



Police Killings in the U.S.

INEQUALITIES BY
RACE/ETHNICITY AND
SOCIOECONOMIC POSITION

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PEOPLE'S POLICY PROJECT

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INTRODUCTION

Research on social inequality in US police killings has focused on race/ethnicity while largely ignoring the role of socioeconomic position. Prior research has found substantially higher rates of police killings among black people, and moderately higher rates among Latinos, compared to whites in the US.¹ The degree to which socioeconomic factors contribute to racial inequalities in police killings is unclear, and data on the socioeconomic position of those killed by police is not readily available. Using census tract poverty rate as a proxy for individual socioeconomic position, this paper aims to:

- 1 describe racial/ethnic differences in rates of police killings;
- 2 describe socioeconomic patterning of police killings within and between racial/ethnic groups; and
- 3 estimate the degree to which racial/ethnic inequalities in police killings are attributable to differences in the population distribution of census tract poverty.

Methods

I obtained data on police killings from Fatal Encounters,² an independent nonprofit organization that tracks police killings based primarily on news media reports. Prior research has found databases that aggregate news media reports on police killings capture the vast majority of these incidents.³ For the purpose of the analyses below, I included police killings that occurred during the period January 1, 2015 to June 9, 2020 in which the individual died due to asphyxiation, restraint, Taser shock, gunshot wounds, or blunt force trauma inflicted by a law enforcement officer. In most cases, Fatal Encounters obtained data on race/ethnicity based on news media or public documents, and in rare cases (9% of the analytic sample) relied on validated methods to impute race based on the name and geographic location of the decedent. Due to small sample

sizes for other racial/ethnic groups, I solely included decedents who were (non-Hispanic) white, (non-Hispanic) black, or Latino. While Fatal Encounters classified a small number of decedents as “Middle Eastern”, I recoded these individuals as white based on standard US Census racial categories.

I used census tract poverty rate as a proxy for individual socioeconomic position. Fatal Encounters geocodes police killings to the location where the injury occurred; I matched these coordinates to census tracts. I removed incidents that occurred on a highway with no intersection as these geocodes were unlikely to be precise. I additionally removed incidents in which a Customs and Border Patrol agent killed an individual because the location of these incidents (often near the US-Mexico border or in a detention center)

$\frac{n}{p}$	$\frac{n}{p}$	$\frac{n}{p}$
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$\frac{n}{p}$	$\frac{n}{p}$	$\frac{n}{p}$
$\frac{n}{p}$	$\frac{n}{p}$	$\frac{n}{p}$

was unlikely to serve as a valid proxy for socioeconomic position.

I then obtained data on census tract poverty rates from the US Census American Community Survey 2018 5-year estimates, which I used to group census tracts into poverty quintiles. I also obtained census tract-level data on the population size for each racial/ethnic group. I aggregated all data into 15 strata—3 racial/ethnic groups each containing 5 poverty quintiles. Each stratum was assigned a numerator (number of deaths) and denominator (population) specific to that racial/ethnic group and poverty quintile. I multiplied each population by 5.4—the number of years in the study period—so that subsequent rate estimates would be annualized.

I calculated rates of police killings for the 15 population strata by dividing the num-

