
RACE AND REASONABLENESS IN POLICE KILLINGS

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ABSTRACT

Police officers in the United States have killed over 1000 civilians each year since 2013. The constitutional landscape that regulates these encounters defaults to the judgments of the reasonable police officer at the time of a civilian encounter based on the officer's assessment of whether threats to their safety or the safety of others requires deadly force. As many of these killings have begun to occur under similar circumstances, scholars have renewed a contentious debate on whether police disproportionately use deadly force against African Americans and other nonwhite civilians and whether such killings reflect racial bias. We analyze data on 3933 killings to examine this intersection of race and reasonableness in police killings. First, we describe the objective circumstances and interactions of police killings and map those event characteristics to the elements of reasonableness articulated in case law. Second, we assess whether inherently vague constitutional regulation of lethal force is applied differently by officers depending on the civilian's race, giving rise to a disproportionate rate of deaths among racial and ethnic minority groups. We then assess the prospects for remediation of racialized police killings by testing the effects of an existing evidence-based training curricula designed to reduce police use of deadly force towards persons experiencing mental illness.

We find that, across several circumstances of police killings and their objective reasonableness, Black suspects are more than twice as likely to be killed by police than are persons of other racial or ethnic groups; even when there are no other obvious circumstances during the encounter that would make the use of deadly force reasonable. Police killings of Latinx civilians are higher compared to whites and other racial or ethnic groups in some but not all circumstances. We find no evidence that enhanced police training focused on mental health crises can reduce the incidence of fatal police shootings of persons in mental health crisis or racial and ethnic disparities generally in police

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killings. Our findings suggest that the standards in constitutional case law fail to anticipate the circumstances of fatal police shootings and are therefore seemingly irrelevant in preventing racial disparities in police fatal police shootings. In light of this constitutional landscape, we argue that the ineffectiveness of enhanced police training to reduce shootings overall and racial disparity within these shootings may reflect the absence of race-specific components in their curricula. We suggest that the addition of training components that specifically address the role of race in officers' perceptions of risk and their decision-making in potentially dangerous interactions with citizens may remediate both the incidence of police shootings and their apparent racial and ethnic disparity.

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INTRODUCTION

Saheed Vassell was well known in his rapidly gentrifying community of Crown Heights, Brooklyn.¹ He was the broom handler for a local barbershop and a fixture on the block, where his eccentricities and public drinking generated both fear and sympathy from local residents and neighborhood police.² Local patrol officers from the 71st Precinct, who were part of the New York Police Department (“NYPD”) Neighborhood Policing program,³ knew him well; they were often seen chatting him up and occasionally brought him Jamaican food.⁴ They were also well aware of his recurring episodes of mental illness.⁵ When Vassell was killed by officers from a different command within the same precinct, he had not been taking medication for his bipolar condition.⁶

On the day he was shot and killed, Vassell was seen waving a pipe that a passerby said looked like a gun.⁷ One witness reported that he was “pointing something at people that looks like a gun and he’s popping it as if . . . he’s pulling the trigger.”⁸ A few 911 callers said he was poking people with the object.⁹ But the local residents, including Vassell’s ex-girlfriend, saw no danger in his erratic behavior.¹⁰ People who knew Vassell said that he sometimes pointed objects at people while pretending the objects were guns but that he had no history of violence toward his neighbors or anyone else.¹¹

But the 911 callers—some of whom may have been newcomers to the changing neighborhood—may not have known that Vassell’s actions were not

¹ Benjamin Mueller, Jan Ransom & Luis Ferré-Sadurní, *Locals Knew He Was Mentally Ill. Officers Who Shot Him Didn’t*, N.Y. TIMES, Apr. 6, 2018, at A1.

² *Id.*

³ WILLIAM J. BRATTON, N.Y.C. POLICE DEP’T, THE NYPD PLAN OF ACTION AND THE NEIGHBORHOOD POLICING PLAN: A REALISTIC FRAMEWORK FOR CONNECTING POLICE AND COMMUNITIES 1-2 (2015), <http://home.nyc.gov/html/nypd/html/home/POA/pdf/Plan-of-Action.pdf> [<https://perma.cc/WJ59-UXGP>].

⁴ Mueller, Ransom & Ferré-Sadurní, *supra* note 1, at A1. Police officers also gave Vassell 120 summonses over the years. *Id.*

⁵ *Id.*

⁶ Thomas Tracy, *Family of Bipolar Brooklyn Man Shot Dead by Police Prepares to Sue City*, N.Y. DAILY NEWS (May 31, 2018, 3:30 PM), <https://www.nydailynews.com/new-york/brooklyn/ny-metro-saheed-vassell-family-sues-nypd-over-cop-shooting-20180531-story.html> [<https://perma.cc/M2MX-5Z7V>].

⁷ See Mueller, Ransom & Ferré-Sadurní, *supra* note 1, at A1.

⁸ Tracy, *supra* note 6.

⁹ Mueller, Ransom & Ferré-Sadurní, *supra* note 1, at A1.

¹⁰ See Doreen St. Félix, *On the Street in Brooklyn the Morning After the Police Shooting of Saheed Vassell*, NEW YORKER (Apr. 5, 2018), <https://www.newyorker.com/news/dispatch/on-the-street-in-brooklyn-the-morning-after-the-police-shooting-of-saheed-vassell>.

¹¹ See Mueller, Ransom & Ferré-Sadurní, *supra* note 1, at A1.

dangerous.¹² When the 911 calls came in, the neighborhood patrol officers were patrolling elsewhere. In their place, three plainclothes officers and one uniformed officer from the Strategic Response Group—an anticrime unit in the same NYPD precinct as the Neighborhood Policing officers—responded to the calls.¹³ Because the responding officers were dispatched to an intersection instead of a specific address, they had no way of knowing that there had been multiple calls at that address about a person experiencing a mental health crisis.¹⁴ As soon as they drove up to the spot where Vassell was standing, the responding officers said that Vassell took a “shooting stance” and pointed the pipe at them.¹⁵ They fired ten shots within seconds of arriving at the scene, striking and killing Vassell.¹⁶ The object in his hands turned out to be a piece of a discarded welding torch.¹⁷

The particulars of Saheed Vassell’s death highlight the recurring dynamics that contribute to many of the nearly 1000 police killings of civilians that take place in the United States each year.¹⁸ Some decedents, like Vassell, have chronic mental health problems and may be in the midst of an acute crisis that, to strangers, manifests as behavior that is either erratic or frightening during their fatal encounter with police. Some of these decedents, like Dwayne Jeune,¹⁹ were both armed and in a mental health crisis.²⁰

¹² See St. Félix, *supra* note 10 (noting that neighbor “wondered aloud . . . if a person unfamiliar with the mores of the community had called the police”).

¹³ Mueller, Ransom & Ferré-Sadurní, *supra* note 1, at A1.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ See *id.*

¹⁷ See Tracy, *supra* note 6 (depicting metal rod Vassell was holding).

¹⁸ See *Fatal Force*, WASH. POST, <https://www.washingtonpost.com/graphics/investigations/police-shootings-database/> (last updated Apr. 14, 2020) [hereinafter *Washington Post Database*] (compiling data on fatal police shootings).

¹⁹ Jeune was shot by police officers in his apartment after his mother called police to say he was acting erratically but not violently. See Sean Piccoli & Ashley Southall, *Officer Fatally Shoots ‘Disturbed’ Man*, N.Y. TIMES, Aug. 1, 2017, at A19. Officers had been to the apartment on previous occasions to respond to mental health crises, but when they entered the apartment this time, police reported that Jeune confronted them with a carving knife. After nonlethal force from a stun gun failed to subdue Jeune, the officers shot and killed him. According to Chief of Patrol Terence A. Monahan, the entire incident “unraveled in seconds.” *Id.*

²⁰ Some publications and training materials use the term “emotionally disturbed” to refer to persons who have previously experienced a mental health crisis or have been diagnosed with a mental illness. See, e.g., *id.* (“The Police Department responds to about 150,000 calls each year for what the agency calls emotionally disturbed people.”). We use the terms “person(s) experiencing mental illness” or “person(s) in mental health crisis” to more specifically categorize the decedent’s mental health status at the time of the shooting.

However, not all fatal encounters involve persons experiencing mental health crisis. Fatal encounters between civilians and police officers sometimes occur while the police are pursuing criminal investigations and mistakenly believe, as in the cases of Stephon Clark²¹ and twelve-year-old Tamir Rice,²² that the decedent is armed. Other decedents, like Alton Sterling, were carrying concealed guns not visible to police.²³ Still others were clearly unarmed, including Michael Brown,²⁴ Eric Garner,²⁵ and Freddie Gray²⁶—fatalities that focused national attention on police killings that occur with “numbing familiarity.”²⁷ Details beyond the headlines in police killings like these form the three questions addressed in this Article:

What does the breakdown of fatal police shootings across circumstances that justify the use of lethal force look like? When police officers have probable cause to believe that a suspect “poses a threat of serious physical harm, either to the officer or to others,” they are authorized to use force against the suspect.²⁸ When that force turns deadly, courts and investigative bodies inquire into whether the officers reacted reasonably in using lethal force and whether there were

²¹ Josiah Bates, *The Death of Stephon Clark: What We Know About the Sacramento Police Shooting*, ABC NEWS (Mar. 29, 2018, 3:25 PM), <https://abcnews.go.com/US/death-stephon-clark-police-shooting/story?id=54039443> [<https://perma.cc/FH22-Z5Z4>].

²² Michael Muskal, *Death of Boy at Cleveland Cop’s Hand Ruled a Homicide; Shooting Among Those Sparking Protests Across U.S.*, CHI. TRIB., Dec. 14, 2014, at C23; Timothy Williams & Mitch Smith, *Jurors Decline Charges in Death of Cleveland Boy*, N.Y. TIMES, Dec. 29, 2015, at A1.

²³ See Press Release, U.S. DOJ, Federal Officials Close Investigation into Death of Alton Sterling (May 3, 2017), <https://www.justice.gov/opa/pr/federal-officials-close-investigation-death-alton-sterling> [<https://perma.cc/ZV72-JD6S>]. The responding officers claimed that Sterling had reached for a gun in his pocket, though investigators did not corroborate the officers’ account. Ashley Cusick, Matt Zepotosky & Wesley Lowery, *Prosecutors in Sterling Case Cite ‘Insufficient Evidence,’* WASH. POST, May 4, 2017, at A6.

²⁴ See U.S. DOJ, DEPARTMENT OF JUSTICE REPORT REGARDING THE CRIMINAL INVESTIGATION INTO THE SHOOTING DEATH OF MICHAEL BROWN BY FERGUSON, MISSOURI POLICE OFFICER DARREN WILSON 4 (Mar. 4, 2015), https://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/03/04/doj_report_on_shooting_of_michael_brown_1.pdf [<https://perma.cc/95HA-5YCD>].

²⁵ Sadie Gurman & Corinne Ramey, *U.S. Won’t Bring Charges in Garner Death*, WALL STREET J., July 17, 2019, at A3.

²⁶ See Press Release, U.S. DOJ, Federal Officials Decline Prosecution in the Death of Freddie Gray (Sept. 12, 2017), <https://www.justice.gov/opa/pr/federal-officials-decline-prosecution-death-freddie-gray> [<https://perma.cc/QCK8-JKJE>].

²⁷ Theodore M. Shaw, *Introduction* to U.S. DOJ, THE FERGUSON REPORT: DEPARTMENT OF JUSTICE INVESTIGATION OF THE FERGUSON POLICE DEPARTMENT, at vii, vii-viii (2015) (“Ferguson did not happen in a vacuum. Police killings of unarmed individuals are, unfortunately, not uncommon. While the facts of each case are different, there is a numbing familiarity when an unarmed black boy, teenager, or man is killed by a police officer.”).

²⁸ *Tennessee v. Garner*, 471 U.S. 1, 11 (1985).

shortfalls in the officers' reasonableness assessments.²⁹ These two inquiries—the objective circumstances and interactions where a shooting takes place and the heuristics applied by officers within the moment to decide whether shooting in those circumstances is reasonable—are at the core of the political and social tensions surrounding police killings.³⁰

After controlling for the circumstances of each shooting, are fatal police shootings racialized? After exploring the circumstances present when these fatal police shootings take place, this Article queries whether officers interpret and apply the inherently vague reasonableness standard differently depending on the suspect's race.³¹ In 2014, the controversial killings of Trayvon Martin and Michael Brown began to generate close public attention, emotional public reaction, and political responses³² in part because of the disproportionate killings of African Americans.³³ There is a contentious and often heated debate in the

²⁹ See, e.g., Devon W. Carbado, *From Stopping Black People to Killing Black People: The Fourth Amendment Pathways to Police Violence*, 105 CALIF. L. REV. 125, 149 (2017) (recognizing a “number of cases in which the Supreme Court’s conclusion that particular searches and seizures are reasonable facilitates or expressly authorizes racial profiling in ways that can culminate in police violence”); Osagie K. Obasogie & Zachary Newman, *Constitutional Interpretation Without Judges: Police Violence, Excessive Force, and Remaking the Fourth Amendment*, 105 VA. L. REV. 425, 428-30 (2019) (summarizing Fourth Amendment jurisprudence culminating in requirement that officers be judged using objective reasonableness that “favors officer discretion” for use of force); Jesus A. Alonso, Note, *How Police Culture Affects the Way Police Departments View and Utilize Deadly Force Policies Under the Fourth Amendment*, 60 ARIZ. L. REV. 987, 993-94 (2018) (noting that police use of force constitutes Fourth Amendment seizure and must be subject to reasonableness analysis).

³⁰ For example, many officers believe it is reasonable to shoot a suspect who violates the “twenty-one-foot rule.” This rule springs from a widespread belief that once an armed attacker who is running toward an officer crosses to within twenty-one feet of that officer, the attacker would be able to reach the officer before most officers could draw, aim, and fire their weapons. See Matt Apuzzo, *Police Rethink Long Tradition on Using Force*, N.Y. TIMES, May 5, 2015, at A1; W. Kip Viscusi & Scott Jeffrey, *Damages to Deter Police Shootings* 19-20 (Vanderbilt Univ. Law Sch. Legal Studies Research Paper Series, Working Paper No. 20-08, 2020), http://ssrn.com/abstract_id=3536622 [<https://perma.cc/Z542-S2R3>].

³¹ See *infra* notes 41-72 and accompanying text (discussing reasonableness standard).

³² See *Washington Post Database*, *supra* note 18; see also Lorenzo M. Boyd & Kimberly Conway Dumpson, *Black Lives Matter: The Watchdog for the Criminal Justice System*, in APPEARANCE BIAS AND CRIME 94, 95 (Bonnie Berry ed., 2019).

³³ See, e.g., FRANKLIN E. ZIMRING, *WHEN POLICE KILL* 45 (2017) (showing that Black suspects accounted for 26.1% of police killings in 2015 but only 12.2% of U.S. population); Andrew C. Gray & Karen F. Parker, *Race, Structural Predictors, and Police Shootings: Are There Differences Across Official and “Unofficial” Accounts of Lethal Force?*, 65 CRIME & DELINQ. 26, 27 (2019) (acknowledging that “some scholars argue that racial minorities, especially Black Americans, disproportionately experience death at the hands of the police with regard to the size of their population in the United States” but questioning underlying data because statistics about racial group representation may not include other relevant

empirical literature on the prospect of police bias in the use of deadly force and whether it is disproportionately used against African Americans.³⁴ A corollary of this question is the larger social structure of police killings of citizens. Beyond the racial dimensions of individual killings, there are distinct patterns in the social and demographic structure of places where police killings take place—

information); *cf.* Joscha Legewie & Jeffrey Fagan, *Group Threat, Police Officer Diversity and the Deadly Use of Police Force* 1 (Columbia Law Sch. Pub. Law & Legal Theory Working Paper Grp., Paper No. 14-512, 2016), <https://ssrn.com/abstract=2778692> [<https://perma.cc/S2LV-37L4>] (“We argue that a diverse police force mitigates group threat and thereby reduces the number of officer-involved killings.”). *But cf.* Sean Nicholson-Crotty, Jill Nicholson-Crotty & Sergio Fernandez, *Will More Black Cops Matter? Officer Race and Police-Involved Homicides of Black Citizens*, 77 *PUB. ADMIN. REV.* 206, 214 (2017) (finding that increasing proportion of Black police does not appear to be effective strategy to reduce police-involved homicides of Black citizens in most cities).

³⁴ See, e.g., Roland G. Fryer Jr., *An Empirical Analysis of Racial Differences in Police Use of Force*, 127 *J. POL. ECON.* 1210, 1258 (2019) (finding racial differences in nonlethal or physical force, yet “on the most extreme use of force—officer-involved shootings—we are unable to detect any racial differences either in the raw data or when accounting for controls”); Debbie S. Ma & Joshua Correll, Report, *Target Prototypicality Moderates Racial Bias in the Decision to Shoot*, 47 *J. EXPERIMENTAL SOC. PSYCHOL.* 391, 391 (2011) (finding that police officers on average did not show racial bias, but “target prototypicality” influenced their judgments). Compare David J. Johnson et al., *Officer Characteristics and Racial Disparities in Fatal Officer-Involved Shootings*, 116 *PROC. NAT’L ACAD. SCI.* 15,877, 15,877 (2019) (finding no evidence that anti-Black or anti-Latinx sentiment affected fatal shootings but noting that data is still too uncertain to draw firm conclusions), with Dean Knox & Jonathan Mummolo, Letter, *Making Inferences About Racial Disparities in Police Violence*, 117 *PROC. NAT’L ACAD. SCI.* 1261, 1261 (2020) (questioning logic of Johnson et al., *supra*, because the study’s “approach is mathematically incapable of supporting its central claims”). *But see*, e.g., Joshua Correll et al., *The Police Officer’s Dilemma: A Decade of Research on Racial Bias in the Decision to Shoot*, 8 *SOC. & PERSONALITY PSYCHOL. COMPASS* 201, 207 (2014) (finding that police officers’ field expertise and practice “minimize the behavioral consequences of stereotypes,” allowing them to overcome racial stereotypes); Jennifer L. Eberhardt et al., *Seeing Black: Race, Crime, and Visual Processing*, 87 *J. PERSONALITY & SOC. PSYCHOL.* 876, 878 (2004) (“The more stereotypically Black a face appears, the more likely [police] officers are to report that the face looks criminal.”); Yara Mekawi & Konrad Bresin, *Is the Evidence from Racial Bias Shooting Task Studies a Smoking Gun? Results from a Meta-analysis*, 61 *J. EXPERIMENTAL SOC. PSYCHOL.* 120, 128 (2015) (finding that participants were quicker to shoot armed Black targets, slower not to shoot unarmed Black targets, and more likely to have liberal shooting threshold for Black targets relative to white targets); Justin Nix et al., *A Bird’s Eye View of Civilians Killed by Police in 2015: Further Evidence of Implicit Bias*, 16 *CRIMINOLOGY & PUB. POL’Y* 309, 328-29 (2017) (finding evidence of implicit bias in police shootings because Blacks were more than twice as likely to be unarmed when shot and killed as whites); Cody T. Ross, *A Multi-level Bayesian Analysis of Racial Bias in Police Shootings at the County-Level in the United States, 2011-2014*, *PLOS ONE*, Nov. 5, 2015, at 1, 12 (finding that individuals shot by police, whether armed or unarmed, had higher probability of being Black or Latinx than being white).

patterns that suggest a set of contextual factors regarding race and ethnicity that may increase the rates of police killings.³⁵ The killing of Saheed Vassell took place in Crown Heights, a neighborhood that for nearly three decades has been a hot spot of race conflict, class conflict, and, in turn, political conflict.³⁶ That there is a social structure that contributes to police killings, often linked to race, further intensifies the question of the racial distribution of police killings.

Can racialized police killings be reduced by training and remediation? After reviewing the debates in the empirical literature on the prospect of police bias in the use of deadly force, this Article discusses the prospects for remediating the disproportionate use of deadly police force against African Americans through evidence-based training curricula. The Crisis Intervention Training (“CIT”)

³⁵ See, e.g., Gray & Parker, *supra* note 33, at 40 (finding that Blacks are less likely to be shot and killed by police in areas where they are in worse economic positions); David Jacobs & David Britt, *Inequality and Police Use of Deadly Force: An Empirical Assessment of a Conflict Hypothesis*, 26 SOC. PROBS. 403, 410 (1979) (finding that prevalence of socioeconomic inequality predicts police use of lethal force); David Jacobs & Robert M. O’Brien, *The Determinants of Deadly Force: A Structural Analysis of Police Violence*, 103 AM. J. SOC. 837, 858 (1998) (finding that cities with Black mayors have fewer police killings of Black citizens); Karen F. Parker et al., *Racial Threat, Urban Conditions and Police Use of Force: Assessing the Direct and Indirect Linkages Across Multiple Urban Areas*, 7 JUST. RES. & POL’Y 53, 70 (2005) (finding that political climate, urban ecology, and level of social disorganization in urban cities directly bear on rate of police use of lethal force); Lawrence W. Sherman & Robert H. Langworthy, *Measuring Homicide by Police Officers*, 70 J. CRIM. L. & CRIMINOLOGY 546, 557 (1979) (finding certain community characteristics, including population density, gun density, violent-crime rate, and proportion of police to population, positively correlated with police-homicide rate); Lawrence W. Sherman, *Restricting the License to Kill: Recent Developments in Police Use of Deadly Force*, 14 CRIM. L. BULL. 577, 583 (1978) (noting that local administrative policy is most powerful source to restrict police use of lethal force); Legewie & Fagan, *supra* note 33, at 7 (arguing that diverse police force reduces number of police killings).

