

Los Angeles Police Department (LAPD) Stops: Race and the Perception of Bias

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Abstract

Headlines report allegations of racial disparity by law enforcement. Scholars support these claims, although with little empirical evidence. This research analyzes over 700,000 public contacts by the Los Angeles Police Department to evaluate levels of racial disparity using two benchmarks: 1) racial proportions of the general population of the city and 2) racial proportions of persons described in violent crime. The analysis includes review of a *Los Angeles Times* study that used the general population as the only benchmark. Assessing validity of benchmarks and implications for inexact comparisons is discussed. The findings demonstrate that disparity based on a population benchmark does not correlate as well as involvement in violent crime. This research offers examples of how disparity caused by discrimination can be mediated through public complaints and body-worn cameras.

Keywords: police, bias, disparity, discrimination

The death of George Floyd, May 25, 2020, during an arrest in Minneapolis, MN, has brought the issue of policing to the highest level of discussion in America. The ramifications of police reforms are as extreme as ever suggested: defund policing, cut budgets, disarm police officers, slash public safety budgets and redirect money to non-police resources. Decisions to “reimagine policing” are based on a core belief that American society is fundamentally racist. “If we’re going to have institutions that don’t perpetuate racist ideology, we have to figure out how to do something that is more actively antiracist. We have to recognize that the neutral position in our society is fundamentally racist . . . that’s the piece that we have to dismantle,” said Rev. Dr. Leslie Callahan, pastor of St. Paul’s Baptist Church in North Philadelphia (Gooray, Gutman, & Riordan, 2020).

Rev. Callahan’s outlook on society as fundamentally racist is often cast on the police. Disparity in contacts between police and minority groups is widely recognized, but not clearly understood in the context of racism or discrimination (Davis, Whyde, & Langton, 2018; Kahn & Martin, 2016; Piquero, 2008; Smith, Rojek, Petrocelli, & Withrow, 2017; United States, 2015a; White & Rice, 2010; Wiggs, 2019). The roots of such disparate contact can stem from socioeconomic status, education, family structure, drug and alcohol use, peer group, age, gender, and crime. These factors, and others, influence police-public contact (Pollock, Oliver, & Menard, 2012). Persons and institutions, including media, who share the belief that society is fundamentally racist, tend to look for evidence to confirm their bias. Attributing racial bias on the part of police is a common explanation for disparate contact, but it is often the weakest, least tangible, and most difficult causation to prove. Disparity in police-citizen contacts does not necessarily equate to bias or discrimination (Tregle, Nix, & Alpert, 2019). The ramifications for policing are dire if implications of racial bias by police can be proven true, but the ramifications are just as dire if merely *believed* true. Misinformation, disinformation, and specious conclusions have the potential to propagate distrust and a general loss of public cooperation. If protests, riots, and radical calls for police reform prove nothing else, it is that policing relies heavily on public cooperation, a point often attributed to Sir Robert Peel, former British prime minister, and organizer of the Metropolitan police force (Lentz & Chaires, 2007).

The deaths of Michael Brown in Ferguson, MO and Eric Garner in New York in 2014, Freddy Gray in Baltimore, 2015, and George Floyd in Minneapolis and Rayshard Brooks in Atlanta in 2020, have the following facts in common: Black citizen; White police officer(s); and perpetrator did not follow directions from the officer(s). The incidents also follow the same widely held public presumption: the incident was motivated by racial bias, despite the absence of any overtly racist act or utterance (United States, 2015b).

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Racial bias by police is rarely overt and “not always accurately identified or perceived” (Kahn & Martin, 2016, pg. 82); yet, racial bias is a common explanation of disparate treatment for Blacks, based on disproportionate contact rates compared to Black’s proportion of the population.

Such a thesis was advanced in January 2019, when the *Los Angeles Times* (*LAT*) newspaper published a study showing Blacks were disproportionately stopped by police officers assigned to the Los Angeles Police Department’s (LAPD) Metropolitan (Metro) Division. The LAPD Metro Division conducts directed patrols in areas experiencing an acute crime problem or where violent crime is chronic (Chang & Poston, 2019a). The *LAT* article jolted community activists to write a letter to the mayor citing the patrols “led to the incarceration and harassment of African American and Latino people, exacerbating racial and wealth disparities in the city of Los Angeles” (CBS2 Los Angeles, 2019). Two days later, Mayor Garcetti ordered Metro out of South Los Angeles neighborhoods, writing in a statement, “I have directed the chief of police to prioritize other elements of our comprehensive crime reduction strategy, beyond vehicle stops, until we learn more, so that we can accelerate the reduction in vehicle stops that has been achieved since they peaked a couple of years ago” (Chang & Poston, 2019b). While the *LAT* study found no evidence of racial-biased policing, the civil rights activists considered the disparities too large to be explained by crime patterns.

The purpose of this paper is to examine the *LAT* study and present similar data from the perspective of more valid benchmarks. No one argues disparate police contact with minority groups does not exist. The question is: what is the basis for the disparate contact? How is disparity measured and compared? Racial disparity reported in the *LAT* study was measured in the number of stops by race to the proportional representation for that race in the general population of the city. This latter measure, the denominator in the ratio, is important. This paper will reexamine the *LAT* study by comparing all police stops, rather than just Metro’s, by race of the person stopped to the proportion of the race represented by the general population, and second, by comparing the same stops to offenders’ involvement in violent crime. Thus, a comparison of two denominators. If the statistical significance and correlation appears to be stronger in the latter comparison, it would tend to discount police racial bias as the variable affecting disparity in stops, and indicate a correlation with the incidence of crime, as reported by the public. The former benchmark uses race as the comparison, while the latter focuses on behavior. If one accepts that police respond to behavior, then one would expect the correlation of stops to violent crime to be significant. Such findings and understanding is beneficial to the public in mediating the concern of police racial bias and directing policy makers toward emphasizing public safety.

Incidence and prevalence of police contact

The first consideration is to establish a basis and context for how often the public has contact with the police. Davis, Whyde and Langton (2018) estimated that 21% of U.S. residents, age 16 years or older, had police contact in 2015. The estimated number of persons was 53.5 million out of 254 million, or just under 1 in 5 persons in a single year. For those having police contact, 27.5 million were police initiated (10.8% of the population), while 27 million residents initiated the contact with police (10.7% of the population).