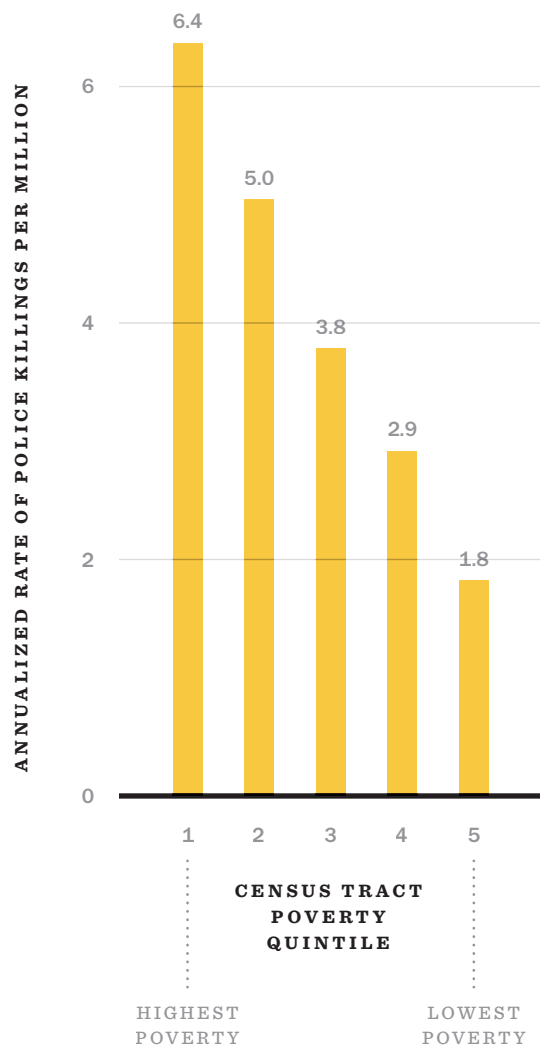
ber of deaths by the number of person-years within each group. Then, to determine the contribution of census tract poverty to racial/ethnic inequalities, I estimated police killing rates by race/ethnicity in two ways.⁴ The first calculation used the observed population distribution of poverty quintiles among racial/ethnic groups (e.g. the highest-poverty quintile for the black population received a weight of 0.366 because 36.6% of black people live in census tracts in this quintile). The second calculation reweighted the strata so that the poverty quintile distributions among black and Latino individuals matched that of the white population (e.g. the highest-poverty quintile for the black population received a weight of 0.096 because 9.6% of whites live in census tracts in this quintile). I used weighted negative binomial regression to estimate all rates.

Results

A total of 6,451 police killings met the study inclusion criteria: 3,353 of the individuals killed were white, 1,746 were black, and 1,152 were Latino. Whites had the lowest overall rate of police killings (3.3 per million) followed by Latinos (3.5 per million). The rate of police killings for the black population was more than double that of whites: 7.9 per million.

For the overall population, the rate of police killings increased as census tract poverty increased (Figure 1). In the lowest-poverty quintile, the rate of police killings was 1.8 per million.⁵ In contrast, the rate in the highest-poverty quintile was 6.4 per million, more than three times that of the lowest-poverty quintile.

FIGURE 1 ▶
Annualized rates of police killings
by census tract poverty quintile.