³⁶ See John Kifner, *A Boy’s Death Ignites Clashes in Crown Heights*, N.Y. TIMES, Aug. 21, 1991, at B1. Tensions in Crown Heights became apparent after a prominent rabbi’s motorcade accidentally ran over and killed Guyanese child Gavin Cato, which set off three days of riots. See Alexis Okeowo, *Crown Heights, Twenty Years After the Riots*, NEW YORKER (Aug. 19, 2011), <https://www.newyorker.com/news/news-desk/crown-heights-twenty-years-after-the-riots>. During the riots, teenager Lemrick Nelson Jr. was accused of stabbing a Jewish Australian student, Yankel Rosenbaum. David Remnick, *Waiting for the Apocalypse in Crown Heights*, NEW YORKER, Dec. 21, 1992, at 51, 54. Nelson was acquitted at trial in state court but was later indicted by a federal grand jury. See Kati Cornell Smith, *Lemrick Guilty—but He Faces Only Two Years in Jail*, N.Y. POST (May 15, 2003, 4:00 AM), <https://nypost.com/2003/05/15/lemrick-guilty-but-he-faces-only-2-years-in-jail/> [<https://perma.cc/S49C-HU5N>]. The trial was a traumatic event for the city. The city’s slow response to the riot was also criticized, leading to Mayor David Dinkins’s loss in the 1993 mayoral election. See John Taylor, *The Politics of Grievance: Dinkins, the Blacks, and the Jews*, N.Y. MAG., Dec. 7, 1992, at 18, 19 (“The mayor became a surrogate for Lemrick Nelson, his failings during and after the Crown Heights riot the surrogate crime.”).

model has had success at remediating recurring instances of police killings of civilians experiencing mental illness or mental health crises.³⁷ Drawing on this success, this Article queries whether enhanced officer training could reduce the incidence of police shootings of persons in several other circumstances, especially African Americans. This Article tests for the prospect of remediation in light of differences in the types of incidents and the race of the suspects who are killed.

To address these questions, this Article unfolds in four parts. Part I explores the interaction between race and reasonableness in fatal police shootings. It begins by describing the constitutional regulation of police action. Starting with *Tennessee v. Garner*,³⁸ *Graham v. Connor*,³⁹ and the objective reasonableness standard that governs whether law enforcement has contravened the Fourth Amendment by using lethal force, this Part queries whether the jurisprudential landscape of reasonableness invites disparities in police shootings based on subjective and disparate notions of which actions are reasonable and under what circumstances. We theorize that, although *Graham*'s standard purports to be objective, racial disparities in police killings of civilians evidence differences in the subjective interpretation of what is reasonable based on the suspect's race and relevant social context. We posit that several specific features of policing contribute to those disparities.

We first review recent scholarship on the patterns and characteristics of police shootings. We draw on recent epidemiological studies based on both crowdsourced data, such as the *Washington Post* database,⁴⁰ and observational data from agency records on these shootings. Section I.A examines the tensions in empirical tests for bias on account of a suspect's race and/or ethnicity in the patterns of police shootings. We also examine empirical studies showing the concentration of fatal police killings in places—cities, counties, and states—with specific social and economic characteristics, and we place those studies in conversation with political and social theories that link race and policing in Section I.B.

Part II tests for the prospect of remediation in light of differences in the types of incidents and in victims' races in police killings. The question in this Part is whether CIT training reduces the incidence of police killings of persons in

³⁷ See Amy C. Watson & Anjali J. Fulambarker, *The Crisis Intervention Team Model of Police Response to Mental Health Crises: A Primer for Mental Health Practitioners*, BEST PRACTICES MENTAL HEALTH, Dec. 2012, at 71, 73; Alexis D. Campbell, Note, *Failure on the Front Line: How the Americans with Disabilities Act Should Be Interpreted to Better Protect Persons in Mental Health Crisis from Fatal Police Shootings*, 51 COLUM. HUM. RTS. L. REV. 313, 354 (2019) (“[O]nly CIT Exposure decreases the likelihood that unarmed persons in mental health crisis will be fatally shot by police officers.”).

³⁸ 471 U.S. 1 (1985).

³⁹ 490 U.S. 386 (1989).

⁴⁰ *Washington Post Database*, *supra* note 18.

mental health crisis such that a similar model should be adopted to remediate disproportionate shootings of African Americans.

Part III turns to the empirical test. We first present the data and methods to test for racial disparities in the circumstances of police killings that reflect dimensions of subjective reasonableness within the *Graham* space. We rely on police-killing data sourced from the *Washington Post* database to identify the circumstances surrounding police killings from 2015 to 2018 and the factors that influence disparities along racial, ethnic, and circumstantial lines. We focus on the race-circumstance intersection to address the question of the subjectivity of reasonableness by suspect race.

Part IV shows the results of our empirical analyses. We find that, across several circumstances of police killings and their levels of objective reasonableness, Black suspects are more than twice as likely to be killed by police than are suspects from other racial or ethnic groups, including shootings where there are no obvious reasonable circumstances. We also estimate the potential for a race-based parallel to CIT training to reduce those disparities by comparing the incidence of the race-reasonableness intersection in counties with and without CIT training. Our findings show that, on average, CIT training provides few positive effects in this setting but that some counties witnessed reductions in some types of police shootings.

We conclude with a discussion of the failure of prevailing standards in constitutional case law to anticipate the circumstances of police shootings and their seeming irrelevance to persistent racial disparities in police killings. The deference in contemporary jurisprudence to police accounts of objective reasonableness⁴¹ suggests the importance of revisiting the deference-based standard in light of both its failure to limit police killings and the creation of a racially infected space of lethal police force. Finally, we conclude that the ineffectiveness of CIT training in reducing shootings overall and in reducing racial disparities within these shootings may reflect the absence of race-specific components in CIT training curricula. The addition of training components that address the role of race in the officers' perceptions of risk and their decision-making in potentially dangerous interactions with citizens can remediate both the incidence of police shootings and their apparent racial and ethnic disparities.

⁴¹ Anna Lvovksy, *The Judicial Presumption of Police Expertise*, 130 HARV. L. REV. 1995, 1998-2002 (2017).

I. RACE AND REASONABLENESS

A. Reasonableness

1. Thinking Fast: The Constitutional Architecture of Reasonableness⁴²

At their core, police practices are regulated by the Fourth Amendment's protections against unlawful searches and seizures. The Supreme Court has held that the Fourth Amendment authorizes police officers to use force against a suspect when they have probable cause to believe that the suspect poses "a threat of serious physical harm, either to the officer or to others."⁴³ However, this reliance on the officer's belief about whether the suspect poses a threat creates an inherent tension between subjective assessments of threat or danger and the objective reasonableness of a police officer's decision to use deadly force. As Justice O'Connor described in her dissent in *Tennessee v. Garner*, "hindsight cannot provide the standard for judging the reasonableness of police decisions made in uncertain and often dangerous circumstances."⁴⁴ Justice O'Connor's dissent captures the dilemma of reasonableness *in situ*: perception and decision-making under urgent—if not exigent and vague—conditions.⁴⁵

Garner held that a suspect's flight provides a sufficient threat to justify the use of lethal force if "the officer has probable cause to believe that the suspect poses a significant threat of death or serious physical injury to the officer or others."⁴⁶ However, courts have shied away from objective standards and instead have deferred to officers' split-second reasoning.⁴⁷ For example, under *Graham v. Connor*, situations in which an officer perceives an immediate threat do not require a risk calculation wherein the officer first considers a menu of actions before deciding how to respond; in other words, "split-second judgments" by a police officer in response to an immediate threat are reasonable under *Graham*.⁴⁸ This holding in turn incorporated split-second thinking into Fourth Amendment jurisprudence on police use of force.

⁴² We borrow this heading from Daniel Kahneman's framework of System I (or split-second) thinking. See DANIEL KAHNEMAN, THINKING, FAST AND SLOW 20-21 (2011).

⁴³ *Tennessee v. Garner*, 471 U.S. 1, 11 (1985).

⁴⁴ *Id.* at 26 (O'Connor, J., dissenting).

⁴⁵ *Id.* at 32 ("We can expect an escalating volume of litigation as the lower courts struggle to determine if a police officer's split-second decision to shoot was justified by the danger posed by a particular object and other facts related to the crime.").

⁴⁶ *Id.* at 3, 11 (majority opinion).

⁴⁷ *E.g.*, *Graham v. Connor*, 490 U.S. 386, 396-97 (1989). See generally James J. Fyfe, *The Split-Second Syndrome and Other Determinants of Police Violence*, in CRITICAL ISSUES IN POLICING 517, 527 (Roger G. Dunham & Geoffrey P. Alpert eds., 7th ed. 2015) (1989).

⁴⁸ *Graham*, 490 U.S. at 396-97.

*Scott v. Harris*⁴⁹ further stripped away the framework regulating police use of force by holding that there are no clearly impermissible uses of deadly force so long as the use is *objectively* reasonable in the circumstances of each case.⁵⁰ Or, as the *Scott* Court concluded, there is no “magical on/off switch that triggers rigid preconditions.”⁵¹ Professors Brandon Garrett and Seth Stoughton frame this as deregulated force: “[O]fficers may use force, including deadly force, so long as it is objectively reasonable to do so in the circumstances of each case.”⁵² In effect, then, there is no doctrine that guides the use of force. Thus, in addition to being opaque and defaulting nearly completely to an officer’s subjective judgments, *Graham* and *Scott* neither instruct police officers as to what is reasonable nor direct courts as to how to properly evaluate the reasonableness of an officer’s actions.⁵³

The doctrine, then, allows courts to defer to the *average* decisions of *average* officers in the moment for assessments of reasonableness. The claim that officers make split-second judgments was incorporated into the language of constitutional regulation articulated by the *Graham* Court. The *Garner* Court incorporated James Fyfe’s depiction and empirical analysis of split-second reasoning used by officers confronting suspects whom they thought to pose an imminent threat of harm.⁵⁴ Fyfe characterized the syndrome as the burden on officers “who must make life-or-death decisions under the most stressful and time-constrained conditions.”⁵⁵ The lives and deaths he refers to are the lives of the officers (and often those of bystanders or other potential victims as well) that are put at risk when an officer confronts a potential offender or adversary. Fyfe explains that the decisions are made in the exigencies of the moment: “[T]he sole basis on which any use of force by the police needs to be justified is the

⁴⁹ 550 U.S. 372 (2007).

⁵⁰ *Id.* at 383 (“Although respondent’s attempt to craft an easy-to-apply legal test in the Fourth Amendment context is admirable, in the end we must still slosh our way through the factbound morass of ‘reasonableness.’ Whether or not Scott’s actions constituted application of ‘deadly force,’ all that matters is whether Scott’s actions were reasonable.”).

⁵¹ *Id.* at 382.

⁵² Brandon Garrett & Seth Stoughton, *A Tactical Fourth Amendment*, 103 VA. L. REV. 211, 217 (2017).

⁵³ *Id.* at 218; see Rachel A. Harmon, *When Is Police Violence Justified?*, 102 NW. U. L. REV. 1119, 1119-20 (2008) (characterizing Supreme Court’s standard as “indeterminate” and “undertheorized”).

⁵⁴ The *Graham* Court held that “[t]he ‘reasonableness’ of a particular use of force must be judged from the perspective of a reasonable officer on the scene, rather than with the 20/20 vision of hindsight.” *Graham v. Connor*, 490 U.S. 386, 396 (1989) (citing *Terry v. Ohio*, 392 U.S. 1, 20-22 (1968)). The Court based its decision in no small part on the claim that use-of-force incidents require officers “to make split-second judgments—in circumstances that are tense, uncertain, and rapidly evolving.” *Id.* at 397.

⁵⁵ Fyfe, *supra* note 47, at 526.

officers' perceptions of the circumstances prevailing at the instant when they decide to apply force."⁵⁶

When a shooting or other lethal act of violence does result, then, the officer makes a decision that lives—the officer's or others'—were in imminent danger, that alternatives would be unable to protect those lives, and that these facts would necessitate and justify a shooting. It is a decision, most importantly, made in the "heat of the moment,"⁵⁷ using cognitive machinery under conditions of threat and arousal. When an officer forms the belief that they are in imminent danger, they are also likely to believe that a shooting will be justified and that the use of force will be legitimate under both training and the law.⁵⁸ As we describe later, these decisions are freighted with perceptual intuitions that open the door to a range of factors including race, place, and norms that can bias the decision.

Fyfe's depiction of officer decision-making was adopted without detailed scrutiny in Justice O'Connor's dissent in *Garner* and again by the *Graham* majority.⁵⁹ However, Fyfe—a former New York City police officer—wrote that although officers often have to make instantaneous decisions, the "split-second" explanation can also be used as a post hoc justification for unnecessary police violence.⁶⁰ He advised that instead of valorizing an officer's decision to shoot their way out of a dangerous situation, courts might ask whether there were alternatives that would have reduced serious injury or fatalities. In other words, the blanket explanation for split-second decision-making cited in both the *Garner* dissent and the *Graham* majority may well be a fallacy.

Instead of seeking a workable standard, then, the *Graham* Court sought a practical but one-sided solution; the Court effectively adopted Justice O'Connor's dissent in *Garner* and incorporated it into the constitutional framework, allowing police to set their own reasonableness standard based on how the "average" police officer would react in a rapidly evolving situation.⁶¹

However, who the "average" officer is, how they would apply these standards, and what circumstances justify the use of force are all important questions that present a challenge both for police executives (who must train officers on how to comply with the Fourth Amendment) and for courts. In addition to objective

⁵⁶ *Id.* at 527.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Graham*, 490 U.S. at 396-97; *Tennessee v. Garner*, 471 U.S. 1, 32 (1985) (O'Connor, J., dissenting).

⁶⁰ Fyfe, *supra* note 47, at 526.

⁶¹ See *Graham*, 490 U.S. at 396-97; *Garner*, 471 U.S. at 32 (O'Connor, J., dissenting) ("The Court's silence on critical factors in the decision to use deadly force simply invites second-guessing of difficult police decisions that must be made quickly in the most trying of circumstances.").

standards that appear in case law, such as flight,⁶² perceived attack,⁶³ and danger to others,⁶⁴ we might also discern *subjective* standards of reasoning from the recurring patterns in police killings. The core of the *Graham* standard is that the *accuracy* of accounts of why officers thought they were in imminent danger matters less than what the officer *felt* in *that* moment at *that* scene and whether a similarly situated officer would have *felt* the same urgency. This seemingly subjective standard, which the *Graham* majority and the *Garner* dissent termed *objective*, has led at least one state legislature to change its use-of-force standard from *reasonable* to *necessary* and to require jurors to consider the “totality of the circumstances.”⁶⁵ Several local law enforcement agencies have revised their use-of-force policies to, for example, (a) reserve deadly force for instances in which all alternatives have been exhausted, (b) require minimal force whenever possible, and (c) require use of de-escalation tactics whenever possible.⁶⁶

Discerning these standards is challenging in action and institutionally difficult. Police agencies are implicated in the training and regulation of their officers and, therefore, in how officers interact with citizens whom they may perceive as threatening. Moreover, the ability to link threat and risk to proper action will vary among different officers and different situations. In addition to any formal training officers may receive, their individual experiences with persons in the midst of mental health crises guide their responses. For example, in Saheed Vassell’s case, the patrol officers were well acquainted with him, understood the level of threat that he posed, and had experience in defusing the tensions arising from his erratic behavior.⁶⁷ But the responding officers from the Strategic Response Group defaulted to a split-second threat assessment—one that regards threats to officers’ personal safety or the safety of bystanders as the primary consideration.⁶⁸ Similarly, in the case of Tamir Rice—the twelve-year-old boy holding a toy gun who was shot by an officer within seconds of arriving on the scene—investigators said that the officer was “reacting to an immediate threat.”⁶⁹

These examples typify how the *split-second syndrome* can overwhelm other decision processes and lead to instantaneous assessments of risk and threat that require immediate action. In less exigent circumstances, the actions of officers struggling to assess threat *in situ*, with uncertain estimates of risk, can aggravate

⁶² *Scott v. Harris*, 550 U.S. 372, 384 (2007); *Garner*, 471 U.S. at 3.

⁶³ *Graham*, 490 U.S. at 396.

⁶⁴ *Scott*, 550 U.S. at 385.

⁶⁵ See CAL. PENAL CODE § 835(a) (West 2020).

⁶⁶ See *Limit Use of Force*, CAMPAIGN ZERO, <https://www.joincampaignzero.org/force> [<https://perma.cc/C3GH-QRXW>] (last visited Apr. 20, 2020) (advocating for model use-of-force policies, which aim to “significantly reduce police violence in communities”).

⁶⁷ Mueller, Ransom & Ferré-Sadurní, *supra* note 1, at A1.

⁶⁸ See Fyfe, *supra* note 47, at 527.

⁶⁹ Garrett & Stoughton, *supra* note 52, at 214-15.

a suspect's emotional instability⁷⁰ or "quickly escalate to violence."⁷¹ Thus, a professional toolkit that trains officers to respond with less-than-lethal force could shift the framework of what is reasonable under a given set of circumstances. Several scholars have suggested that the Fourth Amendment creates a space for constitutional regulation based on what officers *actually do* in these circumstances and that its threadbare, subjective guidelines can be recast as objective standards that might provide a basis for an empirical test of reasonableness.⁷²

2. Reasonableness and Police Culture

Both the individual traits of an officer and the circumstances surrounding an officer's contact with a civilian bear on the officer's decision to use deadly force (or any force at all). While individual features, such as emotional regulation or threat perception, are obviously difficult to average, experimental studies help us better understand how officers under different conditions see, interpret, and respond to danger. The situational contexts in which officers do police work can also shape their risk perceptions, emotions (including and especially fear), and actions. Further, social ties among police officers may bear on their uses of force. These social networks of officers are the spaces where information and experiences are shared and norms and perceptual frameworks are shaped and reinforced.⁷³

a. Officers' Perceptions of Threat and Risk

The idea that routine encounters between police and civilians can be unpredictable and dangerous to police is a common narrative in policing.⁷⁴ Police officers are trained to take command in these encounters by asking penetrating questions and temporarily detaining civilians using restraints or

⁷⁰ A study by the Treatment Advocacy Center found that "the risk of being killed during a police incident is 16 times greater for individuals with untreated mental illness than for other civilians approached or stopped by officers." DORIS A. FULLER ET AL., TREATMENT ADVOCACY CTR., OVERLOOKED IN THE UNDERCOUNTED: THE ROLE OF MENTAL ILLNESS IN FATAL LAW ENFORCEMENT ENCOUNTERS 1 (2015), <https://www.treatmentadvocacycenter.org/overlooked-in-the-undercounted> [<https://perma.cc/D2R7-MFKQ>].

⁷¹ Andrew C. Hanna, Note, *Municipal Liability and Police Training for Mental Illness: Causes of Action and Feasible Solutions*, 14 IND. HEALTH L. REV. 221, 237 (2017) (quoting Liza Lucas, *Changing the Way Police Respond to Mental Illness*, CNN (July 6, 2015, 3:51 PM), <http://www.cnn.com/2015/07/06/health/police-mental-health-training/> [<https://perma.cc/WGF7-Z2Q9>]).

⁷² See, e.g., Garrett & Stoughton, *supra* note 52, at 222.

⁷³ Seth Stoughton, Commentary, *Law Enforcement's "Warrior" Problem*, 128 HARV. L. REV. F. 225, 226-29 (2015) (describing systemic indoctrination of "warrior mentality" into officers accomplished via training, trade media, and peers' attitudes).