Davis et al. (2018) evaluated the survey by race (including Hispanic origin). Whites were more likely (23%) to have any contact with the police, followed by Blacks (20%), and Hispanics (17%). Those identifying other than Hispanic, Black, or White (*hereafter referred to as Other*), had 18% of any contact. This group is excluded from most detailed analyses. For police-initiated contact, the focus of this paper, Whites registered 18.4 million or 11.2% of their group, compared to Blacks with 3.51 million or 11.3% of their group. Hispanics registered more contacts than Blacks with 3.57 million, but only 9% of their group. Men had 15.3 million police-initiated contacts, compared to 12 million for women. The ratio was reversed for gender groups of resident-initiated police contact. Finally, ages 18-24 had the highest rate for police-initiated contact with 19.2% (5.8 million), but ages 25-44 had the highest incidence of resident-initiated contact with 11 million (13%).

The Davis et al. (2018) study listed traffic stops as the most common form of police-initiated contact. Blacks registered the highest rate at 9.8%, followed by Other – 8.8%; Whites – 8.6%; and Hispanics – 7.6%. However, the proportion of drivers stopped compared to the group’s total for any police-initiated contact was quite consistent across all groups: White – 70%; Black – 68%; Hispanic – 69%.

Police racial bias

Police racial bias is a ubiquitous topic among criminologists and the public, and a major issue for the city of Los Angeles when it entered a federal consent decree after the Rampart corruption scandal (United States, 2001). To address the issue of racial profiling, the LAPD began the practice of completing a field data report (FDR) for every police-public contact in which a person was detained. The FDR captured the personal descriptors of the detainee and the police officer, as well as the type of stop and reason.

Such data collection for all California police agencies became state law in 2015. The law's intent was to collect data for analysis to determine the extent to which police officer bias plays a part in stopping persons, especially minorities. Despite the millions of data points, it remains difficult, if not impossible, to see into the mind and intent of a police officer to argue an intentional bias (Beck, 2018; LAPD, n.d). Studies on police discrimination struggle to demonstrate a clear racial bias. Indeed, many of the studies concluding that results support a factor of racial bias tend to qualify the bias cannot be conclusively supported nor tangibly shown.

Studies tending to affirm disparity. Kahn and Martin (2016) assert that disproportionate minority contact occurs throughout the criminal justice system of which biased policing is integral and well documented. They admit that an officer's racial prejudice cannot account for disparate policing outcomes, the implication being often many other overt factors show officers acted within the law and their authority. Kahn and Martin (2016) confirm the difficulty in proving racial bias's influence on disparity based on benchmarking that compares the outcome of a group with its overall representation in the population. Without direct evidence to prove racial-biased policing, they rely on the perception of bias, which is certainly a relevant factor. Kahn and Martin (2016) acknowledge that other studies tend to confirm socioeconomic status, not race, is a greater influence on police behavior.

A study by Pierson, Simoiu, Overgoor et al. (2020) evaluated 100 million police stops over several years, finding that Black drivers were stopped more often than Whites, while Hispanic drivers were stopped less than both groups. The study qualified that the disparity among the groups could be related to driver behavior rather than police bias. Since the legalization of cannabis, the number of searches during stops dropped for all groups, but Black and Hispanic drivers still tended to be searched more often, suggesting an apparent lower threshold to search minority drivers. Moreover, the study noted Black drivers were stopped less often at night, protected by a "veil of darkness" (2020, pg. 1). The researchers surmised that since it is more difficult for officers to know the race of a driver after dark, officers are less apt to selectively stop Blacks. Despite the acknowledgement of several confounding factors and a few lurking variables, and no direct evidence, the researchers still inferred that "police stops and search decisions suffer from persistent racial bias" (Pierson et al., 2020, pg. 1).

Keene (2017) analyzed salient case-law decisions that created standards for police stops. *Terry v. Ohio* (1968), which established the "objective standard," determined that officers must point to specific and articulable facts in making rational inferences to create reasonable suspicion. In a later case, *Whren v. United States* (1996), the U. S. Supreme Court upheld the concept of pretextual stops, which are minor law violations police use as justification for detentions. While the pretext violation is the legal justification, the real intent is to conduct a search or some other intrusive behavior. Keene (2017) posits the courts bypassed or ignored the underlying issue that pretextual stops are used by racially biased officers to gain access to a minority driver's cars and persons. In that the courts have given wide latitude for officers to apply reasonable suspicion for stops, it falls to the driver to assert violations under the equal protection clause of the 14th amendment, which is difficult to prevail on in the face of an objectively true violation of law. These two court cases make a clear and objective inference on police racial bias nearly impossible to support.

A court case involving the New York Police Department (NYPD) found aspects of racial bias taking place, stemming from its "stop-question-frisk" practice in the mid-1990s (*Floyd et al. v. City of New York*, 2013). The court found that Blacks were stopped and given summons to court at a rate 30% more than Whites. The practice violated *Terry v. Ohio* (1968) by omitting or ignoring an objective standard of reasonable suspicion (Garrison, 2014). The court concluded the reason for officers detaining persons was largely based on race, derived from a presentation by Professor Jeffrey Fagan whose thesis posited the stops were largely race based and discriminatory because the proportion of Blacks stopped exceeded their representative racial proportion in the NYC population (MacDonald, 2017). In this case, the policy and practice were found a *prima facie* case for discrimination. Ultimately, the stop-question-frisk policy was ruled differential to *Terry v. Ohio* (1968) for its lack of objective standard for reasonable suspicion. The NYPD stop-question-frisk policy illustrates how racial-bias amounting to discrimination can emanate from policy rather than from individual officers.

Studies failing to confirm disparity. The following studies investigated the prevalence and influence of police racial bias but either found the results mixed, weak, or unconfirmed. In most cases, the studies found other factors more compelling and significant to explain disparity in police-public contacts. Smith, Rojek, Petrocelli and Withrow (2017) noted racial groups do, indeed, commit crime at different rates and in different ways, which would explain disparate rates of police contact. Smith et al. (2017) cautioned researchers about correlating disparity in contact to racial bias. Definitive findings for police racial bias were rare among studies they reviewed, and most of the studies that have asserted a correlation "lacked the methodological rigor or statistical precision to draw cause and effect inferences" (pg. 176).

Wiggs (2019) addressed an overlooked question about assessing racial disparity: how readily can a police officer discern race prior to a car stop? Findings showed the median rate of officers who were able to identify race prior to a stop was 25%. As a control comparison, officers were able to identify age 20% of the time and gender 40% of the time. Officers not knowing the race of occupants 75% of the time before a stop would mean disparity from discrimination would have to come from 25% of officers' stops. Location, driver behavior, and driver actions were the primary factors that attract officers' attention, which tend to exclude race as consideration or factor in stops. Officers attributed racial disparities in stops simply to the *de facto* demographics in the places they tend to patrol: high crime, poverty, heavy drug and gang activity, and radio-call location.

