In their amicus brief in *Gant*, the National Association of Policing Organizations heavily emphasized the link between the *Belton* bright-line rule and officer safety.[232] They claimed that "[l]aw enforcement work, never particularly safe, has unfortunately become even more dangerous to the men and women who enforce our social contract at great personal risk."[233] They argued that 42 percent of attacks against law enforcement happen during traffic stops or arrests.[234] They reminded the Supreme Court of previous cases, like *Pennsylvania v. Mimms*,[235] where it recognized the importance of officer safety.[236] They also claimed that adopting anything other than the bright-line *Belton* rule would put officers at an "unnecessary risk of a deadly attack."[237]

To be clear, our study cannot claim that all law enforcement regulation can be accomplished without reducing officer safety. As discussed in this part, we also cannot discount the possibility that officers responded to *Gant* by simply pulling back in circumstances where they believed that a search incident to arrest would have served a legitimate law enforcement purpose, thus ensuring officer safety at the expense of police effectiveness. Even so, our findings are at least consistent with the hypothesis that some of these claims of trade-offs between regulation and officer safety in this specific context are likely overstated.

This makes sense because, as the justices observed in *Gant*, officers have long been trained to handcuff and secure an arrestee in the back of their squad car before conducting a vehicle search incident to arrest.[238] *Gant* likely did not change this practice; it merely removed the ability of an officer to search the vehicle automatically thereafter. As Justice Antonin Scalia observed in his concurrence, any risk to law enforcement officer safety is likely not "reduced by allowing a search of the stopped vehicle after the driver has been

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231. *See* Sierra-Arévalo, *supra* note 30, at 70–71 (concluding more broadly that these danger imperatives emphasize violence and ensure both "policy-compliant" and "policy-deviant" behavior by officers to protect officer safety).

232. Brief for National Association of Policing Organizations, Inc. as Amici Curiae Supporting Petitioner, *supra* note 14, at 1–4 (claiming in Part I of the brief that "[c]onsiderations of officer safety justify a bright-line rule allowing warrantless vehicle searches incident to a recent occupant's arrest and confinement").

233. *Id.* at 2.

234. *Id.*

235. 434 U.S. 106 (1977).

236. Brief for National Association of Policing Organizations, Inc. as Amici Curiae Supporting Petitioner, *supra* note 14, at 2–3.

237. *Id.* at 3; *see also Mimms*, 434 U.S. at 110.

238. Arizona v. Gant, 556 U.S. 332, 351–52 (2009) (Scalia, J., concurring) ("When an arrest is made in connection with a roadside stop, police virtually always have a less intrusive and more effective means of ensuring their safety—and a means that is virtually always employed: ordering the arrestee away from the vehicle, patting him down in the open, handcuffing him, and placing him in the squad car.").

arrested and placed in the squad car."[239] In fact, as Justice Scalia observed both in *Gant* and in *Thornton v. United States*,[240] the Court has failed to identify "a single instance in which a formerly restrained arrestee escaped to retrieve a weapon from his own vehicle."[241] This should caution future courts from relying on such concerns to justify coercive police actions under the Fourth Amendment.

B. Failure to Recognize the Racially Disparate Implications of Belton and Gant

Our findings suggest that courts may not be adequately considering the way that seemingly neutral criminal procedure rulings can have disparate effects based on race. The justices in *Belton* and *Gant* carefully documented various concerns and objections to the proposed regulations of law enforcement behavior.[242] For example, in *Gant*, the majority and dissenting opinions considered the implications of the decision for officer safety,[243] evidentiary preservation,[244] privacy interests,[245] and the doctrine of stare decisis.[246] The justices also debated whether the decision established a workable rule that law enforcement could employ without confusion.[247] The majority, concurrence, and dissenting opinions are lengthy and detailed.[248] Yet, none of these opinions consider the disparate implications of the ruling for communities of color. Indeed, as Professor Cooper wrote in 2012, "*Gant* never mentions the fact that racial minorities are much more likely to suffer the consequences of an open-ended rule."[249]

This is not the first time that the Court has issued seemingly neutral criminal procedure rulings, without discussing race, that ultimately have had differential effects on racial minorities. Remember that the *Whren* Court held that officers may engage in pretextual traffic stops; as long as an officer can identify an objective violation of the traffic code, the officer may conduct a traffic stop, even if their real motivation for the stop is to investigate an unsubstantiated hunch that fails to provide probable cause for a stop.[250] In that case, the petitioners directly raised the implication of the Court's potential ruling for Black individuals, arguing that they were more likely to

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239. *Id.* at 352.