⁷⁴ *Id.* at 229; Jordan Blair Woods, *Policing, Danger Narratives, and Routine Traffic Stops*, 117 MICH. L. REV. 635, 638 (2019).

verbal instructions—an authority granted by the courts, which routinely defer to officers’ safety priorities.⁷⁵ Officers regularly see violent encounters in training and are taught methods of self-protection to use in these encounters.⁷⁶

The belief that these encounters are often dangerous, if not life-threatening, is reinforced by continued reliance on a fifty-year-old study, known as the “Bristow study,” which found that one-third of officer killings took place during routine traffic stops.⁷⁷ To this day, courts and police-training material commonly cite the study.⁷⁸ A more recent study by Professors Illya Lichtenberg and Alisa Smith reinforced Bristow’s danger narrative and scientized it by creating a “danger ratio” to gauge risks across different types of police encounters, such as domestic disturbances.⁷⁹ Virtual simulation programs that place officers in the midst of a series of dangerous encounters further reinforce this priming to see danger.⁸⁰ The priming for danger can mix with specific perceptual frameworks, personality profiles, or “baggage” that police (who self-select into the profession) bring to the workplace.⁸¹

One piece of that baggage is hypermasculinity.⁸² Professor Frank Rudy Cooper defines hypermasculinity as an exaggeration of masculine qualities such as aggressiveness, endorsement of violence, and anxiety over self-presentation

⁷⁵ See, e.g., *Arizona v. Johnson*, 555 U.S. 323, 330 (2009) (“[T]he Court has recognized that traffic stops are ‘especially fraught with danger to police officers.’” (quoting *Michigan v. Long*, 463 U.S. 1032, 1047 (1983))); *Lvovsky*, *supra* note 41, at 1999-2003 (“[J]udges came to rely on the promise of police expertise . . . to expand police authority in multiple areas of the law.”); Alice Ristroph, *The Constitution of Police Violence*, 64 UCLA L. REV. 1182, 1200-07 (2017).

⁷⁶ Woods, *supra* note 74, at 695.

⁷⁷ *Id.* at 655 (summarizing Bristow’s study). See generally Allen P. Bristow, *Police Officer Shootings—A Tactical Evaluation*, 54 J. CRIM. L. CRIMINOLOGY & POLICE SCI. 93 (1963).

⁷⁸ See, e.g., *Pennsylvania v. Mimms*, 434 U.S. 106, 110 (1977) (per curiam) (“According to one study, approximately 30% of police shootings occurred when a police officer approached a suspect seated in an automobile.” (quoting *Adams v. Williams*, 407 U.S. 143, 148 n.3 (1972)) (citing Bristow, *supra* note 77, at 93); Woods, *supra* note 74, at 654-57 (detailing impact of Bristow study).

⁷⁹ Illya D. Lichtenberg & Alisa Smith, *How Dangerous Are Routine Police-Citizen Traffic Stops?*, 29 J. CRIM. JUST. 419, 422-24 (2001) (claiming that eighty-nine police officer fatalities, accounting for 12.9% of total civilian killings of police officers, took place during routine traffic stops).

⁸⁰ Woods, *supra* note 74, at 638-39.

⁸¹ See RADLEY BALKO, *RISE OF THE WARRIOR COP: THE MILITARIZATION OF AMERICA’S POLICE FORCES* 325-28 (2013) (suggesting that police recruitment and training videos attract hypermasculine personality types); Stoughton, *supra* note 73, at 227-28.

⁸² Frank Rudy Cooper, “*Who’s the Man?*”: *Masculinities Studies, Terry Stops, and Police Training*, 18 COLUM. J. GENDER & L. 671, 674 (2009) (explaining that police officers present commanding presence to boost their masculine esteem to civilians and to colleagues).

as a dominant male.⁸³ Professor Angela Harris describes hypermasculinity as a masculine identity in which physical aggression is exalted with the aim of domination.⁸⁴ Officers justify such gendered aggression as necessary to control those suspects whom they believe are dangerous.⁸⁵ In effect, police use masculinity contests to dominate suspects.⁸⁶ This gendered notion of police aggression is tilted toward male officers, a reflection of the sample biases in studies of police culture and the police workplace.

Cooper specifically links masculinity contests to *Terry* stops,⁸⁷ which are often the predicate encounter leading to a citizen death.⁸⁸ When a police-citizen interaction becomes a masculinity contest, the officer's identity is threatened, heightening the sense that the encounter could turn dangerous.⁸⁹ More generally, hypermasculinity, characterized by physical strength and aggressiveness, may be embedded in police culture—from recruitment and training to advancement within the department.⁹⁰ This example illustrates the gendered mechanisms through which personality and individual factors can distort action and compromise how officers decide what actions are “reasonable” given the primacy of officer safety in constitutional regulation.

⁸³ *Id.* at 677.

⁸⁴ Angela P. Harris, *Gender, Violence, Race, and Criminal Justice*, 52 STAN. L. REV. 777, 785 (2000).

⁸⁵ See Erwin Chemerinsky, *An Independent Analysis of the Los Angeles Police Department's Board of Inquiry Report on the Rampart Scandal*, 34 LOY. L.A. L. REV. 545, 564 (2001) (“Control really is the big issue for this department. I think for them, control is not a means to an end. I think control is an end in itself.” (quoting Jeffrey Eglash, Los Angeles Police Department's second Inspector General)).

⁸⁶ Cooper, *supra* note 82, at 674.

⁸⁷ *Terry* stops take their name from the Supreme Court case that legitimized their use. See generally *Terry v. Ohio*, 392 U.S. 1 (1968).

⁸⁸ *Id.* at 676.

⁸⁹ Phillip Atiba Goff, Brooke Allison Lewis Di Leone & Kimberly Barsamian Kahn, Report, *Racism Leads to Pushups: How Racial Discrimination Threatens Subordinate Men's Masculinity*, 48 J. EXPERIMENTAL SOC. PSYCHOL. 1111, 1116 (2012).

⁹⁰ Cf. L. Song Richardson & Phillip Atiba Goff, *Implicit Racial Bias in Public Defender Triage*, 122 YALE L.J. 2626, 2634-35 (2013) (explaining that well-known issue of implicit and unconscious bias in police treatment of Black suspects can also affect decisions of public defenders, leading to disparate outcomes in criminal court for Black and Latinx defendants). See generally Jennifer Carlson, *Police Warriors and Police Guardians: Race, Masculinity, and the Construction of Gun Violence*, SOC. PROBS., Aug. 19, 2019, at 1, <https://doi.org/10.1093/socpro/spz020> [<https://perma.cc/QGD9-EZ3Z>].

b. *The Average Officer's Workplace*

That officers work within cultures with distinct norms that shape perceptions and behavioral choices is not new.⁹¹ Cultures shape officers' views of citizens—views that are often mistrustful⁹² or contemptuous.⁹³ Cultures also shape affinities among groups of officers based on shared views and trust. In dense social networks, there are often social sanctions for officers who violate those norms.⁹⁴

Police culture can shape the going rate of aggressiveness in citizen-police interactions, perceptions of the legitimacy of law and when violations are appropriate, and the parameters of situations in which violence is justified against certain citizens.⁹⁵ In one study on the use of force, officers who prescribed to more traditional or hierarchical views of social norms and culture were generally more likely to use force.⁹⁶ In turn, such officers enjoy the approval of citizens who share those views.⁹⁷ Overall, culture provides a strong

⁹¹ See generally Jason R. Ingram, Eugene A. Paoline III & William Terrill, *A Multilevel Framework for Understanding Police Culture: The Role of the Workgroup*, 51 CRIMINOLOGY 365 (2013) (demonstrating that police culture stems from the collective); Jason R. Ingram, William Terrill & Eugene A. Paoline III, *Police Culture and Officer Behavior: Application of a Multilevel Framework*, 56 CRIMINOLOGY 780 (2018) [hereinafter Ingram, Terrill & Paoline, *Police Culture and Officer Behavior*]; Peter K. Manning, *Performance Rituals*, 2 POLICING 284 (2008); Stephen D. Mastrofski, *Controlling Street-Level Police Discretion*, 593 ANNALS AM. ACAD. POL. & SOC. SCI. 100 (2004); Jerome H. Skolnick, Reaction Essay, *Racial Profiling—Then and Now*, 6 CRIMINOLOGY & PUB. POL'Y 65 (2007); John Van Maanen, *Observations on the Making of Policemen*, 32 HUM. ORG. 407 (1973) (examining development of culture among police recruits).

⁹² Manning, *supra* note 91, at 292 (“[P]olice etiquette dictates a distance and distrust of the public at large . . .”); Skolnick, *supra* note 91, at 65-66.

⁹³ Van Maanen, *supra* note 91, at 415 (documenting officer's feelings of “constant pressure from the public” to account for actions taken or not taken); Robert E. Worden, *Police Officers' Belief Systems: A Framework for Analysis*, 14 AM. J. POLICE, no. 1, 1995, at 49, 66 (describing some officers' belief that “public is uncooperative and even hostile”).

⁹⁴ See, e.g., *Raymond v. City of New York*, 317 F. Supp. 3d 746, 756-57 (S.D.N.Y. 2018) (reciting plaintiff officers' allegations of patterns of discrimination in work assignments, in discipline of minority officers who revealed evidence of quotas, and in other unconstitutional police administrative practices); *Floyd v. City of New York*, 959 F. Supp. 2d 540, 598 (S.D.N.Y. 2013) (detailing “virulent precinct culture” at NYPD within context of its stop-and-frisk program).

⁹⁵ See Ingram, Terrill & Paoline, *Police Culture and Officer Behavior*, *supra* note 91, at 781 & n.1 (highlighting connection between work environment and aggressive patrols).

⁹⁶ William Terrill, Eugene A. Paoline III & Peter K. Manning, *Police Culture and Coercion*, 41 CRIMINOLOGY 1003, 1029 (2003).

⁹⁷ Dan M. Kahan, David A. Hoffman & Donald Braman, *Whose Eyes Are You Going to Believe? Scott v. Harris and the Perils of Cognitive Illiberalism*, 122 HARV. L. REV. 837, 903 (2009). When videos of the *Scott v. Harris* police chase, in which police forced a fleeing car off the road in a high-speed chase, were shown to a group of respondents in an experiment,

steering mechanism that shapes officers' norms and behaviors and that spills over into the workplace to influence the formation of networks among officers.⁹⁸

Recent studies of social networks suggest that the density of interactions and social ties among people determines the behaviors of individuals in those groups and increases the likelihood that they will engage in similar behaviors, both alone and in groups.⁹⁹ This is true across social groups of professionals.¹⁰⁰ Network structures also shape behavior in criminal groups, including the use of lethal violence.¹⁰¹

those who reported more authoritarian views generally approved of the officers' actions, while those who expressed more egalitarian views disapproved of the officers' actions. *Id.*

⁹⁸ David Alan Sklansky, *Seeing Blue: Police Reform, Occupational Culture, and Cognitive Burn-In*, in *POLICE OCCUPATIONAL CULTURE: NEW DEBATES AND DIRECTIONS* 19, 22 (Megan O'Neill, Monique Marks & Anne-Marie Singh eds., 2007).

⁹⁹ See, e.g., Damon Centola, *Influential Networks*, 3 *NATURE HUM. BEHAV.* 664, 664-65 (2019) (examining role of "influencers" in social dynamics). For a review of social network analysis, see generally, for example, Ronald S. Burt, Martin Kilduff & Stefano Tasselli, *Social Network Analysis: Foundations and Frontiers on Advantage*, 64 *ANN. REV. PSYCHOL.* 527 (2013).

¹⁰⁰ See generally, e.g., Ronald S. Burt, *Models of Network Structure*, 6 *ANN. REV. SOC.* 79 (1980) (examining social connection theory and modeling); Damon Centola, Invited Commentary, *Physician Networks and the Complex Contagion of Clinical Treatment*, *JAMA NETWORK OPEN*, Mar. 2020, at 1, 1-2 (examining social challenges in physician profession); Mark S. Granovetter, *The Strength of Weak Ties*, 78 *AM. J. SOC.* 1360 (1973) (examining tie between micro- and macrolevels of sociological theory); Basil S. Georgopoulos, 12 *BEHAV. SCI.* 481, 482 (1967) (book review) (remarking on "powerful influence of the professional-social integration of physicians" on those physicians' behavior).

¹⁰¹ Barak Ariel, Ashley Englefield & John Denley, "I Heard It Through the Grapevine": *A Randomized Controlled Trial on the Direct and Vicarious Effects of Preventative Specific Deterrence Initiatives in Criminal Networks*, 109 *J. CRIM. L. & CRIMINOLOGY* 819, 831, 861 (2019) (discussing evidence that cohesion of individual's peer network influences that person's decision to commit crimes); Ben Green, Thibaut Horel & Andrew V. Papachristos, *Modeling Contagion Through Social Networks to Explain and Predict Gunshot Violence in Chicago, 2006 to 2014*, 177 *JAMA INTERNAL MED.* 326, 327 (2017).

Police wrongdoing is no exception.¹⁰² Neither are the norms on tolerance of false testimony¹⁰³ or use of force.¹⁰⁴ A recent study in Chicago showed that a police officer's exposure to peers accused of misconduct shapes the officer's involvement in excessive-use-of-force incidents.¹⁰⁵ The effects in this study have potential importance for understanding the spread and persistence of such force; Professor Marie Ouellet and colleagues showed that officer involvement in excessive-use-of-force complaints is predicted by having a greater proportion of co-accused with a history of such behaviors in the officer's social network.¹⁰⁶

Two things stand out from the studies of network effects among police: (1) the diffusion effect of rule-violation norms from officer to officer and (2) the growing evidence that officers have "careers" of such rule violations, especially in the use of excessive (and potentially deadly) force.¹⁰⁷ The spread and deepening of norms within police cultures tolerating, if not supporting, excessive force suggests that the workplace itself, however segmented it may be by such networks, is a potentially powerful force in shaping what officers view as "reasonable" uses of such force. The contributions of these network effects

¹⁰² Norman Conti & Patrick Doreian, *Social Network Engineering and Race in a Police Academy: A Longitudinal Analysis*, 32 SOC. NETWORKS 30, 41 (2010) (investigating tensions between elected officials and police on race and social networking in police academies); George Wood, Daria Roithmayr & Andrew V. Papachristos, *The Network Structure of Police Misconduct*, SOCIUS, Jan.-Dec. 2019, at 1, 3.

¹⁰³ See generally Carl B. Klockars, *Blue Lies and Police Placebos: The Moralities of Police Lying*, 27 AM. BEHAV. SCIENTIST 529 (1984) (describing how police officers derive moral legitimacy from their partners and peers by lying and falsifying reports); Julia Simon-Kerr, *Systemic Lying*, 56 WM. & MARY L. REV. 2175, 2201 (2015) (examining role of lying in legal system); Steven Zeidman, *From Dropsy to Testilying: Prosecutorial Apathy, Ennui, or Complicity?*, 16 OHIO ST. J. CRIM. L. 423 (2019) (examining dynamic between prosecutors and false police testimony).

¹⁰⁴ Jon B. Gould & Stephen D. Mastrofski, *Suspect Searches: Assessing Police Behavior Under the U.S. Constitution*, 3 CRIMINOLOGY & PUB. POL'Y 315, 323 (2004) (describing tolerance among police on patrol for unconstitutional suspect searches); Daria Roithmayr, *The Dynamics of Excessive Force*, 2016 U. CHI. LEGAL F. 407, 409 (highlighting social patterns around excessive use of police force); see Bernard E. Harcourt, Reaction Essay, *Unconstitutional Police Searches and Collective Responsibility*, 3 CRIMINOLOGY & PUB. POL'Y 363, 366-67 (2004) (describing moral reasoning and complicity of officers on patrol in an unconstitutional stop and search).

¹⁰⁵ Marie Ouellet et al., *Network Exposure and Excessive Use of Force: Investigating the Social Transmission of Police Misconduct*, 18 CRIMINOLOGY & PUB. POL'Y 675, 679 (2019) (relating exposure to violent peers with further misconduct); Wood, Roithmayr & Papachristos, *supra* note 102, at 3 (examining social network structure and police misconduct).

¹⁰⁶ Ouellet et al., *supra* note 105, at 679.

¹⁰⁷ *Id.*; see Roithmayr, *supra* note 104, at 409. A third perspective suggests a contradiction among police officers in such networks: supporting prosocial and antisocial norms at the same time within both their work networks and their everyday workplaces.

are important for *deadly* force—most of the analyses of police killings represent a small fraction of the number of uses of potentially deadly force from shootings in which the civilian is not killed. Whether these network effects extend to all instances of police use of deadly force is an important question for response and remediation. And for doctrine, this work suggests that courts should reconsider what the “average” officer views as “reasonable.”

B. *Race*

Two perceptual processes potentially contribute to police officers’ elevated sense of threat in encounters with civilians. These processes, whether a product of implicit biases or explicit biases, may shape officers’ perceptions of danger and skew police use of force racially by shaping officers’ interpretations of danger. One process follows from perceptions of danger and disorder in the neighborhood contexts where civilian encounters take place. A second process is the attribution of threat in interactions between officers and civilians. Racial cues animate decisions and actions that can determine whether violence is the end result of a police-civilian encounter.

1. Race, Reasonableness, and Neighborhood Context

Neighborhood social contexts contribute to the sense of danger that may compromise a police officer’s objective reasonableness during an encounter with a civilian. The visual cues of disorder in a neighborhood can lead to differences in perceptions of the levels of crime and danger in those places.¹⁰⁸ Priming police training with crime stereotypes of risky places and groups of (nonwhite) people can perceptually cue the sense of risk from these social contexts. Stereotypes like the “symbolic assailant”—often a Black male in an inner-city neighborhood—seem to be enduring tropes about crime and race that shape the sense of danger for police.¹⁰⁹

The presence of these stereotypes can stigmatize neighborhoods and reinforce police decisions to allocate patrols there. Professors Robert Sampson and Stephen Raudenbush combined objective neighborhood video footage with survey data to identify the predictors of perceived danger and disorder.¹¹⁰ Their results showed that as the concentration of minority groups increased within a

¹⁰⁸ See Robert J. Sampson & Stephen W. Raudenbush, *Seeing Disorder: Neighborhood Stigma and the Social Construction of “Broken Windows,”* 67 SOC. PSYCHOL. Q. 319, 332 (2004) (showing differences by race in perceptions of connection between neighborhoods’ social and physical disorder and crime).

¹⁰⁹ Jeannine Bell, *Dead Canaries in the Coal Mines: The Symbolic Assailant Revisited*, 34 GA. ST. U. L. REV. 513, 523 (2018); L. Song Richardson, *Implicit Racial Bias and Racial Anxiety: Implications for Stops and Frisks*, 15 OHIO ST. J. CRIM. L. 73, 84 (2017) (relating development of *Terry* decision to modern racial bias); Skolnick, *supra* note 91, at 65.

¹¹⁰ Sampson & Raudenbush, *supra* note 108, at 325-27 (using analyses of video footage and survey data to connect perceptions of social disorder to the perceiver’s race and ethnicity).

neighborhood, local residents of any race or ethnicity perceived greater disorder, even after controlling for the actual level of disorder shown in carefully analyzed video observations.¹¹¹ They concluded that “[s]eeing disorder appears to be imbued with social meanings that go well beyond what essentialist theories imply, generating self-reinforcing processes that may help account for the perpetuation of urban racial inequality.”¹¹² In turn, both older studies¹¹³ and newer studies¹¹⁴ link police killings of Black civilians to the concentration of the Black population, suggesting that beyond stigmatized neighborhoods, social and political conflict between majority neighborhoods and minority neighborhoods elevates Black civilians’ risk of lethal encounters with police.

A second mechanism is the self-reinforcing actions of the police through their tactical assignments and methods. Even after controlling for neighborhoods’ actual crime rate, police disproportionately invoke the “high-crime neighborhood” label in predominantly minority neighborhoods, further reinforcing the crime-danger-risk metric.¹¹⁵ Concentrated patrol activity in high-crime neighborhoods reinforces the message that these are dangerous places simply by the repetition of that label. And that label provides convenient shorthand not only to carry out patrols but also to use police discretion to take actions in those places—especially stops and misdemeanor arrests.

Police patrol Black and other nonwhite neighborhoods more intensively and are thus more likely to initiate contact with local residents once in those neighborhoods.¹¹⁶ These contacts are characterized by harsher interactions—including potentially deadly force.¹¹⁷ One study suggests that between 2007 and 2014, there were 61,000 more police uses of force against Black civilians than there would have been if force was used at the same rate as against white civilians.¹¹⁸ Potentially deadly force, including but especially shootings, was used in 1800 extra cases.¹¹⁹ These disparities are also observable when police

¹¹¹ *Id.* at 319.

¹¹² *Id.*

¹¹³ Jacobs & O’Brien, *supra* note 35, at 857.

¹¹⁴ Nix et al., *supra* note 34, at 328; Legewie & Fagan, *supra* note 33, at 28.