Other studies focus on what motivates or directs officers to contact the public. The nature of that trajectory is quite pertinent to attributing discrimination on the part of the officer. While Pollock et al. (2012) recognize disproportionate police contact as a fact, their study found several variables, other than race, to account for it, making the disparity a matter of outcome and not discrimination. Based on subjects' self-reported contact, the researchers found socioeconomic factors, offending behavior, and prior police contact as predictors of police contact in the manner of questioning or arrests. Police contact was mostly predicted by gender, delinquent peers, and engaging in criminal activity. Vomfell and Stewart (2019) found the racial composition of the neighborhood was predictive of the race of the persons they searched. The study found evidence of overt awareness of not engaging in, and even avoiding behavior that could be *perceived* as racially biased

Disparity in police shootings is a smaller subset of police contacts. While small, it is highly charged, politically and socially. Research in this area has been useful to undercut the perception of discrimination as the basis for disparity in that police officers in shootings tend to have less time to premeditate. Johnson, Cesario and Pleskac (2018) found the largest correlation to a subject being shot was the subject's involvement in crime. They examined hundreds of police shootings in 2015, noting that 55% of persons shot were White and 27% were Black. The racial composition of a police department can also offer insight on racial disparity and discrimination. Johnson, Tress, Burkel, Taylor and Cesario (2019) noted that race of police officers involved in shootings tended to mirror that of the police department's demographics, tending to discount the idea that White officers engage in discrimination. James, James, and Vila (2016) noted a "reverse racism effect" in testing the effect of implicit bias and how officers responded to shoot-don't-shoot situations in a simulator. Police officers and untrained civilians were tested for their reactions to threats of armed and unarmed White or Black subjects. Police officers took more time to fire their weapons at Black subjects, implying a greater care or concern to discern the subject's true threat level (2016).

The literature on disparity in police-public contacts shows that while racial disparities do occur, they are rarely indicative of discrimination. The courts have ruled that police officers must follow an objective standard on reasonable suspicion and probable cause to make a lawful stop (*Terry v. Ohio*, 1968). A pretextual reason is good enough (*Whren v. United States*, 1996). Whatever the officer's motive, it is not material if it cannot be known as a fact. However, stopping someone solely on the appearance of race is illegal (*United States v. Brignoni-Ponce*, 1975). Research is not definitive on disparity due to discrimination, partly due to a lack of rigor in the methodologies and benchmarks used to evaluate the disparities (Smith et al., 2017). Finally, police officers are overtly aware of being perceived as racially biased. Consequently, officers take pains to avoid the label, even when the police officer's actions were justified. Such findings tend to speak to officers' lack of bias, rather than proving a bias. Next follows an explanation on criminological theories that, like the literature on disparity, tend to show how disparity in police contact is primarily a matter of outcome, not discrimination.

Disparity in Police-public Contacts Explained through Theory

Many factors play into a police officer's decision to stop a person. Police officers are motivated to stop crime, protect neighborhoods, and answer radio calls assigned, taking officers into areas where crime is most prevalent. The theories that most closely capture how police response to crime and disorder can result in disparate contact with the community include social disorganization theory (SDT) and routine activities theory (RAT).

Social disorganization theory focuses on how the breakdown of traditional social controls and organization is criminogenic. Such disorganization can be observed at many levels: cities, neighborhoods, and families. The breakdown in social order opens the door to deviant and criminal activity. Social disorganization theory is most often applied to major heterogeneous urban centers where street crime predominates (Akers, Sellers & Jennings, 2017). SDT is useful for examining disparity in police-public contact because it is an ecologically based theory; that is, it tends to focus on the location of crime and not the persons committing the crime.

Herein lies another factor that would tend to discount race as an influencing and discriminatory factor in disparity in police contacts. Police go to where the crime occurs most, and many of those calls for service are directed by the public.

The second theory applicable to this thesis is RAT, developed by Cohen and Felson (1979), which is an underlying aspect of CompStat, pioneered by NYPD Commissioner William Bratton in the 1990s (Eterno & Silverman, 2010). CompStat is both a process of inspection and accountability and a philosophy based on data-driven analysis of crime, arrests, and other criminogenic measures. As a crime-response philosophy, CompStat internalizes RAT on crime, explaining street crime as a convergence of three elements or circumstances in time and place. According to Cohen and Felson, crime can occur when three elements are present:

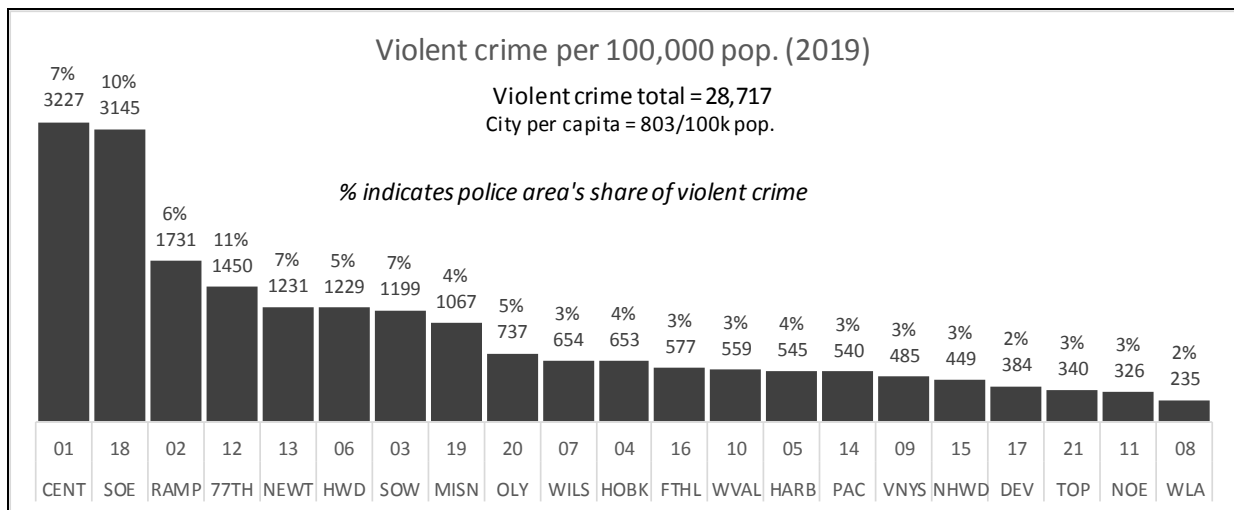
- 1) A motivated offender with criminal intentions and the ability to act on them
- 2) A suitable victim or target
- 3) The absence of a capable guardian who can prevent the crime.