240. 541 U.S. 615, 626 (2004).

241. *Gant*, 556 U.S. at 352 (Scalia, J. concurring).

242. *Id.* at 332–51 (majority opinion).

243. *Id.* at 346 ("Contrary to the State's suggestion, a broad reading of *Belton* is also unnecessary to protect law enforcement safety . . . .").

244. *Id.* (further noting alternative exceptions that allow for the preservation of evidence).

245. *Id.* at 344–45 ("[T]he State seriously undervalues the privacy interests at stake . . . .").

246. *Id.* at 351 ("The doctrine of *stare decisis* does not require us to approve routine constitutional violations.").

247. *Id.* at 360–61 (Alito, J., dissenting) (discussing concerns about the workability of rules surrounding searches incident to arrest and the need for clear rules).

248. The *Gant* opinions together include over thirty pages of debate. *See id.* at 332–65.

249. Cooper, *supra* note 153, at 117.

250. Whren v. United States, 517 U.S. 806, 813 (1996) ("We think these cases foreclose any argument that the constitutional reasonableness of traffic stops depends on the actual motivations of the individual officers involved.").

be targeted for pretextual stops than white drivers.[251] But even there, the Court quickly dismissed such concern by stating that "the Constitution prohibits selective enforcement of the law based on considerations such as race," and any such claims must be made via the Equal Protection Clause and not via Fourth Amendment challenges to the reasonableness of the traffic stop.[252]

Numerous scholars objected to the Court's holding in *Whren* on the ground that it would exacerbate racial disparities in policing.[253] At least one subsequent empirical study has found evidence that laws granting police discretionary authority to engage in pretextual stops may contribute to higher numbers of stops of drivers of color.[254] But some other criminal procedure rules that similarly grant police wider discretion to engage in coercive behavior, like *Belton*, have not received similar scrutiny. The results from this study suggest that advocates and courts should pay greater attention to the effects of policing rules on racial minorities.

C. Limiting Police Discretion to Combat Racial Disparities

Finally, our results suggest that, to combat racial disparities, policy makers should consider limiting police discretionary authority. Discretion exists out of necessity throughout the criminal justice system, including in decisions to investigate, arrest, prosecute, and sentence suspected offenders.[255] There are strong policy reasons for granting discretionary authority to many actors within the criminal justice system. Discretion allows for the tailoring and individualization of criminal justice interventions to the needs of specific offenders or community demands.[256] Discretion may also allow actors

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251. *Id.* at 810 ("Petitioners, who are both black, further contend that police officers might decide which motorists to stop based on decidedly impermissible factors, such as the race of the car's occupants.").

252. *Id.* at 813.

253. *See supra* note 119 (citing numerous studies criticizing *Whren*).

254. *See* Rushin & Edwards, *supra* note 143, at 683–96 (showing a decline in stops of drivers of color and nonwhite drivers after Washington moved to regulate pretextual stops and using a veil-of-darkness methodology to test the effect of light on officer stops of drivers).

255. Lloyd E. Ohlin, *Surveying Discretion by Criminal Justice Decision Makers*, *in* DISCRETION IN CRIMINAL JUSTICE: THE TENSION BETWEEN INDIVIDUALIZATION AND UNIFORMITY 1, 1–4 (Lloyd E. Ohlin & Frank J. Remington eds., 1993) (explaining that the book's essays describe the need for and challenges of limiting discretion in the criminal justice system, and chronicling the scope of discretion in the system generally); *see also* Stephen J. Schulhofer, *Criminal Justice Discretion as a Regulatory System*, 17 J. LEGAL STUD. 43, 43 (1988) ("In criminal justice, as perhaps nowhere else in the American legal system, the life and liberty of the citizen are exposed to the largely uncontrolled discretion of individual public officials."); George C. Thomas, III, *Discretion and Criminal Law: The Good, the Bad, and the Mundane*, 109 DICK. L. REV. 1043, 1043 (2005) ("Discretion in enforcement and prosecution of crime is inevitable; it can be restrained at the margin but it cannot be eliminated.").