¹¹⁵ Jeffrey Fagan & Amanda Geller, *Following the Script: Narratives of Suspicion in Terry Stops in Street Policing*, 82 U. CHI. L. REV. 51, 62 (2015); Ben Grunwald & Jeffrey Fagan, *The End of Intuition-Based High-Crime Areas*, 107 CALIF. L. REV. 345, 388-89 (2019) (showing that racial composition of area predicts whether officer will call it “high crime” regardless of local crime rate).

¹¹⁶ EMMA PIERSON ET AL., STANFORD COMPUTATIONAL POLICY LAB, A LARGE-SCALE ANALYSIS OF RACIAL DISPARITIES IN POLICE STOPS ACROSS THE UNITED STATES 15 (2019), <https://5harad.com/papers/traffic-stops.pdf> [<https://perma.cc/WMH9-X32P>] (correlating patrol density in minority neighborhoods to racial disparity in police stops).

¹¹⁷ See, e.g., Rory Kramer & Brianna Remster, *Stop, Frisk, and Assault? Racial Disparities in Police Use of Force During Investigatory Stops*, 52 LAW & SOC’Y REV. 960, 982 (2018).

¹¹⁸ *Id.* at 987.

¹¹⁹ *Id.*

actions are conditional on 911 calls to police; arrests per call are greater in minority neighborhoods.¹²⁰

Modern policing prioritizes police-initiated contact in places that are deemed “high risk.”¹²¹ That risk and race seem to be interchangeable in these analyses explains in part how “split-second” thinking, perceptions of danger and imminent threat, and vague regulatory standards can short-circuit reasonableness and place Black suspects at greater risk for lethal encounters with police.¹²²

2. Race, Risk, and Threat

Stereotype threat provides a framework linking race and excessive force by police.¹²³ If lethal force by police is the result of split-second responses to perceived threats, then the sources of those perceptions are critical to explaining both particular instances and the wider patterns of race and police killings that we report in our data.¹²⁴ If stereotype threat is racialized, it is likely to increase the use of force by police toward Black and Latinx men in the course of routine police contacts.¹²⁵ Explaining the use of deadly force, then, requires understanding the sources of that threat and its association with race.

One explanation may be that implicit racial bias distorts racial anxiety, again short-circuiting split-second thinking toward the use of lethal force.¹²⁶ This works in two ways: First, the stereotype itself is racialized.¹²⁷ As Professor Jerome Skolnick first recognized in his fieldwork with police in the 1960s, police have connected race with the “symbolic assailant,” an archetypal crime symbol.¹²⁸ Cooper argues that through affective style, challenges to authority, a

¹²⁰ Charles C. Lanfear, Lindsey R. Beach & Timothy A. Thomas, *Formal Social Control in Changing Neighborhoods: Racial Implications of Neighborhood Context on Reactive Policing*, 17 CITY & COMMUNITY 1075, 1089-90 (2018).

¹²¹ Charles F. Manski & Daniel S. Nagin, *Assessing Benefits, Costs, and Disparate Racial Impacts of Confrontational Proactive Policing*, 114 PROC. NAT'L ACAD. SCI. 9308, 9310 (2017).

¹²² Harmon, *supra* note 53, at 1169 n.233.

¹²³ Rick Trinkner, Erin M. Kerrison & Phillip Atiba Goff, *The Force of Fear: Police Stereotype Threat, Self-Legitimacy, and Support for Excessive Force*, 43 LAW & HUM. BEHAV. 421, 432 (2019) (“These results raise the possibility of a particularly vicious cycle of stereotype threat, police force, and public trust.”).

¹²⁴ See *infra* Part IV (comparing victims of police shooting by race as against gender, age, and circumstance).

¹²⁵ Cooper, *supra* note 82, at 724-25.

¹²⁶ Richardson, *supra* note 109, at 79.

¹²⁷ Cooper, *supra* note 82, at 680-81.

¹²⁸ JEROME H. SKOLNICK, JUSTICE WITHOUT TRIAL: LAW ENFORCEMENT IN DEMOCRATIC SOCIETY 42 (Quid Pro Books 4th ed. 2011) (1966). See generally CTR. FOR RESEARCH ON CRIMINAL JUSTICE, THE IRON FIST AND THE VELVET GLOVE: AN ANALYSIS OF THE U.S. POLICE

sense of preservation of dignity and autonomy, and sensitivity to stigma and reputation, interactions between police and Black men can be fraught with tension and struggles for control, both for the civilian and for the police officer.¹²⁹ The elevated rate of police contacts with Black men¹³⁰ only serves to reinforce these stereotypes, since it narrows officers' knowledge and field of social vision to a thin slice of social networks.¹³¹

Second, following from the narrowed field of vision, these repeated contacts with Black and Latinx men contribute to interactions that can produce anxiety and fear and reinforce implicit biases that police may hold. Professor L. Song Richardson describes how implicit racial bias shapes judgments of suspicion leading to the predicate civilian stops that result in shootings and fatalities.¹³² These interaction dynamics, influenced by implicit bias and anxiety on the one hand and by explicit bias on the other, contribute to the risks of excessive or lethal force by police. In experimental studies, the anxiety seems to delegitimize messages about police regulation and training on the use of force, and officers are more likely to default to excessive force to control threat, risk, and danger.¹³³ On the ground, these interactions can lead to what the Ninth Circuit in *Mendez v. County of Los Angeles*¹³⁴ referred to as a "mistaken assessment" of risk and threat resulting in the use of lethal force.¹³⁵

II. REMEDIATION

Although the use of deadly force against a perceived threat may be justified under *Graham*, the threat to which the officer believes they are responding may be overstated in cases involving suspects experiencing mental illness and/or a mental health crisis. As a result, justifying the use of force when a police officer

(1975) (tracing history of modern professional police forces and describing mixture of force and pacification employed to maintain order).

¹²⁹ Cooper, *supra* note 82, at 674-76.

¹³⁰ Laurel Eckhouse, *Everyday Risk: How the Distribution of Police Contact Produces Racial Disproportion in Police Shootings* 12 (Apr. 15, 2018) (unpublished manuscript) (on file with author).

¹³¹ Neil Hester & Kurt Gray, *For Black Men, Being Tall Increases Threat Stereotyping and Police Stops*, 115 PROC. NAT'L ACAD. SCI. 2711, 2713-14 (2018) (presenting evidence that racial stereotypes influence police to perceive groups of young Black men as more dangerous); see Jennifer A. Johnson et al., *Social Network Analysis: A Systematic Approach for Investigating*, FBI: L. ENFORCEMENT BULL. (Mar. 5, 2013), <https://leb.fbi.gov/articles/featured-articles/social-network-analysis-a-systematic-approach-for-investigating> [<https://perma.cc/HF53-YV5T>].

¹³² Richardson, *supra* note 109, at 78; see Rachel D. Godsil & L. Song Richardson, *Racial Anxiety*, 102 IOWA L. REV. 2235, 2250 (2017).

¹³³ See Godsil & Richardson, *supra* note 132, at 2250.

¹³⁴ 897 F.3d 1067 (9th Cir. 2018).

¹³⁵ *Id.* at 1081; see Katherine Macfarlane, *Foreseeable Police Shootings*, 119 COLUM. L. REV. F. 283, 294 (2019).

reasonably believes that “the suspect poses an immediate threat to the safety of the officer[] or others” can launch an interaction between a police officer and a person in mental health crisis that quickly results in injury or death.¹³⁶

Police officers often perceive a “mental health call” as inherently dangerous.¹³⁷ Most encounters between police officers and persons experiencing mental illness occur “with individuals suspected of committing low-level, misdemeanor crimes, or who are exhibiting nuisance behavior.”¹³⁸ However, even these routine interactions involving low-level offenses can “quickly escalate to violence,” as persons experiencing mental illness may be unable to comply with an officer’s commands or may respond unpredictably.¹³⁹ Of the 990 persons shot and killed by the police in 2018, 209 (21.11%) were experiencing a mental health crisis at the time they were killed.¹⁴⁰ Thus, training officers to respond to or identify the symptoms of mental illness or mental health crisis is crucial to preventing these encounters from becoming fatal.¹⁴¹

A. *Training as Remediation*

In the past three decades, police departments throughout the country have adopted the Memphis CIT model to train officers on how to best navigate encounters involving persons with mental illness.¹⁴² The Memphis CIT model mandates forty hours of training “for a select group of officers who volunteer to

¹³⁶ *Graham v. Connor*, 490 U.S. 386, 396 (1989).

¹³⁷ Bruce G. Link et al., *Public Conceptions of Mental Illness: Labels, Causes, Dangerousness, and Social Distance*, 89 AM. J. PUB. HEALTH 1328, 1332 (1999); Anthony J. O’Brien & Katey Thom, *Police Use of TASER Devices in Mental Health Emergencies: A Review*, 37 INT’L J.L. & PSYCHIATRY 420, 422 (2014).

¹³⁸ MELISSA REULAND, MATTHEW SCHWARZFELD & LAURA DRAPER, LAW ENFORCEMENT RESPONSES TO PEOPLE WITH MENTAL ILLNESSES: A GUIDE TO RESEARCH-INFORMED POLICY AND PRACTICE 5 (2009), <https://csgjusticecenter.org/wp-content/uploads/2020/02/le-research.pdf> [<https://perma.cc/L228-DMVG>].

¹³⁹ Hanna, *supra* note 71, at 237 (quoting Lucas, *supra* note 71); *see FULLER ET AL.*, *supra* note 70, at 1 (finding that people with untreated mental illness are at much greater risk of death by police).

¹⁴⁰ *See Campbell*, *supra* note 37, at 350. Campbell generated these statistics using data from the *Washington Post Database*, *supra* note 18.

¹⁴¹ *See, e.g.*, Harold Braswell, *Why Do Police Keep Seeing a Person’s Disability as a Provocation?*, WASH. POST: POSTEVERYTHING (Aug. 25, 2014, 12:54 PM), <https://www.washingtonpost.com/posteverything/wp/2014/08/25/people-with-mental-disabilities-get-the-worst-and-least-recognized-treatment-from-police/> (describing fatal police encounters in which deceased had committed minor crime and resisted arrest “largely [because of the deceased’s] disability, which made it impossible for him to fully understand and comply with police requests,” and in which police officers overreacted with fatal results).

¹⁴² Watson & Fulambarker, *supra* note 37, at 73 (“The primary goals of the model are to increase safety in encounters, and when appropriate, to divert persons with mental illnesses from the criminal justice system to mental health treatment.”).

become CIT officers.”¹⁴³ The program trains officers on the signs and symptoms of mental illness, mental health treatment, co-occurring disorders, legal issues, and de-escalation techniques.¹⁴⁴ In turn, these training programs “sensitize officers to understand that noncompliance or resistance by a citizen is not reflective of a lack of respect for the police or predictive of violence, while also increasing empathy for persons suffering from mental illness and their caregivers.”¹⁴⁵ CIT training has generally been successful in reducing the use of force against individuals experiencing mental illness and reducing the risk of injury both to the officer and to the individual experiencing mental illness.¹⁴⁶

Training police officers on the signs and symptoms of mental illness has become increasingly important as police officers have become the go-to first responders to incidents involving persons experiencing mental health crises. As mental health institutions were systematically closed after the 1950s, incarceration rates of persons experiencing mental illness have correspondingly increased.¹⁴⁷ Today, family members and neighbors increasingly ask police officers to respond to incidents involving persons experiencing mental health crises.¹⁴⁸ In fact, although the precise number is unknown, mental health advocates and police estimate that about 10% of calls received by police departments involve individuals with mental illness.¹⁴⁹

Given the prevalence (and potential consequences) of encounters between police officers and persons experiencing either mental illness or a mental health crisis, CIT training programs have been implemented by more than 2000 police departments in over forty states.¹⁵⁰ And of the 3142 counties and county equivalents in the United States, 25.91% have implemented CIT training

¹⁴³ *Id.*

¹⁴⁴ *Id.* at 71.

¹⁴⁵ Michael T. Rossler & William Terrill, *Mental Illness, Police Use of Force, and Citizen Injury*, 20 POLICE Q. 189, 206 (2017).

¹⁴⁶ Sonya Hanafi et al., *Incorporating Crisis Intervention Team (CIT) Knowledge and Skills into the Daily Work of Police Officers: A Focus Group Study*, 44 COMMUNITY MENTAL HEALTH J. 427, 432 (2008).

¹⁴⁷ See generally Bernard E. Harcourt, *Reducing Mass Incarceration: Lessons from the Deinstitutionalization of Mental Hospitals in the 1960s*, 9 OHIO ST. J. CRIM. L. 53 (2011) (arguing that source of recurring demands on police to be first responders to mental health crises can be traced to deinstitutionalization of the mentally ill in 1960s).

¹⁴⁸ Fernanda Santos & Erica Goode, *Police Confront Rising Number of Mentally Ill*, N.Y. TIMES, Apr. 2, 2014, at A1.

¹⁴⁹ *When Cop Calls Involve the Mentally Ill, Training Is Key*, NPR: ALL THINGS CONSIDERED (June 14, 2014, 5:03 PM), <https://www.npr.org/2014/06/14/322008371/when-cop-calls-involve-the-mentally-ill-training-is-key> [<http://perma.cc/449A-JRGH>].

¹⁵⁰ *CIT Overview*, CIT, <http://www.gocit.org/crisis-intervention-team-history.html> [<https://perma.cc/NCK2-ABTC>] (last visited Apr. 20, 2020).

programs.¹⁵¹ However, even in municipalities with CIT training programs, successful implementation of the programs may be inhibited by “system- and policy-level obstacles.”¹⁵² Police departments may struggle to maintain training for police dispatchers, lack psychiatric facilities to assist officers, or face other unique challenges to implementing the programs in rural settings.¹⁵³

B. *Reasonableness Under the ADA*

Statutes like the Americans with Disabilities Act (“ADA”) aim to protect persons experiencing qualifying disabilities (including mental illness) from discriminatory treatment, including by police.¹⁵⁴ The U.S. Department of Justice (“DOJ”) interprets Title II of the ADA to require law enforcement agencies “to make reasonable modifications in their policies, practices and procedures that are necessary to ensure accessibility for individuals with disabilities.”¹⁵⁵ The DOJ recommends that police officers should be “trained to distinguish behaviors that pose a real risk from behaviors that do not, and to recognize when an individual, such as someone who is . . . exhibiting signs of psychotic crisis, needs medical attention.”¹⁵⁶

But that is as far as the DOJ has gone in setting standards or requirements. It has not established a national training program or national guidelines on providing reasonable accommodations to persons experiencing mental illness.¹⁵⁷ The closest thing to a national training program is the Memphis CIT model. The

¹⁵¹ We independently generated this data using county totals from the U.S. Census, *see* Press Release, U.S. Census Bureau, Five-Year Trends Available for Median Household Income, Poverty Rates and Computer and Internet Use (Dec. 6, 2018), <https://www.census.gov/newsroom/press-releases/2018/2013-2017-acs-5year.html> [<https://perma.cc/T6AP-C7VR>], and counts available from the University of Memphis CIT Center, *see United States of America*, U. MEM. CIT CTR., <http://cit.memphis.edu/citmap/index.php> [<https://perma.cc/48VR-LZHB>] (last visited Apr. 20, 2020).

¹⁵² Michael T. Compton et al., *System- and Policy-Level Challenges to Full Implementation of the Crisis Intervention Team (CIT) Model*, 10 J. POLICE CRISIS NEGOT. 72, 72 (2010).

¹⁵³ *Id.* at 80-81.

¹⁵⁴ 42 U.S.C. § 12101(b) (2018).

¹⁵⁵ DISABILITY RIGHTS SECTION, U.S. DOJ, COMMONLY ASKED QUESTIONS ABOUT THE AMERICANS WITH DISABILITIES ACT AND LAW ENFORCEMENT 9 (2006), https://www.ada.gov/qanda_law.pdf [<https://perma.cc/U4PG-5NGJ>].

¹⁵⁶ *Id.* at 3.

¹⁵⁷ *Cf. id.* For an essay “addressing [the] lack of [a] federalized directive to train officers to respond to persons experiencing mental illness and proposing consolidation and nationalization of these training programs,” Campbell, *supra* note 37, at 332 n.100, *see* generally David A. Maas, Essay, *Expecting the Unreasonable: Why a Specific Request Requirement for ADA Title II Discrimination Claims Fails to Protect Those Who Cannot Request Reasonable Accommodations*, 5 HARV. L. & POL’Y REV. 217, 224 (2011).

model has become the “gold standard”¹⁵⁸ for training officers on how to appropriately respond in the line of duty to persons experiencing mental illness, and its adoption has been recommended to police departments that struggle with high incidences of violence against persons experiencing mental illness.¹⁵⁹

However, courts have not interpreted Title II to require police departments to provide CIT training to their officers.¹⁶⁰ In fact, courts have found that Title II does not require that CIT-trained officers be dispatched to respond to mental health calls. For example, in *Hamilton ex rel. J.H. v. City of Fort Wayne*,¹⁶¹ a federal district court rejected a plaintiff’s argument that Title II required CIT-trained officers to respond to the plaintiff’s 911 call requesting officer assistance for her son.¹⁶² The court held that waiting for a CIT-trained officer “would potentially implicate other safety concerns that might have been avoided by the efforts of officers already on the scene.”¹⁶³ Thus, the “overriding public safety concerns rendered the accommodation of prioritizing the arrival of a different officer unreasonable.”¹⁶⁴ Title II of the ADA’s reasonable accommodations provision therefore neither requires CIT training for officers nor requires police departments to ensure that CIT-trained officers respond to calls involving persons with mental illness.

It is this tension between the DOJ’s recommendations and the lack of a federal mandate for police accommodations through training that creates the conditions

¹⁵⁸ Amy C. Watson, Michael T. Compton & Jeffrey N. Draine, *The Crisis Intervention Team (CIT) Model: An Evidence-Based Policing Practice?*, 35 BEHAV. SCI. & L. 431, 432 (2017); see CIT INT’L, MENTAL HEALTH FIRST AID OR CIT: WHAT SHOULD LAW ENFORCEMENT DO? 1 (2016), <https://www.mentalhealthfirstaid.org/cs/wp-content/uploads/2016/01/FINAL-MHFA-CIT-White-Paper-Annoucement.pdf> [<https://perma.cc/3SP5-NRWR>].

¹⁵⁹ See, e.g., Letter from Thomas E. Perez, Assistant Att’y Gen., U.S. DOJ Civil Rights Div., to Sam Abrams, Mayor, City of Portland (Sept. 12, 2012), <https://www.portland.oregon.gov/police/article/469399> [<https://perma.cc/V7J7-LRLJ>] (suggesting that Portland should begin to provide CIT training to its officers).

¹⁶⁰ For example, the Fifth Circuit held in *Hainze v. Richards*, 207 F.3d 795 (5th Cir. 2000), that the presence of exigent circumstances makes Title II inapplicable to arrests. *Id.* at 801. The Eleventh Circuit, however, has noted that the presence of exigent circumstances is important to a court’s determination of what, if any, accommodations are reasonable under Title II. See *Bircoll v. Miami-Dade County*, 480 F.3d 1072, 1085 (11th Cir. 2007). In *Sheehan v. City of San Francisco*, 743 F.3d 1211 (9th Cir. 2014), *cert. dismissed as improvidently granted*, 575 U.S. 600 (2015), the Ninth Circuit held that Title II applies to arrests but did not go so far as to hold that CIT training was required under Title II. *Id.* at 1217.

¹⁶¹ No. 1:16-cv-00132, 2017 WL 5467038 (N.D. Ind. Nov. 13, 2017).

¹⁶² *Id.* at *5 (“When responding to an emergency request for assistance, a policy of waiting for an officer designated as the CIT officer would potentially implicate other safety concerns that might have been avoided by the efforts of officers already on the scene.”); see *Hainze*, 207 F.3d at 801 (rejecting plaintiff’s failure-to-train claim under Title II).

¹⁶³ *Hamilton ex rel. J.H.*, 2017 WL 5467038, at *5.

¹⁶⁴ *Id.*

for a quasi-experiment to test whether such accommodations can remediate the pattern of killings by police of persons with mental illness or in mental health crisis (such as Shaheed Vassell and Dwayne Jeune). Having identified standards for training and observing the decisions of some law enforcement agencies to train on those standards, we could develop an experiment to test the potential efficacy of this standard-based training. This quasi-experiment further queries whether such training has spillover effects that could remediate the pattern of police officers perceiving other situations and populations, including and especially minority populations, to be dangerous.

III. METHODS

A. *Design*

Empirical scholarship has focused on competing and complementary theories to explain both the incidence of police shootings and their social and demographic patterns. Racial disparities in shootings have been the focus of research and have generated both contradictory results and considerable controversy. This study adds to the growing evidence of the racial dimensions of police shootings by incorporating constitutional and jurisprudential considerations of the reasonableness of police shootings. The empirical and recent jurisprudential scholarship on police shootings leads us to explore three questions about the incidence and circumstances of fatal police shootings.