When Bratton became the LAPD Chief of Police in 2002, he immediately instituted CompStat and RAT was internalized as the primary strategic approach to crime for LAPD. Indeed, the three RAT elements were displayed on the walls of LAPD’s CompStat inspection hall as a graphic set over three intersecting circles. An examination of Los Angeles crime and demographic patterns will show how RAT might account for much of the racial disparity in police-public contacts in Los Angeles.

Applying theory to Los Angeles neighborhoods. The city of Los Angeles is policed by the LAPD, an organization of about 10,000 sworn officers. The city is approximately 465 square miles with an estimated population of 4 million residents, though census data shows the population between 3.5 and 3.8 million. The city is divided into 21 police areas, each given a name and a number.

Chart 1 displays the violent crime rate by police area for the year 2019. The percentages correspond with that police area’s share of violent crime for the year. The number below the percentage indicates the violent crime rate per 100,000 (100k) residents.

Chart 1: Violent crime per 100,000 pop. (2019)



Los Angeles mayor's public data portal

As a baseline, the city’s violent crime rate for the year was 803 per 100k. The chart can be interpreted in three tier of violent crime levels:

Tier 1 – Central and Southeast. These two areas have violent crime rates over 3,000 per 100k, nearly double the rates of the six police areas in Tier 2, and five times the city rate. Seventy percent of Central’s violent crime is concentrated in less than one square mile of skidrow, the largest drug and alcohol recovery area in Southern California. The homeless population, mostly men over 30, is counted in the thousands. While 77th area exceeds Southeast in total violent crime, Southeast’s per capita is higher due to a population 2.5 times smaller than 77th. Central and Southeast account for 17% of violent crime for just 4% of the city geography.

Tier 2 – Rampart, 77th, Newton, Hollywood, and Mission. These six areas share violent-crime rates over 1,000 per 100K, about 20% above the city rate. This tier is over 40% of violent crime for just 25% of the city geography.

Tier 3 – The remaining 13 police areas make up 70% of the population and account for 42% of the violent crime. Each area contributes two to five percent of the city's violent crime total. Were all 21 police areas equally populated and sized, the ratio 1:21 (0.048) would represent an equal distribution of crime.

South Los Angeles defined. The *LAT* study (Chang & Poston, 2019a) focused on police stops in four police areas, where the highest number and greatest density of Blacks and Hispanics live. South Los Angeles is made up of police areas Southwest, 77th, Newton, and Southeast. The combined area accounts for 18% of the city population and 9% of the geography. South Los Angeles is 28% Black, and over half of all Black city residents live in this area. Hispanics make up the majority group at 63%, and just over one-quarter of the city's Hispanic population lives here, many newly arrived or first-generation immigrants. The 77th police area has the largest concentration of Black residents in the city. Those 94,000 residents are 27% of all Black residents in Los Angeles. As a combined region, 9% of the city geography and 18% of the population, South Los Angeles accounts for 35% of the city's violent crime. That share is nearly double for its population and nearly quadruple for its geography. The violent crime rate is 1,555 per 100k.

Socioeconomic indicators are useful in assessing social disorganization. Except in two cases, all four areas ranked toward the bottom 25% of socioeconomic measurements. Seventy-seventh (77th) and Newton each scored a single indicator in the upper 50%. Central and Rampart, also rank exceptionally low with these four South Los Angeles areas. Central ranks low due to its heavy homeless population in skidrow. Rampart ranks low, with a similar racial demographic as Newton. Both Central and Rampart are contiguous to the four South Los Angeles police areas, thus, adding to the size of the most crime-impacted part of the city.

The two most injurious violent crimes are homicide (*hereafter referred to as HOM*) and aggravated assault (*hereafter referred to as AGG*), which provide a useful basis for comparing the level of violence across the city by police area. The incidence of violent crime across the various police areas, juxtaposed to these areas' rankings of socioeconomic factors, tends to confirm the theory of social disorganization as an explanation for crime and disorder. Moreover, in that LAPD uses RAT as a basis for its strategy for deploying officers in the areas most prone to violent crime, it would follow that police-public contacts would be more frequent in these high-crime-low-order areas like South Los Angeles. Data also show a disparity in the race of offenders' involvement in violent crime. RAT posits that the presence of capable guardians prevents crime or results in the rapid apprehension of criminals. Thus, police deployment strategies direct police officers to where criminal activity is most prevalent and problematic. Moreover, police officers are directed by the public to criminal activity and offenders by the public's reports of crime. Describing offenders is a common and legitimate practice in law enforcement. These circumstances, then, would predict a racial disparity in police-public contact, *vis-à-vis*, police detentions or stops, compared to the general population but a close correlation to the population of likely offenders, established by public descriptions of offenders in violent crime. This finding would tend to support that police stops are based upon likely offender behavior and not on the mere race of drivers or pedestrians stopped. This study seeks to evaluate that claim.

Research questions. This research aims to answer four questions:

1. Does proportion of race of persons stopped by police correlate to proportion of that race's representation in police area's population?
2. Does proportion of race of persons stopped by police correlate to proportion of that race's representation in city's population?
3. Does proportion of race of persons stopped by police correlate to proportion of that race's representation of persons described in violent crimes for respective police area?
4. Does proportion of race of persons stopped by police correlate to proportion of that race's representation of persons described in violent crimes for the city?

Hypothesis: The racial disparity in police stops is predicted by the racial disparity of violent crime offenders as described by victims and witnesses. The proportion of persons stopped by police, by race, will correlate more closely and with greater significance when compared to the disparity of persons described in violent crimes, and less significantly when compared to the general population.

Methodology

Benchmark

The *LAT* study results were confounded by the denominator they used to compare disparity: racial proportions in the general population. This benchmark is problematic in that crime does not occur following general population demographics. The evidence so far indicates that violent crime occurs in Los Angeles at different levels ecologically as well as demographically.

Police are called to those places more where crime occurs, and they are directed to offenders, largely by the public and less frequently upon the officers' own initiative. This tends to remove or limit an officer's discretion to act based on a racial bias. Accepting this as a given, then officers are acting on public, second-hand, objectively described behavior when responding to radio calls, crime broadcasts, and most intelligence coming from crime reports.