256. Griffin Edwards, Stephen Rushin & Joseph Colquitt, *The Effects of Voluntary and Presumptive Sentencing Guidelines*, 98 TEX. L. REV. 1, 8 (2019) ("Those holding such discretion—be they trial court judges, correctional officials, or parole boards—should theoretically use it to tailor criminal sentences to the specific culpability of each criminal offender.").

within the justice system to effectively allocate their limited time and resources.[257] Even so, discretion invites discrimination and inequality.

For example, prosecutors have wide discretion to make charging decisions in most cases. Some studies have found that prosecutors use this largely unfettered discretion to charge individuals of color more frequently or more severely than similarly situated white individuals.[258] Similar evidence suggests that prosecutorial discretion in plea bargaining may contribute to racial disparities.[259] Evidence of racial bias in criminal sentencing is extensive—and often tied to the discretion granted to judges or juries within the criminal justice system.[260] Criminal sentencing systems that grant judges wider discretion may contribute to Black defendants receiving longer sentences than white defendants.[261] Similarly, criminal sentencing guidelines that limit judicial discretion are associated with decreases in racial disparities in sentencing.[262]

Perhaps no actors within the criminal justice system have more discretionary authority than police officers.[263] Extensive evidence suggests

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257. Charles D. Breitel, *Controls in Criminal Law Enforcement*, 27 U. CHI. L. REV. 427, 427 (1960) (noting that if police were not given discretion and instead had to strictly enforce every violation of the law, "the criminal law would be ordered but intolerable"); Thomas, *supra* note 255, at 1043 (using the example of jaywalking as an example to say that "[p]resumably, the average officer working a beat sees hundreds of jaywalkers every day and probably arrests none").

258. Marvin D. Free, Jr., *Race and Presentencing Decisions in the United States: A Summary and Critique of the Research*, 27 CRIM. JUST. REV. 203, 210–14 (2002) (providing in Table 2 a list of studies of the impact of race on prosecutors' decisions to file or dismiss charges and noting that several of them found evidence of racial disparities).

259. *See generally* Carlos Berdejo, *Criminalizing Race: Racial Disparities in Plea-Bargaining*, 59 B.C. L. REV. 1187, 1187 (2018) (finding that white defendants are 25 percent more likely than Black defendants to have their initial charges dropped or reduced to a lesser offense at the plea bargaining stage, with greater disparities for minor offenses than for felonies); Christi Metcalfe & Ted Chiricos, *Race, Plea, and Charge Reduction: An Assessment of Racial Disparities in the Plea Process*, 35 JUST. Q. 223 (2018) (similarly finding racial disparities in plea bargaining, particularly affecting Black males).

260. Crystal S. Yang, *Have Interjudge Sentencing Disparities Increased in an Advisory Guidelines Regime?: Evidence from* Booker, 89 N.Y.U. L. REV. 1268, 1270–71 (2014) (noting the "almost wholly unchecked and sweeping powers we give to judges in the fashioning of sentences" and also finding that the move away from the Federal Sentencing Guidelines after *Booker* likely contributed to disparities (quoting MARVIN E. FRANKEL, CRIMINAL SENTENCES: LAW WITHOUT ORDER 5 (1973))).

261. U.S. SENT'G COMM'N, REPORT ON THE CONTINUING IMPACT OF *UNITED STATES V. BOOKER* ON FEDERAL SENTENCING pt. E, at 2–3 (2012), https://www.ussc.gov/sites/default/files/pdf/news/congressional-testimony-and-reports/booker-reports/2012-booker/Part_E.pdf [https://perma.cc/3YKT-52U6] (finding several examples of racial disparities between similarly situated white and nonwhite offenders).

262. Edwards, Rushin & Colquitt, *supra* note 256, at 47–52 (showing particularly in Figures 13 and 14 that moving from no sentencing guidelines, to voluntary sentencing guidelines, and then to presumptive sentencing guidelines likely contributed to a reduction in racial disparities, consistent with the hypothesis that reducing discretion may also reduce inequality).