First, we identify a set of circumstantial dimensions of police shootings that are recurring themes in constitutional law and map them onto several dimensions of “reasonableness” that proscribe police use of force and deadly force. As we noted earlier, much has changed in the landscape of legal and constitutional regulation of police use of deadly force since the early studies dating back five decades. This project reframes recent patterns of police killings to identify those categories that are defined by case law. We decompose patterns of police shootings into these categories. We then compare the incidence of police shootings that occurred under the conditions that have been found to be “reasonable” in case law with police shootings that fall outside those dimensions. In other words, within the limits of available evidence, we estimate the number of police shootings that appear to be *ex ante* reasonable or unreasonable.

Next, we identify the racial disparities in shootings within each of these categories. Beginning with David Jacobs and David Britt, researchers have sought to identify and explain racial disparities.¹⁶⁵ More recent work on race and suspicion in everyday police-citizen encounters, including those that vary in the

¹⁶⁵ See Jacobs & Britt, *supra* note 35, at 410 (“But the results also show that even after [a violent populace] and [other factors] are controlled, the degree of inequality in the distribution of economic resources and economic power still predicts the use of lethal force by the police.”).

use of force, suggests that perceptions of risk—and, in turn, of reasonableness—in those encounters may vary by race.¹⁶⁶ Recent, highly publicized killings of unarmed persons or persons in mental health crisis—often but hardly exclusively nonwhites—have redirected attention to the intersection of race and reasonableness.¹⁶⁷ The analysis for this question links the patterns of police killings by race to categories of reasonableness in order to discern whether the thresholds of reasonableness and threat vary by victim race.

The third question is the potentially mitigating or prophylactic effects of police training on crisis intervention to reduce the incidence of police shootings. We test whether the presence of CIT training programs reduces the incidence of fatal police shootings of persons in mental health crisis¹⁶⁸ by encouraging officers to shift from high-lethality methods of force to low-lethality methods of

¹⁶⁶ See Geoffrey P. Alpert, John M. MacDonald & Roger G. Dunham, *Police Suspicion and Discretionary Decision Making During Citizen Stops*, 43 CRIMINOLOGY 407, 422-23 (2005) (showing that whether suspect is Black influences officers' decisions to form suspicion based on nonbehavioral cues versus behavioral cues); Adam M. Samaha, *Regulation for the Sake of Appearance*, 125 HARV. L. REV. 1563, 1620-34 (2012) (describing New York City's stop-and-frisk regime as appearance-based regulation based on perceptions of disorderly places or people); Sampson & Raudenbush, *supra* note 108, at 330-34 (showing empirically that perception of disorder in neighborhoods is correlated not only with observation of disorder but also with racial composition of neighborhood); Robert J. Sampson, Response, *When Things Aren't What They Seem: Context and Cognition in Appearance-Based Regulation*, 125 HARV. L. REV. F. 97, 100 (2012) ("Race is particularly salient—whites see disorder as more of a problem than blacks, Latinos, and Asians, even when living in the same environment.").

¹⁶⁷ Carbado, *supra* note 29, at 150 (arguing that Fourth Amendment reasonableness doctrine makes ordinary police traffic stops of Black individuals in America a "gateway to extraordinary police violence"); Shawn E. Fields, *Weaponized Racial Fear*, 93 TUL. L. REV. 931, 935 (2019) ("In particular, [this Article] considers how bias-motivated civilians weaponize law enforcement to respond to their irrational racial fears through misuse and abuse of 911 and other emergency response systems."); Tracey Maclin, *Race and the Fourth Amendment*, 51 VAND. L. REV. 331, 333 (1998) ("In America, police targeting of black people for excessive and disproportionate search and seizure is a practice older than the Republic itself."); Daniel P. Mears et al., *Thinking Fast, Not Slow: How Cognitive Biases May Contribute to Racial Disparities in the Use of Force in Police-Citizen Encounters*, 53 J. CRIM. JUST. 12, 17 (2017) ("To date, however, race has featured most prominently in affecting police decisionmaking or as a factor thought to influence it. In particular, Blacks are likely to be viewed as criminal, and criminals are assumed to be Black."); Jon M. Shane, Brian Lawton & Zoë Swenson, *The Prevalence of Fatal Police Shootings by U.S. Police, 2015-2016: Patterns and Answers from a New Data Set*, 52 J. CRIM. JUST. 101, 106 (2017) (failing to draw conclusion about whether Blacks being killed at higher rates by police officers stems from racial bias or other factors).

¹⁶⁸ Jennifer Skeem & Lynne Bibeau, *How Does Violence Potential Relate to Crisis Intervention Team Responses to Emergencies?*, 59 PSYCHIATRIC SERVICES 201, 204 (2008) (finding that CIT-trained officers used force in only 15% of high-risk-of-violence encounters with persons experiencing mental illness).

force.¹⁶⁹ In addition to testing the effects of CIT training on incidents involving people in mental health crises, we also examine whether there may be spillover effects to police-civilian encounters beyond persons in mental health crisis. Police departments across the country vary in their implementations of CIT training.¹⁷⁰ This variation allows us to test the effects of remediation by categories of reasonableness and to identify racial differences in any remediation effects.

B. *Variables and Data*

1. Fatal Police Shootings

We compiled fatal police shootings from the *Washington Post*'s database.¹⁷¹ The *Washington Post* created the database in 2015 when the newspaper began tracking information about fatal police encounters, including but not limited to (a) the race of the deceased, (b) the age of the deceased, (c) the location of the shooting, (d) whether the person was armed or unarmed,¹⁷² and (e) whether the person was experiencing a mental health crisis at the time of the shooting.¹⁷³ The database includes records of 3933 fatal police shootings in the United States between 2015 and 2018.¹⁷⁴

¹⁶⁹ *Id.* (studying extent to which CIT met its goal of protecting subjects' safety).

¹⁷⁰ Campbell, *supra* note 37, at 327.

¹⁷¹ *Washington Post Database*, *supra* note 18; see Julie Tate et al., *How the Washington Post Is Examining Police Shootings in the United States*, WASH. POST (July 7, 2016), https://www.washingtonpost.com/national/how-the-washington-post-is-examining-police-shootings-in-the-united-states/2016/07/07/d9c52238-43ad-11e6-8856-f26de2537a9d_story.html.

¹⁷² Campbell, *supra* note 37, at 342 n.157 ("When considering whether an individual was armed, the database presents three possible categories: armed, unarmed, and undetermined. Individuals in the armed category possessed one (or multiple) of the following weapons: a gun, toy weapon, nail gun, knife, shovel, hammer, hatchet, sword, machete, box cutter, metal object, metal pole, metal pipe, screwdriver, lawn mower blade, flagpole, cordless drill, taser, blunt object, sharp object, meat cleaver, carjack, chain, contractor's level, unknown weapon, stapler, crossbow, baseball bat, bean-bag gun, fireplace poker, straight edged razor, brick, hand torch, chainsaw, garden tool, scissors, flashlight, spear, pitchfork, rock, piece of wood, bayonet, glass shard, motorcycle, vehicle, pepper spray, rake, baton, pellet gun, BB gun, pickaxe, bow and arrow, crowbar, beer bottle, fireworks, pen, chainsaw, an incendiary device, an air conditioner, an axe, or explosives. Persons who claim to be armed are categorized as armed for the purposes of the database as well as this paper." (citing *Washington Post Database*, *supra* note 18)).

¹⁷³ *Id.*

¹⁷⁴ Duplicate records in the *Washington Post* database were eliminated. See *infra* app. A (identifying incorrectly coded records).

The database integrates local news reports, law enforcement websites, and social media monitoring of databases like *Killed by Police*¹⁷⁵ and *Fatal Encounters*¹⁷⁶ in order to supplement the data collected.¹⁷⁷ Given the limits of the database, the data only describe shootings in which a police officer, in the line of duty, shot and killed a civilian.¹⁷⁸ Deaths of persons in police custody, fatal shootings by off-duty police officers, and non-shooting deaths of civilians are excluded.¹⁷⁹ Although the database records the city and state where the shooting took place, it does not record the individual county. Because local police departments are frequently subject to oversight and funding by county courts and governments as well as by city governments, each case was assigned to the individual county in which it occurred using data collected by *Fatal Encounters*.¹⁸⁰

While the *Washington Post* database reports the race of the decedent, some decedents were missing a racial identifier. To determine the race or ethnicity of those decedents, we applied a verified and commonly used method that assigns the probability of a person being a particular race or ethnicity using census data.¹⁸¹ The U.S. Census Bureau used self-reported race or ethnicity data to compile a list of over 160,000 surnames occurring 100 or more times from the 2010 Census. Combining these names with the self-reports of race and ethnicity, the Census Bureau computed the probability of a person living in the United States with that name being white, Asian, Black, Latinx, or Native American or Pacific Islander. For each of these racial or ethnic groups, we coded the classifications at three levels of probability: 60%, 75%, and 90%. Persons whose names did not meet the 60% threshold for any of the population groups were coded as missing on the race or ethnicity variable. Accordingly, our main estimates of race and ethnicity effects for decedents used the 60% classification threshold. This method was applied and accepted to identify Latinx ethnicity in

¹⁷⁵ *Police Shootings Database*, KILLED BY POLICE, <http://killedbypolice.net> [<https://perma.cc/GAH7-JLGN>] (last updated Apr. 6, 2020).

¹⁷⁶ FATAL ENCOUNTERS, <https://www.fatalencounters.org> [<https://perma.cc/BPZ6-TQVJ>] (last visited Apr. 20, 2020) (creating a database of all deaths through police interaction since January 1, 2000).

¹⁷⁷ *Washington Post Database*, *supra* note 18.

¹⁷⁸ Tate et al., *supra* note 171.

¹⁷⁹ *Id.*

¹⁸⁰ We matched the cases listed in the *Washington Post* database to their corresponding entries in the *Fatal Encounters* database to assign each decedent to the county in which they were killed. One of us (Campbell) noticed and corrected a series of errors in the *Washington Post* database regarding the states wherein certain individuals in the database were shot. *See infra* app. A. We corrected the data to ensure the accuracy of the coding.

¹⁸¹ The current analysis used the 2010 Census surname list B, a list that contains all surnames appearing at least 100 times. *See Frequently Occurring Surnames from the Census 2010*, U.S. CENSUS BUREAU, https://www.census.gov/topics/population/genealogy/data/2010_surnames.html [<https://perma.cc/Q2V6-A6M4>] (last updated Dec. 27, 2016).

a 2013 lawsuit alleging racial discrimination (and therefore a Fourteenth Amendment Equal Protection Clause violation) in the U.S. District Court for the District of Arizona.¹⁸²

Table 1 shows that the number of shootings per year changed little from 2015 to 2018. Of the 3933 shootings that the *Washington Post* recorded for this period, 949 (24.13%) of the victims were reported as experiencing a mental health crisis when they were shot.¹⁸³ The remaining 2984 people (75.87%) were not reported as experiencing a mental health crisis when they were shot but may have been either armed or posing a serious threat to the officer or other civilians.¹⁸⁴ However, some of those experiencing a mental health crisis were also armed. Unarmed persons represented 7% of the 2984 persons who were not experiencing a mental health crisis when they were shot. Accordingly, the analysis sample for the study is 3544 civilian deaths in the United States, from 2015 to 2018, compiled in the *Washington Post* database of fatal police shootings.

TABLE 1. NUMBER OF POLICE KILLINGS BY MENTAL HEALTH AND ARMED STATUS OF THE VICTIM AT THE TIME OF DEATH.

Year	Persons Not in Mental Health Crisis		Total Persons Not in Mental Health Crisis	Persons in Mental Health Crisis		Total Persons in Mental Health Crisis	Total
	Armed	Unarmed		Armed	Unarmed		
	2015	591		73	664		
2016	563	43	606	225	8	233	839
2017	594	57	651	212	12	224	875
2018	675	36	711	197	11	208	919
Total	2423	209	2632	860	52	912	3544

Notes: 389 of the 3933 persons in the *Washington Post*'s database were either listed as "Undetermined" or their Armed Status was omitted. They were excluded from this table.

2. Remediation: Title II Status and CIT Training

Prior research has suggested that the presence of CIT training programs makes encounters safer for both officers and persons experiencing mental

¹⁸² See *Melendres v. Arpaio*, 989 F. Supp. 2d 822, 873 n.69 (D. Ariz. 2013) ("Dr. Taylor's statistics in this respect were, apparently, more sophisticated than those provided in the 1980 census list of Spanish surnames."), *aff'd*, 784 F.3d 1254 (9th Cir. 2015).

¹⁸³ *Washington Post Database*, *supra* note 18.

¹⁸⁴ *Id.*

illness.¹⁸⁵ Using data provided by the University of Memphis CIT Center, we determined whether a given county had an existing CIT training program.¹⁸⁶ We also estimated the saturation of CIT training in the states by calculating the percentage of counties in each state that had one or more existing CIT training programs.¹⁸⁷

3. Mental Health and Risk Status

The case-level information in the *Washington Post* database includes classifications that describe the behavior and mental health status of the victims. We sorted these into four categories to assess risk posed to officers based on when the victim was shot: (1) unarmed individuals who were experiencing a mental health crisis (“Mental Health Crisis”),¹⁸⁸ (2) armed individuals who were not experiencing a mental health crisis (“Armed”),¹⁸⁹ (3) armed individuals who were experiencing a mental health crisis (“Both”), and (4) individuals who were neither armed nor experiencing a mental health crisis (“Neither”).¹⁹⁰ We used

¹⁸⁵ Hanafi et al., *supra* note 146, at 427 (“In addition to improving patient and officer safety, a critical goal of CIT training is to increase the likelihood that people in crisis, especially those with serious mental illnesses, will receive treatment rather than incarceration.”).

¹⁸⁶ Campbell, *supra* note 37, at 368 app. I. The difficulty of accurate and timely reporting to a centralized database suggests that the counts of counties and agencies implementing CIT training are conservative estimates of the number of CIT training programs in each state. One of us independently generated data on uptake of CIT training programs using county population totals from the 2013-2017 American Community Survey five-year estimates, *see* Press Release, U.S. Census Bureau, *supra* note 151, and counts of CIT training programs available from the University of Memphis CIT Center, *see United States of America, supra* note 151. *See* Campbell, *supra* note 37, at 326 n.64.

¹⁸⁷ Campbell, *supra* note 37, at 368 app. I.

¹⁸⁸ *Id.* at 342 n.158 (“The *Washington Post*’s database classifies a person as exhibiting signs of mental illness if either the police officers called to the scene or the family members later describe the person as experiencing mental illness. Instances where a person is exhibiting signs of mental illness include, but are not limited to, instances where a person is suicidal, or when a person is in the midst of a manic-depressive episode. Because an individual’s mental health status is generated via police or family member reports, it is possible that [a mentally ill individual’s status] could go unreported [in the database]. This sample therefore represents a conservative estimate of the number of persons in mental health crisis during a fatal encounter with the police.”).

¹⁸⁹ *See supra* note 172.

¹⁹⁰ Campbell, *supra* note 37, at 347.

the measures developed in the *Washington Post* database to assess (1) evidence of suspect threat¹⁹¹ and (2) flight during the incident.¹⁹²

4. Police Officer Deaths

We obtained data on annual police officer deaths by county from the Law Enforcement Officers Killed and Assaulted (“LEOKA”) database, compiled annually by the DOJ.¹⁹³ We aggregated data on officer deaths and assigned each death to the county where it occurred.¹⁹⁴ The data only includes officers feloniously killed in the line of duty.

5. Crime

We recorded counts of UCR Part I violent felony crimes from the FBI’s Uniform Crime Reporting archives and compiled the crimes using a data analysis tool accessible through a Bureau of Justice Statistics website.¹⁹⁵ We estimated rates per 100,000 persons using estimates from the U.S. Census Bureau Population Estimate Program as the population benchmark.¹⁹⁶

¹⁹¹ The *Washington Post* database estimated the *threat* level for each case based on reporting of incidents by Amy Brittain in October 2015. See Amy Brittain, *Deadly Consequences While on Duty and Under Fire*, WASH. POST, Oct. 25, 2015, at A1 (reporting on fatal police shootings in Wisconsin). As described by Brittain, the general criteria for a classification of “attack” within the threat category was a direct and immediate threat to life. Incidents in which officers or others were shot at, threatened with a gun, attacked with other weapons or physical force, etc., were classified within threat as attack level. Other threats included any behavior that posed a significant threat to officers or civilians.

¹⁹² An incident in which the suspect is moving away from officers is classified as *flight*. See *Washington Post Database*, *supra* note 18. However, neither attack nor threat are necessarily related to flight. Flight may occur in conjunction with threat, as in the case of a fleeing suspect turning to fire a gun at an officer. See Brittain, *supra* note 191, at A1. Also, attacks represent a status immediately before fatal shots by police, while flight could begin slightly earlier and involve a chase. See Tate et al., *supra* note 171.

¹⁹³ See generally FBI, U.S. DOJ, UNIFORM CRIME REPORTING PROGRAM DATA: POLICE EMPLOYEE (LEOKA) DATA, 2015 (2017), <https://www.icpsr.umich.edu/icpsrweb/NACJD/studies/36791> [<https://perma.cc/QZ64-CHSN>].

¹⁹⁴ Using the event descriptions (including state and date of death) contained in the LEOKA database for officers feloniously killed in action from 2015 to 2018, Campbell determined the number of deaths per county by matching each described death to the corresponding death contained on the Officer Down Memorial Page. See OFFICER DOWN MEMORIAL PAGE, <https://www.odmp.org> [<https://perma.cc/8LP2-E8Z4>] (last visited Apr. 20, 2020) (providing searchable database of officers killed in line of duty).

¹⁹⁵ FBI, U.S. DOJ, *supra* note 193.

¹⁹⁶ *Population and Housing Estimates*, U.S. CENSUS BUREAU, <https://www.census.gov/programs-surveys/popest.html> [<https://perma.cc/652X-BD4S>] (last visited Apr. 20, 2020).

6. Social and Demographic Conditions

We collected measures of racial and ethnic composition, poverty, inequality, gender, and age composition for each county from Social Explorer.¹⁹⁷ For this analysis, we compiled demographic and economic data using the American Community Survey's 2014-2018 five-year estimates, which Social Explorer imported from the U.S. Census Bureau.¹⁹⁸ Measures include age composition, racial and ethnic composition, foreign-born population, and Gini coefficients to estimate social and economic inequality within counties.

C. Estimation

We estimated all statistical models as Poisson regressions with standard errors clustered on counties to allow for unmeasured variation and correlation within them.¹⁹⁹ Poisson regressions are well suited to estimate the effects of independent variables on the counts or frequency of events.²⁰⁰ These models provide robust estimators of the likelihood of an event—be it of hurricanes forming in the ocean, automobiles crashing, or homicides being committed—given a set of conditions such as temperature, population composition, speed limits, or economic inequality.²⁰¹ This class of regressions is well suited for distributions that are dispersed or even overdispersed.²⁰²

The model takes the form:

$$Y_{b,i,t} = \mu_i + \lambda_{p,t} + \beta_1 D_{i,p,t} + \beta_2 P_i + \beta_3 S_i + \beta_4 X_i + \varepsilon_{i,p,t}$$

¹⁹⁷ SOC. EXPLORER, <https://www.socialexplorer.com/> [https://perma.cc/V44D-HKYA] (last visited Apr. 20, 2020). Social Explorer is a subscription service available to faculty and students at participating universities and research institutes. The service aggregates data on demography, economy, health, politics, and housing from several sources. In addition to generating customized tables, Social Explorer also generates visualizations for combinations of variables. Data are available for units of analysis from states, counties, census tracts, and census blocks. *See id.*

¹⁹⁸ *See American Community Survey*, U.S. CENSUS BUREAU, <https://www.census.gov/programs-surveys/acs> [https://perma.cc/553K-D4NA] (last visited Apr. 20, 2020); *Product Data*, SOC. EXPLORER, <https://www.socialexplorer.com/product-data> [https://perma.cc/FFJ6-B9T9] (last visited Apr. 20, 2020).

¹⁹⁹ *See generally* Richard Berk & John M. MacDonald, *Overdispersion and Poisson Regression*, 24 J. QUANTITATIVE CRIMINOLOGY 269 (2008).

²⁰⁰ *See generally* WILLIAM H. GREENE, *ECONOMETRIC ANALYSIS* (8th ed. 2018) (2008); Yiwen Zhang et al., *Regression Models for Multivariate Count Data*, 26 J. COMPUTATIONAL & GRAPHICAL STAT. 1 (2017).

²⁰¹ *See* DAVID J. SPIEGELHALTER, *THE ART OF STATISTICS: HOW TO LEARN FROM DATA* 270-71 (2019) (finding that null hypothesis of Poisson distribution was not “precisely true” but is “reasonable” to use as assumption for assessing changes in homicide rates).