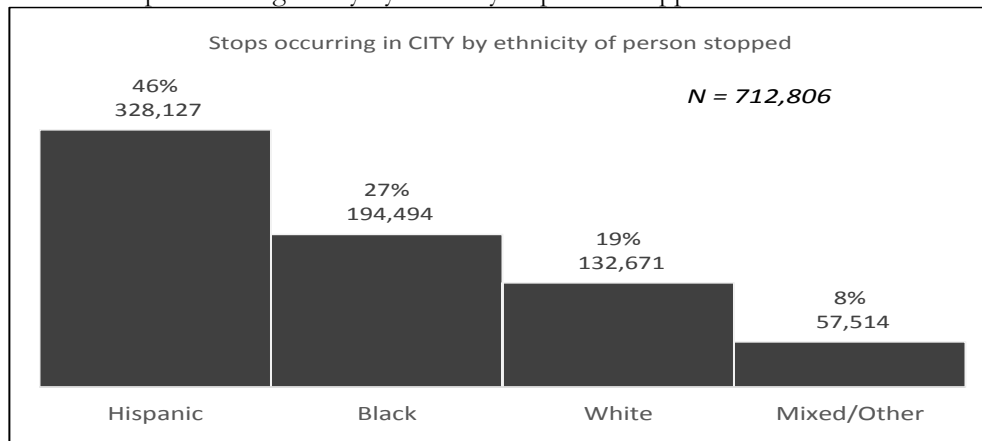
Bonner and Stacey (2018) argue, "Racial profiling research has also been plagued by an inability to gain consensus regarding valid comparison groups – commonly termed the "denominator problem" in benchmarking analyses" (pg. 84). Mac Donald (2017) highlighted this issue in the judge's decision in the NYPD stop-question-frisk decision. In short, different benchmarks lead to different results (Ridgeway, 2007). Several studies have addressed the challenge of finding valid benchmarks, especially in attempting to discern police racial bias (Smith et al., 2017; Smith et al., 2019; Tregle, Nix & Alpert, 2019). Thus, it becomes a question of benchmark validity. A lack of validity will result in specious and unreliable results. Using general population might be appropriate as a benchmark but not always. A study of minorities killed by police used the general population as a benchmark to determine racial disparity among those killed; however, the proportionality of race for the city also matched the racial proportion of arrests, adding validity to that benchmark.

The *LAT* benchmark of the general population would be valid if the comparison were proportion of public stopped or proportion of persons cited. If the inquiry is how much does racial bias account for police stops, the outcome is confounded by all the stops that had a legal justification. Working indirectly, the possibility of racial bias can be better estimated by eliminating the legally justified stops and the stops where officers had no discretion. Herein lies the validity of the benchmark to measure the hypothesis. Using statistics derived from the public greatly reduces officer discretion in the ability to discriminate, thus, raising external validity. The amount of the unexplained variance ($1 - R^2$) in a linear regression could estimate how much racial bias is in play. The higher the R^2 , the less racial bias would be at issue. It is pertinent to remember the main issue at hand is the perception that Blacks are discriminated against. If the unexplained variances in the White or Hispanic groups were greater than the Black group, most persons would not presume the unknown variance was discrimination. This conclusion would, thus, dilute the thesis that the unexplained variance in the Black group is due to race and not due to some other factor similarly acting on the White and Hispanic groups. Based on this, this research compares police stops to both benchmarks, suspects described in violent crimes and then to the general population.

Data Sampling

Dependent variable. Police stop data was gathered from the Los Angeles Mayor's public data portal (Garcetti, 2020). The information was captured from the Automated Field Data Report (AFDR) database into which all police officer stops are entered per state law. The total for 2019 was 718,795, of which 5,989 occurred outside the Los Angeles city limits. These stops were excluded from the study, leaving $N=712,806$. Officers are required to indicate the race of persons stopped on an FDR, which includes a category for mixed race. For the purposes of this study, race was limited to Black, Hispanic, and White. Mixed, Other, and all categories of Asian descent were counted and categorized as a single group, which amounted to 8% of persons stopped. Chart 2 demonstrates proportion of Hispanic, Black, White, and Mixed/Other (Other) persons stopped in 2019. This data represents the dependent variable (DV_{stops}).

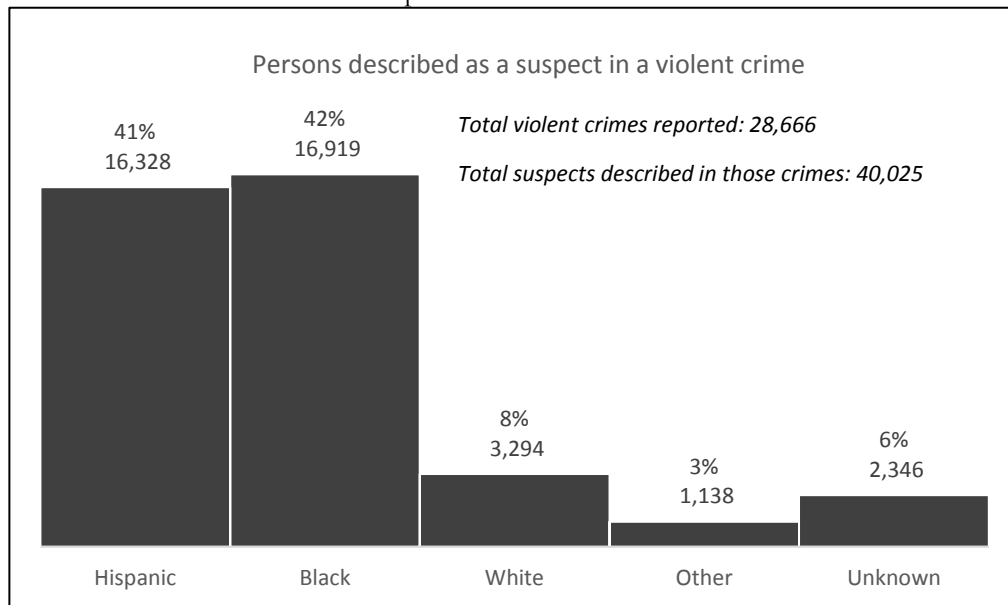
Chart 2: Stops occurring in city by ethnicity of person stopped



Los Angeles mayor's public data portal

Independent variables. Population data was collected from the U. S. Census Bureau website (United States, 2019). Zip-code data were aggregated to correspond with LAPD police area boundaries. This dataset was used as one independent variable ($IV_{population}$), the comparison (benchmark) used in the *LAT* study. Part 1 crime data for violent crimes (HOM, AGG, rape, and robbery) were obtained from Garcetti (2020) for 2019. Of these crimes, there were 28,666 victims, with 40,025 persons described as suspects. This dataset constitutes the second independent variable ($IV_{described}$), where $N = 40,025$. The described suspects were grouped by race (group) within the police area of occurrence. The primary groups examined were Hispanic, Black, and White. All categories of Asian, Native American, and Other were grouped in a single category, accounting for 3% of the total. A fifth category for “Unknown” accounted another 6% of the total for suspects whose race was not known at the time the crime was reported. Chart 3 shows the citywide frequencies and proportions of suspects described in violent crimes, represented by $IV_{described}$.