263. Simon Bronitt & Philip Stenning, *Understanding Discretion in Modern Policing*, 35 CRIM L.J. 319, 320–21 (2011) (stating that police officers have discretion in "(1) choosing objectives; (2) choosing methods of intervention; (3) choosing how to dispose of cases;

that police officers sometimes use their discretionary authority in a manner that disproportionately harms communities of color. Traffic officers often must exercise discretion in conducting traffic stops. Extensive evidence suggests that officers may use this discretion to target drivers of color more often than white drivers.[264] Officers must frequently exercise discretion in conducting so-called stops and frisks of pedestrians.[265] There, too, evidence of racially disparate abuse is prevalent.[266] Officers must make split-second decisions to draw their weapons or use physical force in response to a perceived threat.[267] Multiple studies have argued that such discretionary decisions disparately harm similarly situated nonwhite individuals relative to white individuals.[268] Police officers exercise discretion in their arrest

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(4) choosing investigative measures; (5) choosing field procedures; and (6) issuing permits and licenses").

264. *See, e.g.*, PETER VERNIERO & PAUL H. ZOUBEK, INTERIM REPORT OF THE STATE POLICE REVIEW TEAM REGARDING ALLEGATIONS OF RACIAL PROFILING 26–28, 67–68 (1999), https://www.state.nj.us/lps/intm_419.pdf [https://perma.cc/5T8Y-25PG] (finding nonwhite drivers were treated differently than white drivers in terms of consent searches and hit rates of searches); DAVID A. HARRIS, ACLU, DRIVING WHILE BLACK: RACIAL PROFILING ON OUR NATION'S HIGHWAYS (1999), https://www.aclu.org/report/driving-while-black-racial-profiling-our-nations-highways [https://perma.cc/HMK5-JUSK] (concluding that Latinos make up a disproportionate number of those stopped by police, particularly of those stopped by drug interdiction units); David Rudovsky, *Law Enforcement by Stereotypes and Serendipity: Racial Profiling and Stops and Searches Without Probable Cause*, 3 U. PA. J. CONST. L. 296, 299–306 (2001) (chronicling many of the then existing studies on racial profiling); Rushin & Edwards, *supra* note 143, at 658 (noting that "racial-profiling research is a major field of study with academics, government agencies, and nonprofits all regularly producing studies" and that "an extensive and growing body of literature suggests that police treat drivers of color differently than white drivers").

265. *See generally* Terry v. Ohio, 392 U.S. 1 (1968) (giving police officers the right to conduct limited stops and frisks based on reasonable suspicion).

266. *See, e.g.*, Andrew Gelman, Jeffrey Fagan & Alex Kiss, *An Analysis of the New York City Police Department's "Stop-and-Frisk" Policy in the Context of Claims of Racial Bias*, 102 J. AM. STAT. ASS'N 813, 821 (2007) ("In the period for which we had data, the NYPD's records indicate that they were stopping blacks and Hispanics more often than whites, in comparison to both the population of these groups and the best estimates of the rates of crimes committed by each group."); Sharad Goel, Justin M. Rao & Ravi Shroff, *Precinct or Prejudice?: Understanding Racial Disparities in New York City's Stop-and-Frisk Policy*, 10 ANNALS APPLIED STAT. 365, 367 (2016) (finding that Black and Hispanic individuals were disproportionately targeted for low-hit stops in New York City); John MacDonald & Anthony A. Braga, *Did Post-Floyd et al. Reforms Reduce Racial Disparities in NYPD Stop, Question, and Frisk Practices?: An Exploratory Analysis Using External and Internal Benchmarks*, 36 JUST. Q. 954, 977–80 (2019) (finding that racial disparities in the treatment of individuals of color relative to white individuals diminished substantially after the court settlement regulating stop-and-frisk practices in New York); Philip J. Levchak, *Stop-and-Frisk in New York City: Estimating Racial Disparities in Post-Stop Outcomes*, 73 J. CRIM. JUST. 1, 10 (2021) ("The results show that being black or Latino is associated with being frisked and experiencing force—particularly non-weapon force.").