²⁰² *See* Berk & MacDonald, *supra* note 199, at 283 (arguing that Poisson distribution was generally better than alternative—a negative binomial distribution proposed by some scholars as way to correct overdispersions).

where $Y_{b,i,t}$ is the number of police killings in state b and county i in year t . $D_{i,p,t}$ measures the number of officers killed in the line of duty in each year in each county and state, P_i is the number of police officers in county i , and S_i is the violent-crime victimization rate in county i . X is a vector of control variables, including age and race composition, foreign-born population, and economic inequality in each county.

For each model, the exposure variable is the total county population, which effectively converts the predictors to population rates. Standard errors are clustered by county to account for unmeasured variation and correlation within the counties. We include fixed effects for year t to control for unobserved factors that might influence annual variations in the number of police killings. We estimate these models for killings within each category of reasonableness as well as for total police killings.

Next, we estimate a multinomial logit regression to identify the characteristics of victims and county demographic conditions that predict membership in each of the discrete categories of *reasonableness*. Multinomial logit regression is a form of multigroup classification for data sets with shared group characteristics across cases.²⁰³ In this case, the categories are a polychotomous dependent variable composed of groups that have no natural ordering and that are constructed to be independent. The model takes the form

$$\Pr(y = j) = \frac{e^{\beta_j x}}{1 + \sum_{k=1}^{J-1} e^{\beta_k x}} \text{ for } j = 1, 2, \dots, J-1$$

and

$$\Pr(y = j) = \frac{1}{1 + \sum_{k=1}^{J-1} e^{\beta_k x}}$$

where there are J categories and J (the last group) is the reference category. The reference category is the basis for determining which factors are statistically significant predictors of group membership compared to that group. In this case, we identify the Both group (armed and in mental health crisis) as the reference category since it is the group with the greatest density of risk for police officers. The other groups are Armed, Mental Health Crisis, and Neither. The coefficients show the probability that factor x is a significant predictor of membership in each category compared to the reference category. We report the results as exponentiated coefficients or Relative Risk Ratios (“RRRs”) to show the odds

²⁰³ DAVID W. HOSMER, JR., STANLEY LEMESHOW & RODNEY X. STURDIVANT, APPLIED LOGISTIC REGRESSION 269 (3d ed. 2013) (2004). See generally Anass Bayaga, *Multinomial Logistic Regression: Usage and Application in Risk Analysis*, 5 J. APPLIED QUANTITATIVE METHODS 288 (2010); Chanyeong Kwak & Alan Clayton-Matthews, *Multinomial Logistic Regression*, 51 NURSING RES. 404 (2002).

that a unit increase in a predictor increases the odds of an individual belonging to that group compared to the reference group.

Finally, we estimate another set of Poisson regressions, including measures of CIT training within counties, as a test of the potential for remediation of the police killings. These models compare the rate of police killings in counties with and without the “treatment” of CIT training. This method first decomposes the effects of the predictors on the self-selection by a county to implement CIT training, recognizing that observable characteristics that can explain why a county adopts the program may also explain the rates of police killings. The second stage then uses the adjusted measure of CIT training to estimate the effects of training on police killings after controlling for reasons why a county may have adopted the program. These models are termed “doubly robust estimation” regressions.²⁰⁴ The model applies Augmented Inverse Probability Weighting (“AIPW”) to estimate first a predictor of the presence of CIT training (the treatment) in a county adjusted for the same set of self-selection predictors and then the effects of the adjusted treatment variable on the number of police killings in a county. The estimates are shown as “average treatment effects” (“ATEs”).²⁰⁵

The dependent variables are the same set of police killings disaggregated by reasonableness category. We use the same set of predictors in both the first- and second-stage models. Results show the difference in police killings by reasonableness category and the race or ethnicity of the person killed.

IV. RESULTS

A. Descriptive Statistics

1. Race, Age, and Gender

The analysis sample for the study is 3757 police-involved fatalities. Due to missing data on names, race, ethnicity, or the circumstances of the killing, 161 cases from Table 1 were excluded from this analysis.

Table 2 shows that about one in four (25.2%) police-involved fatalities were Black, while just over half (51.9%) were white. Just under one in five (18.7%) were Latinx, and there were small percentages of Asians, Pacific Islanders, Native Americans, and Others (together 4.3%).

²⁰⁴ See generally Heejung Bang & James M. Robins, *Doubly Robust Estimation in Missing Data and Causal Inference Models*, 61 *BIOMETRICS* 962 (2005); Greg Ridgeway & John M. MacDonald, *Doubly Robust Internal Benchmarking and False Discovery Rates for Detecting Racial Bias in Police Stops*, 104 *J. AM. STAT. ASS'N* 661 (2009).

²⁰⁵ See Alberto Abadie et al., *Implementing Matching Estimators for Average Treatment Effects in Stata*, 4 *STATA J.* 290, 291-92 (2003). See generally Alberto Abadie & Guido W. Imbens, *Large Sample Properties of Matching Estimators for Average Treatment Effects*, 74 *ECONOMETRICA* 235 (2006); Keisuke Hirano, Guido W. Imbens & Geert Ridder, *Efficient Estimation of Average Treatment Effects Using the Estimated Propensity Score*, 71 *ECONOMETRICA* 1161 (2003).

TABLE 2. DEMOGRAPHIC AND SITUATIONAL CHARACTERISTICS BY VICTIM RACE OR ETHNICITY (N, %).

	Black	White	Latinx	Asian/ NA/ PI/Other	Total
Police Killings	945 (25.2)	1948 (51.9)	701 (18.7)	163 (4.3)	3757 (100)
Female	40 (23.3)	103 (59.9)	18 (10.5)	11 (6.4)	172 (100)
Age					
Under 16	6 (33.3)	6 (33.3)	4 (22.2)	2 (11.1)	18 (100)
16-24	248 (38.4)	217 (33.6)	152 (23.6)	28 (4.3)	645 (100)
25-35	373 (28.5)	598 (45.6)	269 (20.5)	72 (5.5)	1312 (100)
36-50	237 (20.7)	658 (57.5)	204 (17.8)	45 (3.9)	1144 (100)
51-65	55 (11.6)	364 (76.6)	42 (8.8)	14 (2.9)	475 (100)
Over 65	11 (9.9)	89 (80.2)	11 (9.9)	0.0 (.0)	111 (100)
Interaction					
Flight	327 (30.3)	494 (45.8)	216 (20.0)	41 (3.8)	1078 (100)
Suspect Attack	622 (26.2)	1269 (53.5)	391 (16.5)	92 (3.9)	2374 (100)
Circumstance					
Armed Only	630 (27.3)	1128 (48.8)	450 (19.5)	104 (4.5)	2312 (100)
Mental Health Crisis Only	19 (2.2)	24 (2.8)	6 (0.7)	3 (0.3)	52 (100)
Both	122 (14.9)	540 (65.9)	122 (14.9)	36 (4.4)	820 (100)
Neither	77 (37.9)	85 (41.9)	41 (20.2)	6 (3.0)	209 (100)

Notes: N=9389 County-year observations. Totals exclude 161 deaths with no name, race, or other demographic information. All race and ethnicity classifications are based on the coding done by the *Washington Post's* database as supplemented by the 60% name-matching probability estimates described in Part III *infra*.

There was an inverse pattern of age by race or ethnicity. Victims aged between sixteen and twenty-four were most likely to be Black, while victims were most likely to be white in each older age range. These differences are quite large. For example, three in four (76.6%) victims aged between fifty-one and sixty-five were white. The age distribution for Latinx victims was consistent within groups to their overall presence in the sample. Women were a small

proportion of victims. White women were slightly overrepresented relative to white men, but otherwise women were underrepresented for the other racial and ethnic groups.

B. *Circumstances*

Among the four circumstance categories, the racial or ethnic distributions of persons killed were different than what we could expect knowing the actual distribution of victims by race or ethnicity. For example, among armed victims, there was a slight divergence from the overall pattern by race. About one in four armed decedents were Black (27.3% compared to 25.2% overall), while about one in two were white (48.8% compared to 51.9% overall). For the other circumstances, we observed large differences. Among those both armed and in mental health crisis, white victims were overrepresented (65.9% compared to 51.9% overall) while Black victims were underrepresented relative to their share of deaths (14.9% compared to 25.2% overall).

Flight and threat represent a second set of justifications for police killings that are descriptive of interactions between suspects and police officers during the fatal encounter. These two features can be present within any of the four circumstance categories, suggesting a two-dimensional space in which to evaluate the reasonableness of a police killing. Both of these factors map closely onto the constitutional regulatory scheme of *Garner* and *Graham*, as well as the notion of exigencies that the ADA accommodations cases anticipate.²⁰⁶

The trends on flight suggest that *Garner*'s prohibition on fleeing suspects may not hold today. Overall, about 30% of all police killings were of suspects who were fleeing. Of course, there may be more detail that might explain the use of deadly force in the context of flight.²⁰⁷ And two-thirds of suspects who were killed had made some form of attack toward the officer. However, the construction of reasonableness in *Garner* and its override by Justice O'Connor, first in her dissent in *Garner* and later in the majority opinion in *Graham*, suggest that the infusion of subjective judgment into a reasonableness heuristic may increase the likelihood of a fatality. Moreover, the flight and threat factors may interact with the circumstances of the killing so that, for example, the actions of an armed person in mental health crisis who feigns attack may appear particularly threatening to an officer. In a split-second evaluation of the level of threat and risk, perceptions of attack may be individuated and cued by factors such as language (body or verbal), surroundings, and the behavioral scripts that officers adopt from their immersion in specific policing cultures or subcultures.²⁰⁸ That there are differences by the race of the decedent in the four

²⁰⁶ See *supra* Section II.B.

²⁰⁷ For example, an officer believing that a fleeing suspect may be armed might reasonably fear that the suspect could turn on the officer or use the weapon to injure or kill a bystander.

²⁰⁸ See I. Bennett Capers, *Policing, Race, and Place*, 44 HARV. C.R.-C.L. L. REV. 43, 74-77 (2009) (discussing police cultures and how neighborhood surroundings affect policing);

primary categories suggests that these interactions may be influenced by context and cues whose complexity may not be captured by these categories.

Table 3 shows the results of the Poisson regression models to estimate differences by race in police killings disaggregated to the circumstances of police killings. Each model includes race-specific predictors for the number of victims within that category. The estimates then show the relative risks by race for killings within each of the four sets of circumstances. The effects are reported as incidence-rate ratios (“IRRs”) which show the rate or incidence of an outcome adjusted for covariates.²⁰⁹ In these models, the IRR is shown for each racial group relative to the omitted groups—in this case, white victims. These comparisons are made for overall victimization as well as for victimization for flight (“Flee”) and for attack (“Threat”). An IRR of 1.0 suggests comparable rates across groups while an IRR of 1.5 suggests that there may be a substantially higher rate of events over the course of the time interval. Statistical significance indicates whether the difference in rates between one group and the other groups combined occurs by chance.

Across each circumstance category, the IRR for Black victims is significantly higher than it is for white victims. The IRR for Black victims for the first column (Neither) suggests that there are likely to be 1.29 times as many killings of Black civilians as white civilians over the study period. The results for the other categories are similar, ranging from 1.12 times (Armed) to 1.25 times (Both). As an analysis with multiple comparisons of predictors and outcomes with the same sample, the consistency and strength of the findings regarding Black civilians is especially noteworthy.

The results for Latinx victims are more mixed. Latinx civilians who are in the Neither group are 1.29 times more likely to be killed by police than are similarly situated white victims. However, for the other categories, Latinx civilians are either less likely to be killed than are white civilians or the results are not statistically significant.

Malcolm D. Holmes & Brad W. Smith, *Intergroup Dynamics of Extra-Legal Police Aggression: An Integrated Theory of Race and Place*, 17 *AGGRESSION & VIOLENT BEHAV.* 344, 344-53 (2012) (reviewing literature on heightened use of extralegal violence by police against minorities and synthesizing “ordinary social-psychological processes triggered by the characteristics of neighborhoods” as explanation).

²⁰⁹ See generally Philip Sedgwick, *Poisson Regression*, 349 *BRIT. MED. J.* 6150 (2014).

TABLE 3. POISSON REGRESSIONS OF POLICE KILLINGS OF CIVILIANS BY COUNTY, 2015-2018 (IRR, SE, P).

	Neither			Armed Only			MH Only			Both		
	IRR	SE	p	IRR	SE	p	IRR	SE	p	IRR	SE	p
Black Victim	1.225	(.108)	*	1.152	(.054)	**	1.207	(.064)	***	1.246	(.075)	***
Latinx Victim	1.286	(.102)	**	0.877	(.036)	***	1.01	(.084)		0.974	(.064)	
Asian/NA/PI/Other Victim	1.080	(.209)		1.126	(.250)		0.979	(.188)		0.943	(.080)	
Flee Black	0.933	(.048)		0.923	(.046)		0.929	(.044)		0.929	(.214)	
Threat Level – Black	1.222	(.046)	***	1.074	(.056)		1.212	(.044)	***	1.198	(.044)	***
Flee – Latinx	1.071	(.080)		1.043	(.063)		1.023	(.091)		1.006	(.045)	
Threat Level – Latinx	0.962	(.062)		1.169	(.077)	*	1.016	(.077)		1.039	(.085)	
Flee – Asian/NA/PI/Other	0.964	(.171)		1.049	(.168)		0.857	(.150)		0.906	(.073)	
Threat Level –Asian/NA/PI/Other	1.170	(.093)	*	1.033	(.248)		1.156	(.116)		1.163	(.153)	
Violent Crime Rate per 1000	0.988	(.031)		0.976	(.028)		0.988	(.030)		0.983	(.056)	
Total Officers (log)	1.047	(.054)		1.105	(.046)	**	1.045	(.047)		1.059	(.029)	
Constant	0.033	(.009)	***	0.03	(.008)	***	0.029	(.008)	***	0.029	(.007)	***
Model Statistics												
Pseudo R2	854.8			856.2			852.7			857.1		

Significance: * = p<.05, ** = p<.01, *** = p<.001

Notes: N=3544 police killings. All models estimated as zero-inflated Poisson regressions. Standard errors clustered by county. Models control for victim age, race and ethnicity populations, Foreign-Born population, and White-Black and White-Latinx income ratios. All models include year fixed effects.

The two other exigent circumstances—flight and threat—are significant predictors for Black killings in three of four models. Blacks who are fleeing are 1.22 times more likely to be killed by police than whites who are fleeing when adjusted for covariates. There are small effects in some models for Latinx and Asian civilians but no consistent pattern.

Three other findings merit discussion: First, the number of officers feloniously killed in action in a county is a consistent predictor of killings across categories. Comparing the threat results with this predictor suggests that the risk perceived by officers may be emphasized when the victim is Black but not for other racial or ethnic groups. Next, neither the violent-crime rate in a county nor the population distribution for any racial or ethnic group is a significant predictor of police killings. The same is true for economic inequality, as measured by Black-white and Latinx-white income ratios. This raises some doubt on the role of racial threat and conflict theories as factors in the rates of police killings, though other studies suggest that these factors may be present in police use of force generally.²¹⁰ In these models, there may be little else to explain the observed patterns other than the race or ethnicity of the suspect.

Finally, counties with higher concentrations of foreign-born residents have higher rates of police killings of civilians regardless of circumstance. If conflict theory is not a predictor of police killings, as the race and ethnicity variables indicate, then conflict theory does seem to be implicated when it comes to those born outside the United States. This finding seems at odds with the persistent findings in other studies showing that cities with higher rates of foreign-born residents have lower rates of homicide and violent crime²¹¹ and that immigration

²¹⁰ *E.g.*, Malcolm D. Holmes, Matthew A. Painter II & Brad W. Smith, *Race, Place, and Police-Caused Homicide in U.S. Municipalities*, 36 JUST. Q. 751, 772-76 (2019) (showing that racial threat explains higher rates of police killings of Black and Latinx persons in neighborhoods also burdened by economic inequality); Jacobs & Britt, *supra* note 35, at 410 (finding direct relationship between economic inequality and police use of deadly force); Rachel Lautenschlager & Marisa Omori, *Racial Threat, Social (Dis)organization, and the Ecology of Police: Towards a Macro-level Understanding of Police Use-of-Force in Communities of Color*, 36 JUST. Q. 1050, 1064-65 (2019) (finding higher use-of-force rates and greater use-of-force severity in Black neighborhoods); Joscha Legewie, *Racial Profiling and Use of Force in Police Stops: How Local Events Trigger Periods of Increased Discrimination*, 122 AM. J. SOC. 379, 381 (2016) (finding increased use of force against Black individuals in wake of police murder by Black suspects but no similar correlation for white or Latinx individuals); Weston J. Morrow, Emily R. Berthelot & Samuel G. Vickovic, *Police Use of Force: An Examination of the Minority Threat Perspective*, 31 CRIM. JUST. STUD. 368, 378 (2018) (finding increased likelihood of use of force against Black and Latinx individuals).

²¹¹ *See generally* RAMIRO MARTINEZ JR., *LATINO HOMICIDE: IMMIGRATION, VIOLENCE, AND COMMUNITY* 113-25 (2d ed. 2015) (discussing theory that immigration may actually act as buffer to violent crime); Matthew T. Lee, Ramiro Martinez Jr. & Richard Rosenfeld, *Does Immigration Increase Homicide? Negative Evidence from Three Border Cities*, 42 SOC. Q. 559 (2001) (finding that “immigration generally does not increase levels of homicide among Latinos and African Americans”); Jacob I. Stowell & Ramiro Martinez Jr., *Incorporating*

has no effect on crime.²¹² This is a provocative finding that deserves research attention in the current era of tension and controversy over immigration.

The analyses in Table 3 show the predicted rates of police killings *within* each of the four categories of circumstances. Table 4 shows the distribution of cases by these discrete categories. We next estimated a second set of models using a multinomial logistic regression to determine the factors that predict the circumstance of each decedent's killing. That is, the results in Table 5 show the relative risk of uniquely belonging to each of the categories.

TABLE 4. DISCRETE CIRCUMSTANCE CATEGORIES IN POLICE KILLINGS, 2015-2018 (N, %).

Shooting Circumstance	N	%
Neither Armed nor Mental Health Crisis	209	5.9
Armed Only	2423	68.37
Mental Health Crisis Only	52	1.47
Both Armed and Mental Health Crisis	860	24.27
Total	3544	100

Note: Excludes 389 Cases with unknown circumstances and missing data on race.

Table 5 shows the results of the analysis to determine the factors predicting group membership. Two features of the data required adjustments for selection of cases. Our estimates included demographic composition and crime conditions of the counties, but not all counties had one or more police killings during the study period. To adjust for potential selection bias, we estimated a logistic regression model²¹³ to develop a selection parameter that adjusted for the exclusion of those counties with no police killings. Results are shown in Appendix Table D. A second selection model was estimated to control for the cases with unknown circumstances or other missing data, including data on victim race. We used a similar method to identify the parameters that identify those cases. The results are shown in Appendix Table E. In this table, we used

Ethnic-Specific Measures of Immigration In the Study of Lethal Violence, 13 HOMICIDE STUD. 315 (2009) (reporting that "immigration predicts lower levels of violence, and homicide in particular").

²¹² See generally, e.g., Scott Akins, Rubén G. Rumbaut & Richard Stansfield, *Immigration, Economic Disadvantage, and Homicide: A Community-Level Analysis of Austin, Texas*, 13 HOMICIDE STUD. 307 (2009) (finding that "recent immigration is not associated with homicide"); Ben Feldmeyer & Darrell Steffensmeier, *Immigration Effects on Homicide Offending for Total and Race/Ethnicity-Disaggregated Populations (White, Black, and Latino)*, 13 HOMICIDE STUD. 211 (2009) ("Findings reveal that immigrant concentration has trivial (nonsignificant) effects on overall homicides and Latino homicides, but slightly reduces White and Black homicide offending, net of controls.").

²¹³ See HOSMER, LEMESHOW & STURDIVANT, *supra* note 203, at 7, 125.

white victims as the reference group.²¹⁴ The selection parameter was incorporated in the multinomial regressions shown in Table 5.

Table 5 shows analyses comparing each of the first three categories in Table 4 with Both as the reference category. We use white victims as the reference group and the results are shown as RRRs. In all three analyses, we found Black civilians to be at a significantly greater risk than white civilians to be killed when they are in the Neither group, the Armed group, and the Mental Health Crisis group. The risk ratios are large, ranging from 2.4 times as great (compared to white persons) in Model 2 to 3.8 times as great in Model 1. In Model 1, when the victim was in the Neither group, those fleeing or presenting a threat were more likely to be killed—but only if Black. Only in Model 2 in Table 5 of the Armed group do the results suggest that Latinx persons were more likely to be killed by police than were white persons.