Chart 3: Persons described as a suspect in a violent crime



Los Angeles mayor's public data portal

Findings

Tabular comparison. The analyses begin with comparing each group's proportion of stops (DV_{stops}) to its proportion of persons described in violent crimes ($IV_{described}$), and separately to its proportion in the population ($IV_{population}$). Table 1 tabulates and compares ratios for DV_{stops} and $IV_{described}$. A ratio with asterisk indicates $DV_{stops} > IV_{described}$, which means that group was stopped at a greater rate to their alleged involvement in violent crime. Ratios without an asterisk indicate the respective group's stop rate was equal to or below the group's $IV_{described}$ rate.

Table 1: Stops compared to described in violent crime ($IV_{described}$)

		Hispanic		Black		White	
		H-stops	Described	B-stops	Described	W-stops	Described
CENT	01	0.36*	0.25	0.34	0.60	0.19*	0.07
RAMP	02	0.58	0.64	0.18	0.23	0.15*	0.06
HOBK	04	0.88*	0.80	0.04	0.08	0.05*	0.04
NOE	11	0.57	0.67	0.07	0.13	0.26*	0.12
NEWT	13	0.65*	0.48	0.28	0.44	0.04*	0.02
SOW	03	0.35*	0.25	0.55	0.67	0.06*	0.02
HARB	05	0.65*	0.55	0.13	0.19	0.18*	0.13
77 th	12	0.33*	0.19	0.64	0.72	0.02*	0.01
SOE	18	0.37*	0.25	0.60	0.69	0.01*	0.01
VNYS	09	0.46	0.50	0.12	0.23	0.30*	0.14
WVAL	10	0.44	0.52	0.10	0.17	0.33*	0.16
NHWD	15	0.45*	0.45	0.15	0.26	0.31*	0.16
FTHL	16	0.71*	0.67	0.06	0.11	0.17*	0.12
DEV	17	0.44	0.49	0.09	0.21	0.33*	0.17

MISN	19	0.74*	0.73	0.07	0.11	0.12*	0.07
TOP	21	0.41	0.44	0.11	0.25	0.37*	0.20
HWD	06	0.30*	0.28	0.30	0.46	0.31*	0.18
WILS	07	0.27*	0.26	0.27	0.52	0.34*	0.11
WLA	08	0.22*	0.20	0.15	0.39	0.46*	0.29
PAC	14	0.26*	0.25	0.22	0.39	0.42*	0.24
OLY	20	0.50	0.50	0.20	0.33	0.13*	0.04
CITY	CITY	0.46*	0.41	0.27	0.42	0.19*	0.08

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Table 2 compares ratio for DV_{stops} and $IV_{population}$. A ratio with asterisk indicates $DV_{stops} > IV_{population}$, which means that group was stopped at a greater rate to their representation in the population. No asterisk indicates the respective group's stop rate was equal to or below the group's $IV_{population}$ rate.

Table 2: Stops compared to population ($IV_{population}$)

		H-stops	Population	B-stops	Population	W-stops	Population
CENT	01	0.36*	0.33	0.34*	0.15	0.19	0.20
RAMP	02	0.58	0.61	0.18*	0.01	0.15	0.16
HOBK	04	0.88*	0.82	0.04*	0.01	0.05	0.06
NOE	11	0.57*	0.41	0.07*	0.03	0.26	0.33
NEWT	13	0.65	0.84	0.28*	0.14	0.04*	0.01
SOW	03	0.35	0.58	0.55*	0.23	0.06	0.08
HARB	05	0.65*	0.60	0.13	0.14	0.18*	0.17
77 th	12	0.33	0.53	0.64*	0.42	0.02	0.02
SOE	18	0.37	0.62	0.60*	0.29	0.01	0.02
VNYS	09	0.46*	0.39	0.12*	0.05	0.30	0.46
WVAL	10	0.44*	0.32	0.10*	0.04	0.33	0.50
NHWD	15	0.45*	0.31	0.15*	0.05	0.31	0.55
FTHL	16	0.71	0.71	0.06*	0.02	0.17	0.20
DEV	17	0.44*	0.30	0.09*	0.06	0.33	0.42
MISN	19	0.74*	0.71	0.07*	0.03	0.12	0.15
TOP	21	0.41*	0.34	0.11*	0.05	0.37	0.45
HWD	06	0.30*	0.18	0.30*	0.06	0.31	0.63
WILS	07	0.27	0.29	0.27*	0.12	0.34	0.40
WLA	08	0.22*	0.09	0.15*	0.04	0.46	0.65
PAC	14	0.26*	0.20	0.22*	0.08	0.42	0.51
OLY	20	0.50	0.52	0.20*	0.06	0.13*	0.11
CITY	CITY	0.46*	0.45	0.27*	0.10	0.19	0.30

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White group. The White group registered $DV_{stops} > IV_{described}$ for every police area, indicating persons were stopped at a greater rate across the city than their reported involvement in crime would indicate. Indeed, the difference in the citywide stop rate for crime was significantly larger by 2.4. (0.19 / 0.08). The White group registered $DV_{stops} > IV_{population}$ in three of 21 police areas. The difference in this citywide stop rate for population was significantly lower by 0.63 (0.19 / 0.30).

Black group. The Black group showed $DV_{stops} > IV_{described}$ in no police areas, indicating persons were stopped less often across the city than the comparative involvement in crime. The difference in the citywide stop rate for crime was significantly lower by 0.64. (0.27 / 0.42). The Black group showed $DV_{stops} > IV_{population}$ in all but one police area. The difference in the citywide stop rate for population was significantly higher by 2.7. (0.27 / 0.10).

Hispanic group. The Hispanic group registered $DV_{stops} > IV_{described}$ for 13 of 21 police areas, indicating persons of the group were stopped at mixed rates across the city than their reported involvement in crime would indicate. The difference in the citywide stop rate for crime was small by 1.1. (0.46 / 0.41). The Hispanic group also registered $DV_{stops} > IV_{population}$ for 13 of 21 police areas. The difference in the citywide stop rate for population was even at 1.0. (0.46 / 0.45).

Multivariate regression. Table 3 shows the results of the initial multivariate regression using both independent variables, demonstrating a strong correlation for each group between number of police stops compared to the independent variables.