267. Brandon Garrett & Seth Stoughton, *A Tactical Fourth Amendment*, 103 VA. L. REV. 211, 214 (2017) (describing the language used by the U.S. Supreme Court in officer-use-of-force cases like *Graham v. Connor*, 490 U.S. 386 (1989), which describes how police must make "split-second judgments" about the necessity to use force).

268. *See, e.g.*, Frank Edwards, Hedwig Lee & Michael Esposito, *Risk of Being Killed by Police Use of Force in the United States by Age, Race-Ethnicity, and Sex*, 116 PNAS 16,793, 16,795–96 (2019) (finding African American individuals are at an elevated risk of killing by police officers relative to other demographics); Justin Nix, Bradley A. Campbell, Edward H.

decisions, which, some studies find, results in unequal treatment based on race.[269] More generally, law enforcement supervisors across the country regularly make discretionary decisions on how best to allocate law enforcement personnel, which may also disproportionately affect communities of color.[270]

A large body of prior research has tied discretion in the criminal justice system to racially disparate outcomes. The findings from this Article add to this growing literature. They suggest that by limiting police discretion to search vehicles incident to arrest in *Gant*, the Court may have reduced the racially disparate effects of some pretextual policing tactics. This may caution policy makers to consider other limitations on discretionary and pretextual policing tactics. Admittedly, it is unlikely that the Court will overturn its decisions in *Atwater* or *Whren* anytime soon. But some jurisdictions have taken steps to limit the ability of police officers to engage in pretextual policing. Professor Margaret M. Lawton found that some states have limited the use of pretextual traffic stops more than the federal constitutional minimum established in *Whren*.[271] Similarly, jurisdictions are free to establish more stringent limitations on arrests for minor offenses that cannot result in a punishment of incarceration, despite the Court's holding in *Atwater*. The findings from our study suggest that jurisdictions interested in reducing racial disparities in policing should consider establishing more stringent regulations of discretionary policing tactics.

CONCLUSION

At the time of the decision, *Gant* served as a flash point for the broader debate over the trade-offs implicit in police regulation. But although the decision spent considerable time considering issues like officer safety, administrability, and stare decisis, there was no substantial discussion of the ways that modern American law enforcement used vehicle searches incident to arrest as part of a broader toolbox of pretextual policing tactics. Nor was there a discussion of how this type of pretextual policing may disproportionately impact communities of color. The results from this study suggest that some scholars and advocates have overlooked the potentially

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Byers & Geoffrey P. Alpert, *A Bird's Eye View of Civilians Killed by Police in 2015: Further Evidence of Implicit Bias*, 16 AM. Soc'y Criminology 309, 328–29 (2017) (finding that individuals labeled as "other" in racial or ethnic signifiers were significantly more likely than white individuals to have not been attacking an officer during a fatal encounter, and that Black individuals were around twice as likely to be unarmed during fatal encounters than white individuals).

269. *See, e.g.*, Tammy Rinehart Kochel, David B. Wilson & Stephen D. Mastrofski, *Effect of Suspect Race on Officers' Arrest Decisions*, 49 Criminology 473, 490 (2011) (finding that being a racial minority increased probability of arrest).

270. Andrew P. Wheeler, *Allocating Police Resources While Limiting Racial Inequality*, 37 Just. Q. 842, 843–47 (2020) (detailing the challenges faced by law enforcement departments in allocating personnel efficiently and effectively to address public safety concerns without exacerbating unequal treatment of individuals based on race).

271. Margaret M. Lawton, *State Responses to the* Whren *Decision*, 66 Case W. Rsrv. L. Rev. 1039, 1040–41 (2016).

racially disparate effects of vehicle searches incident to arrest. We find that by curbing police power to search vehicles incident to arrest, the *Gant* decision may have reduced the frequency of coercive police actions against individuals of color, including stops, searches, arrests, and vehicle searches incident to arrest, without impairing the discovery of contraband. We further find that this regulation of police discretionary authority was not associated with any increase in officer assaults during traffic stops, as predicted by some law enforcement groups. The totality of this evidence is a reminder that seemingly neutral criminal procedure rulings can have disparate effects on communities of color. These results suggest that rules granting officers significant discretionary authority may advance administrability at the expense of inequality.