Table 5 also shows the significant effect of flight and threat in the first two models. This is especially notable considering that victims in the reference group were both armed and in mental health crisis. The data are carefully coded on these two dimensions, as described earlier.²¹⁵ Threat, which is coded on whether the victim was threatening to attack or in the act of attacking the officer, conforms to the conditions of reasonable provocation defined in *Graham*.²¹⁶ But flight raises concerns about the constitutional basis of these killings in light of *Garner*'s prohibition on killing a fleeing suspect.²¹⁷ Only in the mental-health-crisis model were victims neither fleeing nor presenting a threat at the time of their killings, in contrast to persons in the reference group who were both armed and in mental health crisis. This finding is especially notable because it appears in concert with Black (in Models 1 and 2) and Latinx (in Model 2) race/ethnicity as risk factors for killing.²¹⁸

²¹⁴ Note that in Appendix Table D, the predictors of unknown cases are race-neutral—that is, none of the race variables predict missing circumstances of any killings in the dataset. Instead, whether the victim was fleeing and whether the victim was deemed a threat (of attack) were the only significant predictors of missing circumstances.

²¹⁵ See *supra* notes 191-92 (describing coding procedure for flight and threat).

²¹⁶ See *Graham v. Connor*, 490 U.S. 386, 397 (1989).

²¹⁷ See *Tennessee v. Garner*, 471 U.S. 1, 3 (1985).

²¹⁸ We estimated these models, adding interaction effects of flight and threat with each of three race/ethnicity groups, to see if the flight and/or threat risks were specific to any group. None of the interaction effects were significant, suggesting that the flight and threat risks were salient predictors for all groups.

TABLE 5. MULTINOMIAL LOGISTIC REGRESSION OF POLICE KILLINGS ON CATEGORIES OF REASONABLENESS, 2015-2019 (RISK RATIO, SE, p, 95% CI).

	Risk Ratio	Std. Error	p	95% CI	
Neither					
Black Civilian	3.772	(.960)	***	2.358	6.373
Latinx Civilian	1.508	(.387)		.931	2.538
Asian/NA/PI/Other Civilian	1.970	(.925)		.814	5.082
Flee	3.791	(1.727)	**	1.344	8.721
Threat Level	.460	(.123)	**	.281	.823
Officers Killed in the Line of Duty	1.067	(.030)	*	1.005	1.13
Police Killings	1.003	(.005)		.996	1.008
Constant	.003	(.010)		.001	12.908
Armed Only					
Black Civilian	2.378	(.385)	***	1.757	3.337
Latinx Civilian	1.560	(.196)	***	1.238	2.012
Asian/NA/PI/Other Civilian	1.602	(.349)	*	1.058	2.478
Flee	3.565	(1.122)	***	1.908	6.526
Threat Level	1.422	(.190)	**	1.099	1.851
Officers Killed in the Line of Duty	1.036	(.052)		.943	1.146
Police Killings	1.000	(.004)		.999	1.008
Constant	1.088	(2.019)		.060	39.807
Mental Health Only					
Black Civilian	3.366	(1.318)	***	1.629	7.33
Latinx Civilian	.786	(.366)		.318	1.926
Asian/NA/PI/Other Civilian	2.482	(1.697)		.512	6.967
Flee	.674	(.613)		.147	6.019
Threat Level	.978	(.416)		.387	2.144
Officers Killed in the Line of Duty	1.115	(.049)	**	1.115	2.305
Police Killings	.995	(.008)		.989	1.007
Constant	.279	(1.590)		.000	1143.05
Model Statistics					
AIC	4436.71				
Pseudo R2	.076				
Pseudo LL	-2170.36				

Significance: * = $p < .05$, ** $p < .01$, *** $p < .001$

Notes: N=3239 Reference groups include Both (armed and mental health) circumstances and White victims. Models estimated with year fixed effects, and controls for inequality, labor force participation, Total, Black, Latinx, Asian/NA/PI, and Foreign-Born populations. Parameters included controlling for counties with no police killings and cases with unknown circumstances.

The finding of elevated risk for Black victims in the Mental Health Crisis group suggests two worrisome features of police killings: First, training protocols focused solely on mental health may need to be redesigned to incorporate issues of greater perceptions of threat among Black civilians.²¹⁹ Second, race may be more salient than other factors in the decision to use lethal force on a suspect across circumstances. This is particularly worrisome given the additional details of flight and threat in killings with less substantial bases for reasonableness. In other words, race appears to distinguish these killings even after taking into account the additional factors that might justify an officer's use of lethal force. Police killings, then, are neither race-neutral nor linked to specific features of the incident.

Together, the results in Tables 4 and 5 suggest that race may be a multiplier of reasonableness that elevates the risk of police killings for Black and (to some extent) Latinx decedents.

C. Remediation

Table 6 shows the results of the tests for effects of CIT training on the incidence of police killings of civilians in each county by victim race and ethnicity. None of the results are statistically significant. Despite the general absence of significance, there seem to be as many tests that produce negative results as there are tests suggesting some positive treatment effect. Recall, though, that this test controls for the factors that explain the rate of adoption of CIT training within a county. The first stage of the AIPW models suggests that counties that adopt CIT training tend to be counties with higher rates of police killings and violent crime. It seems that CIT training may not be effective in places with such adverse conditions, but perhaps it would fare better if conditions of police use of lethal force were less acute.

²¹⁹ See *infra* Conclusion.

TABLE 6. SUMMARY OF AIPW REGRESSIONS OF CIT EFFECTS ON SHOOTINGS (AVG. TREATMENT EFFECT, STD. ERROR, p).

Victim Race	All	Neither	Armed	Mental Health Crisis	Both
All	10.732 (5.744)	.379 (.383)	7.775 (4.104)	-.204 (.284)	.919 (.799)
Black	.011 (.015)	.087 (.077)	1.301* (.646)	.005 (.037)	.097 (.170)
Latinx	-.02 (.015)	-.033 (.055)	-.016 (.015)	-.006 (.010)	.217 (.323)
Asian/NA/PI/Other	-.003 (.005)	.001 (.005)	-.002 (.005)	.003 (.003)	.082 (.047)

Significance: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Notes: White victim shootings omitted as reference. Models estimated with controls for race- and ethnicity-specific victim flight or threat during killings, county total population, race/ethnicity-specific populations, county Foreign-Born population, Gini coefficient, officers killed in line of duty, and violent crime rate. Standard errors clustered by county, year fixed effects.

To test this, we estimated a second set of regressions using the same Poisson regression structure, but we changed the independent variable from the dichotomous measure of the presence of a CIT training program in the county during the study period to the number of counties in the state that have one or more agencies with CIT training. We added a state-level fixed effect to account for nesting of counties within states. The pattern of results was the same as in Table 6: there were no significant effects of CIT training on the rate of police killings within any of the four categories of shooting circumstances.²²⁰ These results suggest that CIT training programs that focus exclusively on mental health crisis show little promise of remediating police killings.

CONCLUSION

Both federal courts and state courts—in civil actions and potentially in criminal actions—continue to rely on a reasonableness standard to justify police conduct. Under this standard, tribunals review post hoc the circumstances and the decisions made by the officers in a police shooting, and officers rarely face liability because tribunals defer to the officers' subjective observations about the level of danger and imminence of threat.²²¹ The case law inherently relies on a

²²⁰ Results omitted but available from authors upon request.

²²¹ See, e.g., SPECIAL INVESTIGATIONS & PROSECUTIONS UNIT, N.Y. STATE OFFICE OF THE ATT'Y GEN., REPORT ON THE INVESTIGATION INTO THE DEATH OF SAHEED VASSELL 3-4 (2019), https://ag.ny.gov/sites/default/files/oag_report_-_saheed_vassell_3.29.pdf

retrospective interpretation of police killings or other excessive-force claims. This sets a high bar for holding officers or agencies accountable and places a substantial burden on the decedents' families seeking redress.²²² We suggest that the longstanding practice of deferring to the reasonableness of police officers' expertise fails to effectively protect persons of color by allowing racial bias to influence an officer's use of deadly force. Without rethinking the reasonableness standard, persons who are perceived to be dangerous on account of their race, the immediate social context of their encounter with the police, or their mental illness will remain at risk.

The Fourth Amendment reasonableness inquiry assesses whether an officer's actions are "objectively reasonable" in light of the facts and circumstances confronting the officer, without regard to the officer's underlying intent or motivation.²²³ Rethinking the reasonableness standard—whether construed as

[<https://perma.cc/ML9T-G234>] (declining to prosecute officers after finding their perceptions reasonable); U.S. DOJ, *supra* note 24, at 78-85 (declining to find Officer Wilson's observations unreasonable in refusing to bring federal charges in death of Michael Brown); Ashley Frantz, Steve Almasy & Catherine E. Shoichet, *Tamir Rice Shooting: No Charges for Officers*, CNN (Dec. 28, 2015, 7:22 PM), <https://www.cnn.com/2015/12/28/us/tamir-rice-shooting/index.html> [<https://perma.cc/FEM6-74C8>] (reporting that prosecutor presenting charges to grand jury said officers' perceptions were "reasonable" and recommending that officers not be indicted).

²²² Even when courts may find fault in an officers' decision to shoot a suspect, qualified immunity often shields individual officers and municipal entities from liability that could lead to damages or other punishments. See Joanna C. Schwartz, *How Qualified Immunity Fails*, 127 YALE L.J. 2, 7 (2017) ("[T]he Supreme Court's recent qualified immunity decisions have 'created such powerful shields for law enforcement that people whose rights are violated . . . lack any means of enforcing those rights.'" (quoting Stephen R. Reinhardt, *The Demise of Habeas Corpus and the Rise of Qualified Immunity: The Court's Ever Increasing Limitations on the Development and Enforcement of Constitutional Rights and Some Particularly Unfortunate Consequences*, 113 MICH. L. REV. 1219, 1245 (2015))); see also John C. Jeffries, Jr., Distinguished Lecture, *What's Wrong with Qualified Immunity?*, 62 FLA. L. REV. 851, 851-52 (2010) (criticizing qualified immunity doctrine as uncritically accepting of police officers' accounts of their exculpatory claims for why they violated a suspect's constitutional rights); Joanna C. Schwartz, *The Case Against Qualified Immunity*, 93 NOTRE DAME L. REV. 1797, 1814 (2018) (expressing concern that Supreme Court's qualified immunity decisions have "made it increasingly difficult for plaintiffs to show that [police officers] have violated clearly established law, and increasingly easy for courts to avoid defining the contours of constitutional rights"). Qualified immunity extends beyond police shootings to civil rights violations generally. See *Bivens v. Six Unknown Named Agents of the Fed. Bureau of Narcotics*, 403 U.S. 388, 397 (1971).

²²³ "The calculus of reasonableness must embody allowance for the fact that police officers are often forced to make split-second judgments—in circumstances that are tense, uncertain, and rapidly evolving—about the amount of force that is necessary in a particular situation." *Graham v. Connor*, 490 U.S. 386, 396-97 (1989); Jody D. Armour, *Race Ipsa Loquitur: Of Reasonable Racists, Intelligent Bayesians, and Involuntary Negrophobes*, 46 STAN. L. REV. 781, 790-93 (2006) (distinguishing between the "Reasonable Racist" whose estimate of

the subjective reasonableness of a police officer's sense of risk or the objective reasonableness of an officer's decisions in the context of a reasonable officer *in situ*—would require a different type of analysis, one that would examine decision-making using data and methods from decision science and a careful analysis of shooting incidents.²²⁴ Even if reasonable under this reformed standard, police killings can still be mistakes—either of law²²⁵ or of risk judgment.²²⁶ And based on the evidence developed in this Article, those mistakes may fall disproportionately on nonwhites in a variety of contexts during encounters with police. It is the framework of mistake and race that informs our discussion of remediation of police killings.

A. *Types of Mistakes*

The split-second decisions in many police killings—decisions that *Graham* instantiates into its construction of *reasonableness*—require judgments about risk. As Professor Paul Taylor notes, an officer who shoots an unarmed suspect because the officer believes the suspect is armed makes an error, while an officer who shoots an unarmed suspect whom the officer knows or believes to be unarmed acts with intention, not error.²²⁷ The officer who misinterprets the actions of a person in a mental health crisis as potentially injurious or life threatening—though the behavior is simply erratic and consistent with that person's acute mental health crisis—similarly makes an error. Our analysis suggests that the risks of error may be greater when the suspect is a person of color.

Errors can be classified as skill-based, rule-based, or knowledge-based.²²⁸ The errors can also be understood as the situational factors that reflect on the cognitive processes of the officer: misplaced or misdirected focus of attention, surrender of control to autonomic process, proneness to errors in prediction, exposure to opportunities for error, or overwhelming priming from prior

“danger” relies on double-counting suspect race and stereotypical features of both race and place, and the “Intelligent Bayesian” who relies on actual though perhaps biased crime rates to predict behavior).

²²⁴ *Scott v. Harris*, 550 U.S. 372, 381-83 (2007) (effectively foreclosing challenges to *Graham* on police use of excessive force by defaulting to retrospective examination of officers' decisions).

²²⁵ See Wayne A. Logan, *Police Mistakes of Law*, 61 EMORY L.J. 69, 69 (2011) (citing growing tolerance among courts to condone seizures based on “reasonable” police mistakes of law).

²²⁶ Paul L. Taylor, *Beyond False Positives: A Typology of Police Shooting Errors*, 18 CRIMINOLOGY & PUB. POL'Y 807, 807-11 (2019).

²²⁷ *Id.* at 808 (explaining that not all police shootings of unarmed people are the same type of error—or are even error at all—under the author's definition).

²²⁸ *Id.* at 810.

experience.²²⁹ Each suggests a set of concurrent or overlapping cognitive processes that map onto the distinction made by Professor Daniel Kahneman between instinctual actions (System 1 thinking) and deliberative or knowledge-based actions (System 2 thinking).²³⁰

Each of these dynamics can produce the familiar error structure of false positives (the officer thought the unarmed person was armed) or false negatives (the officer thought the armed person was unarmed).²³¹ But in the context of a person experiencing a mental health crisis, the officer's thinking may be further challenged by the complexity of the behaviors of the suspect and the associated complications of the risk assessment. This may be particularly true when an unarmed suspect makes sudden gestures or unfamiliar movements—as in the case of Saheed Vassell—that complicate that risk assessment. Taylor further extends the typology to distinguish errors that result from a misdiagnosis of risk.²³² Misdiagnosis errors suggest that shootings can occur as mistakes of fact or as mistakes produced by erroneous risk estimation. This latter type of error is perhaps most prone to the priming and stereotyping that short-circuit deliberative processes and that, with their fear-inducing features, can lead to shooting errors. Professor David Klinger describes both perceptual processes and decisional processes that may lead to a shooting:

The line separating close calls from shootings is razor thin. . . . [P]olice officers hold their fire in the face of all sorts of threatening actions, including gunfire directed at them. So when officers do shoot, it is because something—the way armed individuals stand, the way they hold their weapons, the way they move, the words they speak, the look on their faces, some cue—tells them that this moment is different²³³

If these are common factors that can lead to shooting mistakes, what explains the racial disproportionality in our data on police shootings across five different types of contexts and circumstances? Two sets of factors could intensify each of these types of errors or mistakes, leading to distortion in which actions may seem

²²⁹ See *id.* at 810-11 (describing “dimensions” for errors, including type of activity, focus of attention, control mode, predictability of error type, ration of error to opportunity for error, influence of situational factors, ease of detection, and relationship to change).

²³⁰ *Id.* at 810 (“The skill- and rule-based levels neatly align with Kahneman’s conception of System 1 processing, whereas the knowledge-based level corresponds with the effortful System 2.”). See generally KAHNEMAN, *supra* note 42.

²³¹ In the police context, Professors Peter Scharf and Arnold Binder suggested an early version of this typology. PETER SCHARF & ARNOLD BINDER, *THE BADGE AND THE BULLET: POLICE USE OF DEADLY FORCE* 23 (1983) (identifying false-positive errors and false-negative errors as two possible logical outcomes for potentially deadly police encounters).

²³² Taylor, *supra* note 226, at 814 (defining “misdiagnosis error” as intentional action against intended target with unintended outcome and as rule-based and false-positive errors under Scharf and Binder).

²³³ DAVID KLINGER, *INTO THE KILL ZONE: A COP’S EYE VIEW OF DEADLY FORCE* 83 (2004).

reasonable: First, mistakes can be compounded by race, increasing the risk of violence in an encounter. Priming and cues from racial stereotypes such as the “symbolic assailant,”²³⁴ social contexts such as “high-crime neighborhoods,”²³⁵ and identity and domination contests in heated interactions²³⁶ can intensify encounters, raise emotions and fears, and distort assessments of threat and risk. Research conducted by Professor Rick Trinkner and his colleagues demonstrates how race can distort decision-making: it can realign the point at which force becomes justified, if not “reasonable.”²³⁷ Race can also alter and dilute the perception of reasonableness by increasing the perceived justification for force in everyday civilian encounters.²³⁸ The aggravating effects of hypermasculinity, as described by Cooper,²³⁹ can also escalate a routine encounter into a deadly struggle, as in the case of Eric Garner.²⁴⁰ And routine police culture can increase support for excessive force in encounters with civilians.²⁴¹

Second, features of the police workplace may also contribute to mistakes. For example, police patrols are concentrated in areas characterized by high crime

²³⁴ SKOLNICK, *supra* note 128, at 42 (defining “symbolic assailants” as “persons who use gesture, language, and attire that the police have come to recognize as a prelude to violence”); Kimberly Barsamian Kahn et al., *Protecting Whiteness: White Phenotypic Racial Stereotypicality Reduces Police Use of Force*, 7 SOC. PSYCHOL. & PERSONALITY SCI. 403, 407-08 (2016) (suggesting that disparate treatment nonwhites receive within criminal justice system compared to that received by whites is associated with phenotypic racial stereotypicality).

²³⁵ David Klinger et al., *Race, Crime, and the Micro-ecology of Deadly Force*, 15 CRIMINOLOGY & PUB. POL’Y 193, 213 (2016) (stating that police officers are especially careful in exceptionally high-crime areas); William Terrill & Michael D. Reisig, *Neighborhood Context and Police Use of Force*, 40 J. RES. CRIME & DELINQ. 291, 306 (2003) (finding that police are more aggressive when operating in lower-class and high-crime neighborhoods).

²³⁶ Cooper, *supra* note 82, at 698-701 (discussing identity and masculinity “contests” between officers and civilian suspects).

²³⁷ Trinkner, Kerrison & Goff, *supra* note 123, at 430-31 (finding that police officers’ concerns with appearing racist are associated with increased support for coercive policing).

²³⁸ *Id.* (explaining that police officers who believe their jobs are more dangerous are more likely to feel confident about their authority, leading them to believe that their interactions require more force than necessary).

²³⁹ Cooper, *supra* note 82, at 691-92 (explaining that hypermasculine behavior in policing leads to culture in which officers are generally on lookout for signs of disrespect, leading to police brutality).

²⁴⁰ Katie Benner, *Eric Garner’s Death Will Not Lead to Federal Charges for N.Y.P.D. Officer*, N.Y. TIMES, July 17, 2019, at A1 (describing how police officers applied chokehold on Eric Garner, leading to his death).

²⁴¹ Sklansky, *supra* note 98, at 23 (explaining that officers are united by manner in which they work and by group norms that regard public as adverse); Alonso, *supra* note 29, at 998 (stating that police culture resists change due to vague constitutional standards that favor police departments).

rates but also by higher proportions of nonwhite populations.²⁴² In these tactical regimes, police are more likely to encounter Black and Latinx civilians than whites and others, priming police to associate race and danger.²⁴³ Our results suggest that when racial cues amplify the risks of mistakes in a setting of high rates of police-citizen encounters, police shootings may become foreseeable.²⁴⁴

B. *Interventions*

The results suggest two types of possible steps to remediate police killings and potentially deadly force. One set of measures would reduce siloing of police work to encourage more interaction among officers across units and diversification of tasks. The second set suggests revisions to the CIT training curriculum to incorporate features of the racial parameters of policing and to diversify the curriculum to reflect police encounters beyond mental health crises.

1. Diversifying and Correcting the Police Task Setting

Police officers work in commands or units. These include routine patrol units, anticrime specialized units, narcotics and vice units, traffic enforcement units, and other specialized details. Officers work within those units not only intensively but also often exclusively.²⁴⁵ In those conditions, norms and perceptual or analytic frameworks to conduct assignments become reified and insular. Social networks of officers form, including networks of officers who share backgrounds of episodes of excessive force²⁴⁶ and in-group bias.²⁴⁷ This creates social groups in which racial bias and preferences for lethal force may

²⁴² See Klinger et al., *supra* note 235, at 205-06; Terrill & Reisig, *supra* note 235, at 306.