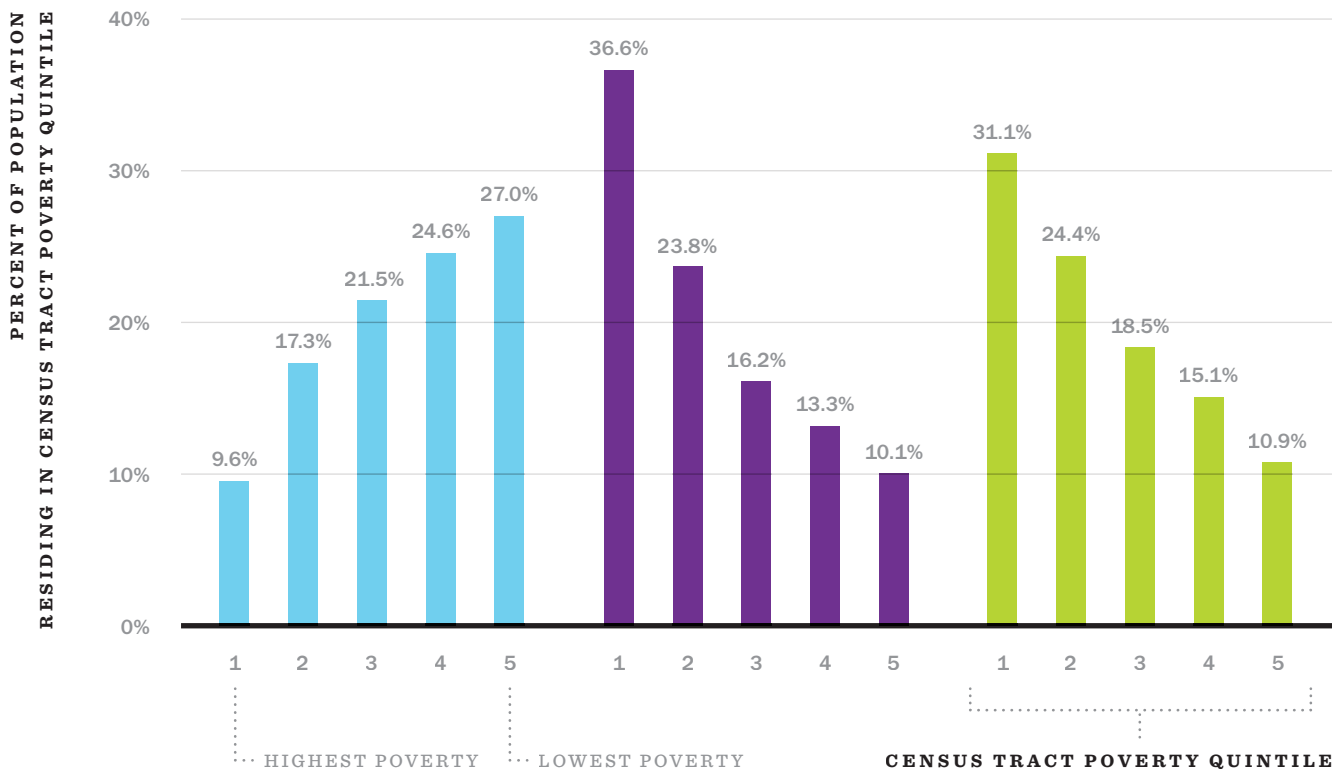


Census tract poverty rates were considerably higher for the black and Latino populations relative to whites. Median census tract poverty was 9.4% for whites compared to 18.7% for black and 16.8% of Latino individuals. A plurality of white people lived in the lowest-poverty quintile (Figure 2), and the share of the white population decreased as poverty increased. The pattern was reversed for the black and Latino populations, whose pluralities resided in the highest-poverty census tract quintile.

FIGURE 2

Percent of racial/ethnic groups residing in each census tract poverty quintile.