Table 3: Multivariate regression for DV_{stops}

Group	Correlation	R-squared	S. E.	IV Described		IV Population	
				P-value	Beta	P-value	Beta
Hispanic	0.76	0.57	5128.9	0.00	12.550	0.35	0.034
Black	0.98	0.96	2253.5	0.00	11.106	0.90	-0.006
White	0.76	0.58	2627.3	0.01	26.777	0.33	0.017

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With an $\alpha = 0.01$, the variance in the number of stops can be attributed to changes in IV_{described}, with a confidence of 0.99 that the variance is not due to random chance; thus, the null hypothesis can be rejected. However, for IV_{population}, the null hypothesis cannot be rejected as the *p-values* > 0.01 for all three groups, indicating the proportions in populations explain none of the variance in rates of DV_{stops}. These findings provide initial support that police stops and a group's level of involvement in crime are, indeed, correlated. Testing the hypotheses with a second linear regression, omitting IV_{population}, will provide more reliable results.

Bivariate regression. Table 4a shows results of a bivariate regression for DV_{stops} and IV_{described}. Correlations for Hispanic and White were the same at 0.74, while the correlation for the Black group was 0.98, demonstrating strong correlations for all three groups.

Table 4a: DV_{stops} / IV_{described} regression

	Hispanic	Black	White
Multiple R	0.74	0.98	0.74
R Square	0.55	0.96	0.55
Adjusted R Square	0.53	0.95	0.53
Standard Error	5115.95	2194.47	2627.92
Observations	21	21	21
Independent variable			
Coefficients	14.76	11.00	32.11
Standard Error	3.07	0.53	6.60
P-value	0.000	0.000	0.000

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With an $\alpha = 0.01$, the variance in number of stops can be predicted from changes in IV_{described}. With *p-values* < 0.01 for all three groups, the variance in stops is not due to random chance; thus, the null hypothesis can be rejected with a confidence level of 0.99.

Table 4b shows results of a bivariate regression for DV_{stops} and IV_{described}. Unlike the multivariate regressions, these bivariate regressions for IV_{population} registered *p-values* < 0.01. Thus, the null hypotheses can be rejected now. Nevertheless, comparing the correlations, R₂ and β coefficients with the IV_{described} regression, one sees much lower variance and significance, greatly reducing IV_{population} as a reliable variable for predicting police stops.

Table 4b: DV_{stops}/ IV_{population} regression

	Hispanic	Black	White
<i>Multiple R</i>	0.56	0.80	0.59
<i>R Square</i>	0.32	0.63	0.34
<i>Adjusted R Square</i>	0.28	0.61	0.31
<i>Standard Error</i>	6288.99	6432.44	3188.79
<i>Observations</i>	21	21	21
Independent variable			
<i>Coefficients</i>	0.10	0.40	0.05
<i>Standard Error</i>	0.04	0.07	0.02
<i>P-value</i>	0.008	0.000	0.005

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Discussion

This comparison of over 700,000 police stops and 40,000 persons described as suspects in violent crimes provided important context for assessing racial disparities in police stops in Los Angeles. The racial disparity in police stops is predicted by the racial disparity of violent crime offenders as described by victims and witnesses. Moreover, the proportion of the race of persons stopped by police correlated more closely and with greater significance when compared to the disparity of persons described in violent crimes (IV_{described}) and less significantly when compared to the general population (IV_{population}). We found that 0.96 of the variances in police-stops for Blacks was explained by the number of Blacks described in violent crimes. When IV_{population} and IV_{described} were both regressed with DV_{stops}, the null hypothesis for IV_{population} could not be rejected.

We found that 0.96 of the variances in police-stops for Blacks was explained by the number of Blacks described in violent crimes. When IV_{population} and IV_{described} were both regressed with DV_{stops}, the null hypothesis for IV_{population} could not be rejected. In separate bivariate regressions, IV_{described} remained significant with $R^2 = 0.96$, and a $\beta = 11.0$. A bivariate analysis for IV_{population} registered a $p\text{-value} < .001$, but $R^2 = 0.63$ and $\beta = 0.40$ explained a much smaller variance and significance compared to using IV_{described} as the benchmark variable. Similar and consistent correlations for Hispanics and Whites tended to affirm the reliability of using the rate of persons described in violent crimes as a benchmark for police stops.

Using the general population as a benchmark to compare police stops lacks external validity, when one considers only 1 in 5 (0.20) persons have any police contact in a year, which happens to match the ratio of LAPD stops to the general population (700k / 4 million) for 2019 (Davis, Whyde, & Langton, 2018). The 80% of the population who have no police contact are irrelevant to the comparison and confound the results. Using population as a benchmark measures outcome, that is, the outcome of the number of persons stopped to the population, but it does not provide much explanation for causation. One must be circumspect about presuming discrimination without clear evidence. Doing so is irresponsible and often spurious. For example, Blacks represent about 13.4% of the U.S. population (United States, 2019). Were the approach of outcome always the right, proper, and expected proportion, one would expect to see Black professional sports players in the U. S. at about 13.4%. Instead, Black basketball players make up over 80% of the National Basketball Association (Lapchick & Balasundaram, 2017). This disparity is real, but it does not equal discrimination. No one would assert that the disparity among White players is discriminatory. Professional sports tend to be a merit-based system; the best players get the contracts. Discrimination might still exist, but one would have to sift through a variety of variables to first eliminate the players who have made it on merit to accurately assess any discriminatory disparity.

This analogy is relevant in assessing disparity among police stops. Most police actions are based upon some behavior observed by the police officer or directed by a third party's complaint. Thus, police officers' discretion is greatly limited in their reactivity to crime and calls for service. As such, the potential incidence of discrimination is reduced. Violent crime is a useful benchmark in that it is a crime of significance for police as well as the public. Violent crime tends to be a higher priority for police response. Wherein population as a benchmark includes everyone, relatively few people commit violent crimes. Violent crime represents a benchmark that counts just those persons in which police have a legitimate interest and persons who tend to attract police attention. Moreover, the basis for contact is generally directed by the public, not initiated by the officer.

Disparities in violent crime are well known and can be readily discerned. SDT explains how a breakdown in social controls in neighborhoods is criminogenic and most prominent in heterogeneous urban centers (Akers, Sellers & Jennings, 2017). From this, much of violent crime can be ascribed to ecology (location) and behavior. Racial disparity among persons described committing violent crimes then lies at the feet of the offender, not the police. While this fact would not completely exclude all police discrimination as a factor, the ability to eliminate the legitimate police actions from illegitimate ones would be necessary to assess what part of disparity might be caused by police discrimination.