²⁴³ See Terrill & Reisig, *supra* note 235, at 306.

²⁴⁴ See Kristin Henning, *The Reasonable Black Child: Race, Adolescence, and the Fourth Amendment*, 67 AM. U. L. REV. 1513, 1542, 1546-47 (2018) (explaining that police officers' assumptions dictate how they handle Black, Latinx, and immigrant youth).

²⁴⁵ See, e.g., JILL LEOVY, GHETTOSIDE: A TRUE STORY OF MURDER IN AMERICA 25-26 (2015) (describing sharp organizational boundaries between investigation units, such as the elite Robbery-Homicide Division, and patrol units, such as those patrolling minority neighborhoods of South Los Angeles, otherwise known as "ghettoside," and further remarking that status distinctions among different investigation units place limits on police officer mobility within their agencies); Robert J. Kane, *Permanent Beat Assignments in Association with Community Policing: Assessing the Impact on Police Officers' Field Activity*, 17 JUST. Q. 259, 272 (2000) (finding that permanent assignments to specific beats and tasks resulted in "significant increase in officer-initiated investigative activity").

²⁴⁶ Roithmayr, *supra* note 104, at 432-33; Wood, Roithmayr & Papachristos, *supra* note 102, at 13-14.

²⁴⁷ Nayoung Rim, Bocar Ba & Roman Rivera, *In-Group Bias and the Police: Evidence from Award Nominations* 38-39 (Univ. of Pa. Inst. for Law & Econ., Working Paper No. 20-02, 2019), <https://ssrn.com/abstract=3519336> [<https://perma.cc/L8M8-27AR>] (suggesting that police departments should focus on policies addressing in-group bias because of its impact on internal dynamics).

coexist.²⁴⁸ Police dyads form when officers patrol with the same partner for extended periods of time under a range of circumstances, requiring strong reciprocal norms to ensure that civilian encounters proceed safely. Doing police work in that setting, including in potentially volatile civilian encounters where lethal force may be needed, can reinforce those norms and behavioral preferences.²⁴⁹ Some have characterized police behavior in those settings and contexts as “scripted.”²⁵⁰

Disrupting deep social networks of officers to allow for a range of behavioral norms and scripts can create a constant flow of ideas and expectations for everyday police work. Studies of police organizational innovation place the burden for the injection of new ideas and norms on police administration to promote interactions among officers who can share expertise on successful police tactics.²⁵¹ Professors Charles Sabel and William Simon refer to this organizational norm as “post-bureaucratic” and as a “collaborative community” that emphasizes collaboration across unit boundaries and rejects inflexible rules and norms that publicize the success and resolution of problems.²⁵² In this organizational design, “norms are revised more or less continuously in the light of information from monitoring.”²⁵³

A second design option requires debriefing of adverse events—including shootings and civilian and officer fatalities—and analysis of the root causes of such police disasters.²⁵⁴ This model draws from institutional responses to failures in medical settings, aviation and other transportation systems, child welfare, firefighting, manufacturing, nuclear power, and several other organizational systems.²⁵⁵ The purpose is not to assign blame but to identify the

²⁴⁸ See Roithmayr, *supra* note 104, at 432-33; Wood, Roithmayr & Papachristos, *supra* note 102, at 13-14.

²⁴⁹ Fagan & Geller, *supra* note 115, at 86.

²⁵⁰ *Id.* at 63-65 (“Script theory has been widely used in social psychology to identify patterns of decisionmaking and social interaction that persist among persons within social networks.”).

²⁵¹ See Charles F. Sabel & William H. Simon, *The Duty of Responsible Administration and the Problem of Police Accountability*, 33 YALE J. ON REG. 165, 176-77, 176 n.28 (2016).

²⁵² *Id.* at 176.

²⁵³ *Id.* at 176 n.28.

²⁵⁴ John Hollway, Calvin Lee & Sean Smoot, *Root Cause Analysis: A Tool to Promote Officer Safety and Reduce Officer Involved Shootings over Time*, 62 VILL. L. REV. 883, 912-14 (2017) (explaining that root-cause analyses allow for implementation of reforms that will improve safety, increase morale, and restore police legitimacy).

²⁵⁵ James Reason, *Human Error: Models and Management*, 320 BRIT. MED. J. 768, 769-70 (2000) (stating that high-reliability organizations offer important models for resilient systems).

sources of systemic failure that produce an adverse event.²⁵⁶ The root-cause-analysis (“RCA”) model is sometimes referred to as a “sentinel event review” to identify person-system interactions in complex organizations performing urgent tasks.²⁵⁷ It is a systematic process for identifying the root causes of problems or events and an approach for responding to them.²⁵⁸ In the case of police shootings and the racial components that we identify in this project, it is critical that the review emphasize the ways in which both systemic racism and institutional racism are part of the analysis of the root causes of a civilian death.

The process of an RCA entails collaboration and deliberation among the actors involved, from managers to line staff. Decisional errors are characterized as a lack of information, knowledge, or experience or as the misunderstanding of good information.²⁵⁹ In a police shooting, errors are the misinterpretation of a suspect’s intention or behavior and the use of ineffective methods to gain a suspect’s compliance.²⁶⁰ Systemic errors include the lack of preparation for or understanding of the surroundings and context of an encounter; errors in tactics or skills, either from incorrect decisions or lack of a needed skill; and a capacity for error correction “on the fly.”²⁶¹ RCA models are not substitutes for accountability mechanisms but rather provide a constructive component with which officers can update and internalize alternatives available for future situations.²⁶²

2. Rethinking CIT Training

CIT training was developed to impart expertise to police officers responding to persons who are experiencing a mental health crisis.²⁶³ The National Curriculum developed by the University of Memphis is an intensive, five-day program with multiple components that provides information to officers and

²⁵⁶ See Hollway, Lee & Smoot, *supra* note 254, at 886-87 (arguing that although retrospective accountability mechanisms may deter police from shootings caused by misconduct, they fail to reduce occurrences of accidental or unintentional acts).

²⁵⁷ *Id.* at 889 (“RCA, sometimes referred to as ‘sentinel event review’ or ‘just culture event review,’ is a form of quality improvement in complex human systems.” (footnotes omitted)); see PAUL F. WILSON, LARRY D. DELL & GAYLORD F. ANDERSON, ROOT CAUSE ANALYSIS: A TOOL FOR TOTAL QUALITY MANAGEMENT 10-11 (1993) (explaining that root-cause analysis is designed to provide input to management decisions regarding quality and productivity, creating effective tools to provide corrective action and preventative measures).

²⁵⁸ Hollway, Lee & Smoot, *supra* note 254, at 902.

²⁵⁹ *Id.* at 901.

²⁶⁰ *Id.*

²⁶¹ *Id.* at 901-02.

²⁶² *Id.* at 887.

²⁶³ Campbell, *supra* note 37, at 325-26.

their managers.²⁶⁴ It is detailed and responsive to the needs of citizens experiencing mental illness as well as to the information and training needs of police agencies.²⁶⁵ Specifically, it anticipates the diversity of the mental health crises that officers are likely to face.²⁶⁶ The curriculum also offers a best practices guide to assist local agencies in fitting the curriculum to their settings.²⁶⁷ Additionally, it suggests an administrative design for implementation and oversight of officer responses.²⁶⁸

Our data suggest two dimensions of police killings that should be incorporated into a curriculum designed to remediate the types of mistakes that lead to these fatal encounters. First, one in four victims of police killings (25.2%) are persons experiencing mental health crises.²⁶⁹ To reduce the incidence of police killings, the curriculum will require rethinking to incorporate other circumstances of fatal police-civilian encounters, such as situations involving persons who are both armed and in mental health crisis, involving armed persons, and involving a range of other persons who are neither armed nor in crisis. Revising and expanding the curriculum to focus on decision-making and “mistakes” is critical to strengthening the curriculum to have a wider impact on police shootings and killings. This suggests a need to reframe the curriculum to be both officer-centered and incident-centered and to expand the curriculum to the full range of fatal encounters. This reframing would also tackle sensitive issues in police recruitment and supervision in order to detect both the types of decision processes that lead to mistakes and the types that lead to appropriate uses of force, thereby minimizing the use of lethal force.

The racialization of killings is a second dimension that needs to be incorporated into training that aims to reduce police use of deadly or potentially deadly force. Such training would add a second dimension to contemporary police training that focuses on mental health. Our data suggest that about one in four civilian deaths in police encounters are Black civilians, a disproportionate rate relative to the Black population in the United States.²⁷⁰ Using the *Fatal Encounters* database, researchers estimate that Black men are 2.5 times more likely than white men to be killed by police and that Black women are 1.4 times

²⁶⁴ *National Curriculum*, U. MEM. CIT CTR., <http://www.cit.memphis.edu/curriculum.php?id=0> [<https://perma.cc/F98K-2NDJ>] (last visited Apr. 20, 2020) (providing general overview of CIT National Curriculum for five-day training program).

²⁶⁵ Campbell, *supra* note 37, at 332-33.

²⁶⁶ *See id.* at 326-27.

²⁶⁷ LAURA USHER ET AL., CIT INT'L, CRISIS INTERVENTION TEAM (CIT) PROGRAMS: A BEST PRACTICE GUIDE FOR TRANSFORMING COMMUNITY RESPONSES TO MENTAL HEALTH CRISES 4 (2019), [http://www.citinternational.org/resources/Documents/CIT%20guide%20desktop%20printing%202019_08_16%20\(1\).pdf](http://www.citinternational.org/resources/Documents/CIT%20guide%20desktop%20printing%202019_08_16%20(1).pdf) [<https://perma.cc/4GY-8SJQ>].

²⁶⁸ *Id.* at 90-91, 101-11.

²⁶⁹ *See supra* Table 2.

²⁷⁰ *See supra* Table 2.

more likely than white women to be killed by police.²⁷¹ For Black males, this translates into one death by police per 1000 persons, compared to 0.39 deaths per 1000 persons for whites.²⁷² Another recent study suggests that characteristics of place—crime rates and the Black population in a county—are significant predictors of fatal police encounters.²⁷³ Both of these data points suggest that there are features (e.g., race) of each incident that prime officers to see greater risk or danger in a civilian encounter, potentially leading to a fatal shooting. While these studies analyze police killings in the aggregate, our findings confirm the critical role of race in these incidents.

What would race-conscious training or policy look like? Training to reduce implicit bias presents several hurdles. Bias reflects bad habits of mind, which are not easily broken by a dose of training. Even effective training seems to decay over time.²⁷⁴ Neither implicit-bias interventions nor explicit-bias interventions produced significant differences that evaded decay.²⁷⁵ Biases are not easily extinguished through low-dose, single-day training sessions—training that seems to be typical of the interventions reviewed by Professor Patrick Forscher and colleagues.²⁷⁶

For such training to be effective, we suggest that race-conscious content be developed consistent with what we understand about both explicit bias and implicit bias and that these features of police shootings be incorporated into the ongoing RCA models that allow for debriefing and analysis of the sources of errors and mistakes. Questioning the decisions of officers with attention to perceptions of race and threat, as well as to interaction dynamics and perceptions, can have two benefits: The first will be to signal that race matters when police agencies diagnose how a fatal encounter unfolds. The second benefit, achieved by incorporating race-conscious content into the RCA process and into routine training on police stops and the use of force, signals throughout the police department that race matters. A final thought is that experimentation

²⁷¹ 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 PROC. NAT'L ACAD. SCI. 16,793, 16,794 (2019).

²⁷² *Id.* at 16,794-95.

²⁷³ Johnson et al., *supra* note 34, at 15,880 (explaining that in counties where minorities committed high rates of violent crime, Latinx and Black adults were more likely to be fatally shot than white adults).

²⁷⁴ Patrick S. Forscher et al., *A Meta-analysis of Procedures to Change Implicit Measures*, 117 J. PERSONALITY & SOC. PSYCHOL. 522, 542 (2019) (noting recent study suggesting that interventions that reduced biases showed little to no lasting impact).

²⁷⁵ *Id.* at 540 fig.9 (depicting funnel plots of effect sizes for studies on implicit, explicit, and behavioral measures).

²⁷⁶ *Id.* at 542 (stating that only 3% of samples used procedures that took longer than one session to complete); see Florian Arendt, *Dose-Dependent Media Priming Effects of Stereotypic Newspaper Articles on Implicit and Explicit Stereotypes*, 63 J. COMM. 830, 844 (2013) (finding that total effect on stereotypes was nearly the same in low-dose conditions as in higher-dose conditions).

matters: experiments to reduce bias in police shootings and to reduce their overall incidence signal networks of police officers and police supervisors that agencies are ready and committed to undertake new measures to reduce racial disparities.

APPENDIX A. NOTES ON INCORRECTLY CODED RECORDS

In compiling the data, Campbell discovered and corrected three errors that she found in the archive.²⁷⁷ The errors included:

1. Jacob Albrethsen (ID 4096) was listed in the *Washington Post* database as having died in Oregon. Orem, the city where his death is recorded, is in Utah County, Utah.

2. Ricardo Tenorio (ID 1874) was listed in the *Washington Post* database as having died in Memphis, Tennessee; his death actually occurred in West Memphis, Crittenden County, Arkansas.²⁷⁸

3. Quintin J. Horner (ID 3516) was listed in the *Washington Post* database as having died in Utica, Kentucky. News reports about the death of Quintin J. Horner in Utica, New York, make no mention of a fatal police encounter in Kentucky on that date.²⁷⁹ However, *Fatal Encounters* lists Reuben Ruffin Jr. (*Fatal Encounters* ID 23941) as having died in Utica, Kentucky.²⁸⁰ In our database, we replaced Horner's details with Ruffin's as Ruffin's details are listed in *Fatal Encounters*.

Prior to making these changes, Campbell conducted her analysis on the data as it existed on February 1, 2019.

²⁷⁷ Campbell, *supra* note 37, at 345 n.168.

²⁷⁸ See George Brown & Melissa Moon, *Man Who Tried to Run Over SCSO Deputy & Shot Dead in West Memphis*, WREG (Sept. 9, 2016), <https://wreg.com/2016/09/09/man-wanted-for-trying-to-run-over-scs0-shot-dead-in-west-memphis/> [<https://perma.cc/ZW66-NPTT>].

²⁷⁹ See *Man Shot, Killed in Utica*, UTICA OBSERVER-DISPATCH (Mar. 22, 2018, 7:00 AM), <https://www.uticaod.com/news/20180321/man-shot-killed-in-utica> [<https://perma.cc/V6UX-NVEB>].

²⁸⁰ FATAL ENCOUNTERS, *supra* note 176.

APPENDIX TABLE B. DESCRIPTIVE STATISTICS – COUNTIES, 2015-2018

	Mean	SD	Min	Max
Total Shootings	0.29	1.18	0	50
Total Population	94,141.20	283,708.80	74	10,100,000
Total Population 16+	83,073.10	250,039.80	88	8,890,339
Total Male Population 16+	40,705.40	122,065.20	41	4,358,957
Total Black Population 16+	10,731.30	45,193.80	0	1,098,653
Total White Population 16+	64,980.90	180,233.40	24	6,283,383
Total Latinx Population 16+	14,696.90	94,844.80	1	4,163,855
Total Asian/NA/PI/Other	1008.50	4025.20	0	129,314
Population Density (persons per sq. mile)	755.9	2932.40	4.1	73,475.20
Foreign-Born Population	11,408.00	76,283.30	0	3,478,829.00
CIT Training (County)	0.27	0.44	0	1
CIT Training (Counties per State)	2.81	6.68	0	50
Median Income	58,013.60	15,295.80	28,212	135,842.00
Ratio: White-Black Median Income	1.7	1.4	0.3	34.2
Ratio: White-Latinx Median Income	1.4	0.5	0.3	15.8
Officers Killed in Line of Duty	0	0	0	0.06
Violent Crime per 1,000 Population	1.05	1.16	0	13.82

Sources: FBI, U.S. DOJ, *supra* note 193; Press Release, U.S. Census Bureau, *supra* note 151; *United States of America*, *supra* note 151; *Washington Post Database*, *supra* note 18.

APPENDIX TABLE C. CIT TRAINING PROGRAMS BY STATE, 2019

	Counties with CIT Training Programs	Total Counties	% of Counties with CIT Training Programs
Alabama	0	67	0.00%
Alaska	2	29	6.90%
Arizona	4	15	26.67%
Arkansas	0	75	0.00%
California	24	58	41.38%
Colorado	15	64	23.44%
Connecticut	5	8	62.50%
Delaware	1	3	33.33%
Florida	45	67	67.16%
Georgia	45	159	28.30%
Hawaii	1	5	20.00%
Idaho	13	44	29.55%
Illinois	49	102	48.04%
Indiana	25	92	27.17%
Iowa	6	99	6.06%
Kansas	11	105	10.48%
Kentucky	72	120	60.00%
Louisiana	30	64	46.88%
Maine	16	16	100.00%
Maryland	9	24	37.50%
Massachusetts	4	14	28.57%
Michigan	2	83	2.41%
Minnesota	24	87	27.59%
Mississippi	4	82	4.88%
Missouri	9	115	7.83%
Montana	3	56	5.36%
Nebraska	4	93	4.30%
Nevada	2	17	11.76%
New Hampshire	3	10	30.00%
New Jersey	11	21	52.38%
New Mexico	3	33	9.09%
New York	4	62	6.45%
North Carolina	81	100	81.00%
North Dakota	3	53	5.66%

Ohio	87	88	98.86%
Oklahoma	8	77	10.39%
Oregon	14	36	38.89%
Pennsylvania	15	67	22.39%
Rhode island	0	5	0.00%
South Carolina	2	46	4.35%
South Dakota	3	66	4.55%
Tennessee	18	95	18.95%
Texas	9	254	3.54%
Utah	21	29	72.41%
Vermont	1	14	7.14%
Virginia	52	133	39.10%
Washington	12	39	30.77%
West Virginia	0	55	0.00%
Wisconsin	30	72	41.67%
Wyoming	4	23	17.39%
District of Columbia	1	1	100.00%

Source: *United States of America, supra* note 151.

APPENDIX TABLE D. LOGISTIC REGRESSION ON PREVALENCE OF POLICE
KILLINGS BY COUNTY, 2015-2018

	b	SE	p	95% CI	
Officers Killed in Line of Duty	-.513	.216	*	-.936	-.090
Log Black Population	.034	.037		-.039	.108
Log Foreign-Born Population	.556	.103	***	.354	.759
Log Latinx Population	-.556	.084	***	-.721	-.391
Log Total Population	-1.211	.144	***	-1.493	-.929
Gini Coefficient	-8.753	1.65	***	-11.986	-5.519
Population over Age 50	.000	.000		.000	.000
Population Density	.000	.000		.000	.000
Violent Crime (total)	-.001	.002		-.004	.002
Property Crime (total)	.000	.000		-.001	.000
Labor Force Participation	.000	.000		.000	.000
CIT Training in County	.039	.025		-.010	.087
Constant	17.147	1.485	***	14.236	20.058
Model Statistics:					
AIC	3106.85				
Pseudo R2	.524				
Pseudo LL	-1540.43				

Significance: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Notes: N=5126 county-year observations. Demographic variables from ASC 2013-2018 five-year estimates. Crime variables are means for 2015-2018, from FBI Uniform Crime Reports via Social Explorer. Model estimated with year fixed effects. See *supra* notes 197-97 and accompanying text.

APPENDIX TABLE E. LOGISTIC REGRESSION ON ESTIMATE UNKNOWN CIRCUMSTANCES IN POLICE SHOOTINGS, 2015-2018

	b	SE	p	95% CI	
Case Factors					
Black Civilian	.262	(.199)		-.139	.644
Latinx Civilian	.221	(.199)		-.141	.625
Asian/NA/PI/Other	-.091	(.374)		-.812	.645
Flee	1.873	(.131)	***	1.610	2.125
Threat Level	-.882	(.140)	***	-1.158	-.677
County Factors					
Officers Killed in Line of Duty	.017	(.024)		-.017	-.609
Log Population	-.127	(.242)		-.363	.064
Log Black Population	.069	(.074)		-.080	.430
Log Foreign-Born Population	-.100	(.199)		-.542	.204
Log Latinx Population	.078	(.149)		-.174	.222
Police Shootings in County	.004	(.002)		-.001	.008
Police Shooting Prevalence in County	-.134	(.629)		-.603	.397
Constant	-3.666	(1.336)	***	-6.285	-1.046
Model Statistics:					
Pseudo R2	.142				
Pseudo LL	-744.5				
AIC	1521.09				

Significance: * = $p < .05$, ** $p < .01$, *** = $p < .001$

Notes: N=3517 cases. White Civilian omitted category. Demographic variables from ASC 2013-2018 five-year estimates. Model estimated with year fixed effects. See *supra* notes 197-97198 and accompanying text.