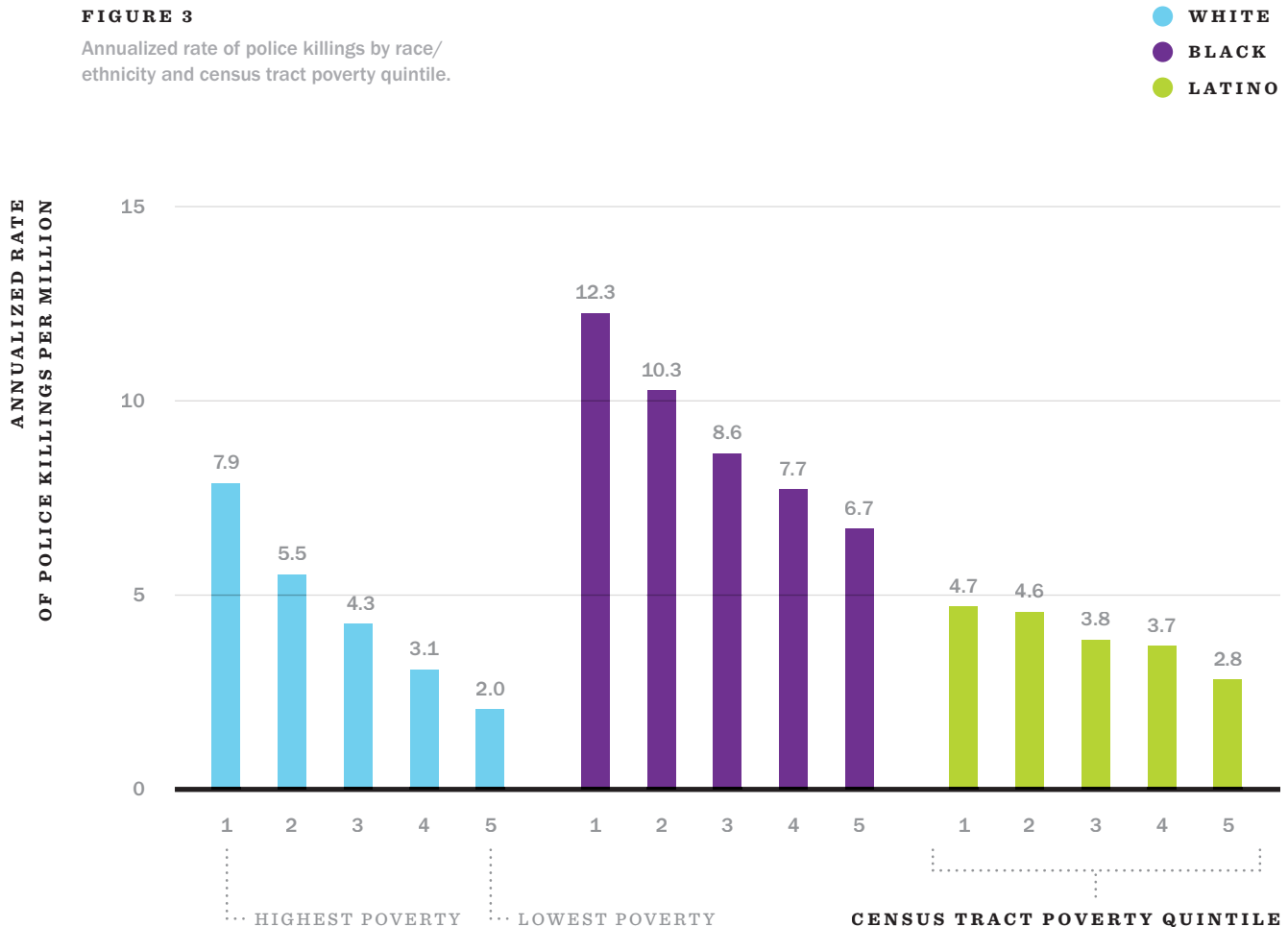
- WHITE
- BLACK
- LATINO



Within all three racial/ethnic groups, rates of police killings were higher with increasing census tract poverty (Figure 3). The relationship between poverty quintile and police killings was strongest for whites,⁶ for whom the rate was nearly 4-fold higher in the highest-poverty quintile (where it 7.9 per million) relative to the lowest poverty quintile (where

it was 2.0 per million). For the black population, the police killing rate was 1.8-fold higher in the highest-poverty quintile relative to the lowest-poverty quintile (12.3 versus 6.7 per million). The relationship was weakest for Latinos, whose rate in the highest-poverty category was 1.5-times that of the lowest-poverty quintile (4.7 versus 2.8 per million).

FIGURE 3
Annualized rate of police killings by race/ethnicity and census tract poverty quintile.



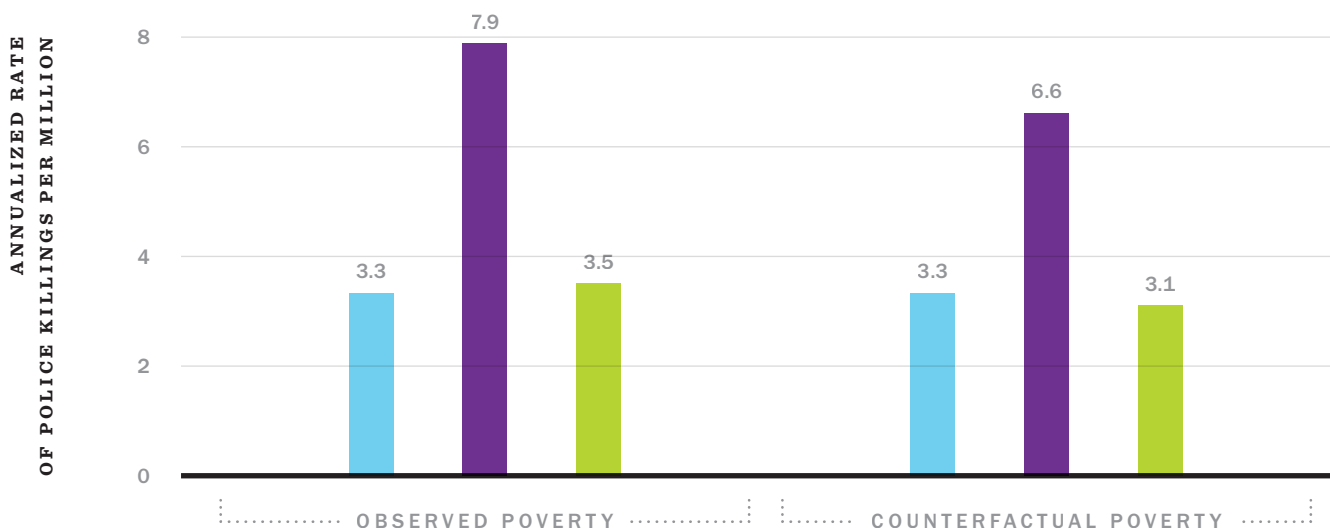
Under a counterfactual scenario in which the distribution of poverty quintiles among black people is equal to that of whites, police killings would decrease from the observed rate of 7.9 per million to 6.6 per million (Figure 4). This is equivalent to a 28% reduction in the black-white gap in police killing rates on the additive scale (the rate difference for black versus white populations is 4.6 per million under the observed poverty distribution versus 3.3 per million under the counterfactual distribution).