This study found clear disparity among the Hispanic, Black, and White groups in the incidence of violent crime. Hispanics were represented as suspects in 41% of violent crime, while 45% of the population; Blacks described in 42% of violent crime, while 10% of the population; and Whites described in 8% of violent crime, while 30% of the population. The ecological incidence of crime confirmed SDT. Two police areas, Central and Southeast, accounted for 17% of violent crime in just 4% of the city. Eight areas were less than 33% of the population but 58% of the violent crime. Blacks were disproportionately involved in HOM and AGG, and using a gun 16% of the time, compared to gun use by Hispanics 13% and Whites 5%. Blacks were described in HOM and AGG 3.3 times more than Whites. Hispanics were involved in HOM and AGG about 4 times that of Whites, and 1.2 times that of Blacks. The four areas of South Los Angeles, primarily a mix of Black and Hispanic populations, had a violent crime rate of 1,555 per 100k, nearly twice the city's rate (803 per 100k).

Like SDT, RAT is ecologically based. Crime tends to happen in some places more than others. In that the main function of policing is to maintain order, apprehend offenders, and prevent crime, police tend to spend more time in places where the incidence of crime is higher. The rate of police stops in South Los Angeles and the most impacted areas for violent crime was consistent with predictions based on RAT. Police are called to these locations and provided descriptions of suspects seen in crimes. Applying the principles of CompStat, timely accurate intelligence, rapid response, effective tactics, and relentless follow up, LAPD units make stops based partly on knowledge of crime trends, patterns, and wanted suspects (Eterno & Silverman, 2010). Shared information, knowledge of repeat offenders, and gang intelligence are some legitimate motivators that influence police stops. Court decisions have upheld officers' use of pretext violations to justify stops.

Using the violent crime benchmark provided quite different results than did population. The disparity for Blacks reversed with the new benchmark. Whereas stops for Blacks were 2.7 times the group's population, comparing stops to crime involvement, Blacks were described in crime 1.5 times more than they were stopped by police. This reverse disparity tends to undercut any room for inferring discrimination. Hispanics, whose stops-to-population was about even, were stopped 1.1 times more often than their involvement in crime. Whites experienced the greatest disparity in stops-to-crime. Whereas Whites were stopped about 27% less than their representative population, they were stopped 2.4 times more than their involvement in crime. Despite this disparity, no one would assert Whites are experiencing discrimination. The strongest inference would be, many more of the stops are correlated to traffic enforcement rather than crime, given Whites' low involvement in violent crime.

Conclusion

Chang and Poston (2019a) relied on population as the benchmark to measure and compare police stops and found a high rate of racial disparity in the stops related to Blacks. They dutifully qualified that their study did not discern the reasons for officers' stops, nor could the study prove Metro officers racially profiled Black drivers. They interviewed civil rights attorneys and other critics of LAPD, who overtly adopted the underlying implications from the statistics and attributed the disparity to discrimination. Chang and Poston (2019b) interviewed several residents of South Los Angeles who characterized past police stops as discriminatory while admitting they were former gang members, hanging out with gang members at a park, on probation, or driving a car with paper plates, all reasonable stop situations. Another inference of police discrimination came one year after the *LAT* study when George Floyd was killed. Many inferred his death as racial discrimination, and Mayor Garcetti became the first U. S. mayor to call for defunding the police.

Contextualizing disparity does not mean discrimination does not exist. The comparison of police stops to crime is significant in explaining one aspect of police-public contact. Discrimination can be so covert that it is impossible to prove. Researchers have cautioned about correlating disparity in contact to racial bias. Definitive findings are rare, and many studies have fallen short on what can scientifically stand up as evidence of police discrimination (Smith et al., 2017). Were a police officer merely to stop a person for the color of their skin, it would, indeed, be discriminatory, but in the presence and application of a legitimate law violation, the stop is legal. Certainly, an officer could act on an ulterior motive, such as discrimination, but discerning this fact is difficult.

Two practices tend to mediate police officers' discriminatory behavior. The first practice is the use of body-worn cameras, which record police-public contacts. This technology is becoming more common and gradually implemented at LAPD since 2015. The second practice is accepting complaints alleging racial bias, which LAPD has done for many years. The frequency of such complaints compared to the totality of police stops provides some useful context by which to estimate how much discrimination might be unaccounted for in the regression model. According to an annual LAPD report on biased policing, LAPD received 210 biased-policing complaints in 2017. Black complainants initiated 61% of the reports, with 21% coming from traffic stops. Based on 1.7 million public contacts that year, the rate of racial-biased complaints was 0.01%. That number becomes even smaller when considering only the complaints from Black drivers. The same year, LAPD closed 278 racial-biased complaints containing 518 racial-biased allegations. Of those, 459 allegations were unsubstantiated, 30 mediated with the complainant (meaning, the parties discussed the perceptions and agreed to close the complaint), 26 insufficient evidence, and 3 not resolved (LAPD, 2018). No allegation of racial-biased policing was sustained. Nevertheless, just as Fryer (2019) remarked that scrutinizing police shootings can mediate disparity, so too, the knowledge of being scrutinized on a claim of racial bias should have some mediating effect on officers and discrimination. Pierson et al. (2020) found officers quite aware of the public scrutiny, and the misperception and unfair accusations weighed on them. Vomfell and Stewart (2019) found police officers' fear of being stereotyped as racists resulted in reducing the risk by avoiding searching minorities. Covert discrimination is also mediated in police departments, like LAPD and NYPD, where minority officers are the majority and police executives are minorities (Skolnick, 2008). More to the point, how much discrimination can be lurking among police stops when the correlation of stops to violent crime is so high and the incidence of racially biased complaints are so low, in addition to these other mediating factors?

Assessing disparity is relative to the basis of the comparison. The disparity in the race of persons stopped by police, compared to the representation of that person's race in the population, gives a much different ratio than comparing police stops to the population of persons described in crime. The choice of a benchmark is vital to accurately measure any cause-effect relationship. Poor benchmarks lead to spurious conclusions, false assumptions, and bad policy. The more important take away from this study emphasizes that racial disparity does not equal discrimination. Indeed, attributing discrimination to any group where there is none is wrong and doing so can have a detrimental effect on police morale and the public's approbation of police. Stereotyping police as discriminatory where evidence tends to show otherwise may make some persons feel better, but it only makes recruiting the best police candidates more difficult while emboldening offenders, making society less safe.

Disclosure Statement

The authors have no conflicts of interest to declare.

Funding

No funding was provided for this project.

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