For Latinos, the rate of police killings was 3.5 under the observed poverty distribution and was 3.1 per million under a counterfactual poverty distribution. The counterfactual rate for Latinos was lower than the observed rate for whites, 3.3 per million. Therefore, the poverty distribution is sufficient to explain the entire Latino-white gap in police killings, and Latinos experienced a lower rate of police killings than would be expected given their observed population distribution of census tract poverty quintiles.

FIGURE 4

Annualized rates of police killings by race/ethnicity under observed and counterfactual census poverty distributions.

- WHITE
- BLACK
- LATINO



COUNTERFACTUAL

CENSUS TRACT POVERTY SET TO THE DISTRIBUTION OF THE NON-HISPANIC WHITE POPULATION FOR ALL RACES/ETHNICITIES

Discussion

In addition to confirming previously documented racial/ethnic inequalities in the United States, the analyses above identify strong socioeconomic inequalities in rates of police killings. Rates of police killings increase in tandem with census tract poverty for the overall population, and within the white, black, and Latino populations. For white people, the rate of police killings among the poorest fifth of census tracts (7.9 per million) is similar to the rate among black people in census tracts with the second-lowest poverty (i.e. the second quintile; 7.7 per million).

Higher poverty among the black population accounts for a meaningful, but relatively modest, portion of the black-white gap in police killing rates. In contrast, higher census tract poverty fully explained the Latino-white gap, and the police killing rate among Latinos was lower than expected given their relatively high rates of census tract poverty.

There are a few important limitations of these analyses to consider. First, census tract poverty is an imperfect proxy for individual socioeconomic status, as the individual may not have lived in the area where the police killing occurred. Prior research suggests that a person is likely to spend time in areas that are similar socioeconomically to the areas where they live.⁷ However, it is possible that police target individuals precisely because officers view them as ‘not belonging’ in a community. Second, the analysis of census tract poverty’s contribution to racial/ethnic gaps in police shootings may be affected by mediator-outcome confounding including, for example, prior common causes of both poverty distribution and police killing rates such as geographic region. Finally, Latinos are a heterogeneous group that includes individuals of multiple racial backgrounds, and I was unable to explore how this may translate into differences in rates of police killings within the Latino population. **3P**

Notes

- 1 See, for example, Bui, A.L., Coates, M.M. and Matthay, E.C., 2018. Years of life lost due to encounters with law enforcement in the USA, 2015–2016. *J Epidemiol Community Health*, 72(8), pp.715–718.
- 2 <http://www.fatalencounters.org>
- 3 Feldman, J.M., Gruskin, S., Coull, B.A. and Krieger, N., 2017. Quantifying underreporting of law-enforcement-related deaths in United States vital statistics and news-media-based data sources: A capture–recapture analysis. *PLoS Medicine*, 14(10).
- 4 This method is akin to estimating “natural direct effects” in the mediation analysis literature.
- 5 The lower bounds for poverty rate quintiles were Q1: 100%; Q2: 23.9%; Q3: 15.1%; Q4: 9.7%; Q5: 5.6%.
- 6 Strongest on the multiplicative scale. On the additive scale, the relationship for black and white was very similar, increasing by about 6 deaths per million for the highest- versus lowest-poverty quintiles.
- 7 Wang, Q., Phillips, N.E., Small, M.L. and Sampson, R.J., 2018. Urban mobility and neighborhood isolation in America’s 50 largest cities. *Proceedings of the National Academy of Sciences*, 115(30), pp.7735–7740.

PUBLISHER

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DESIGN

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