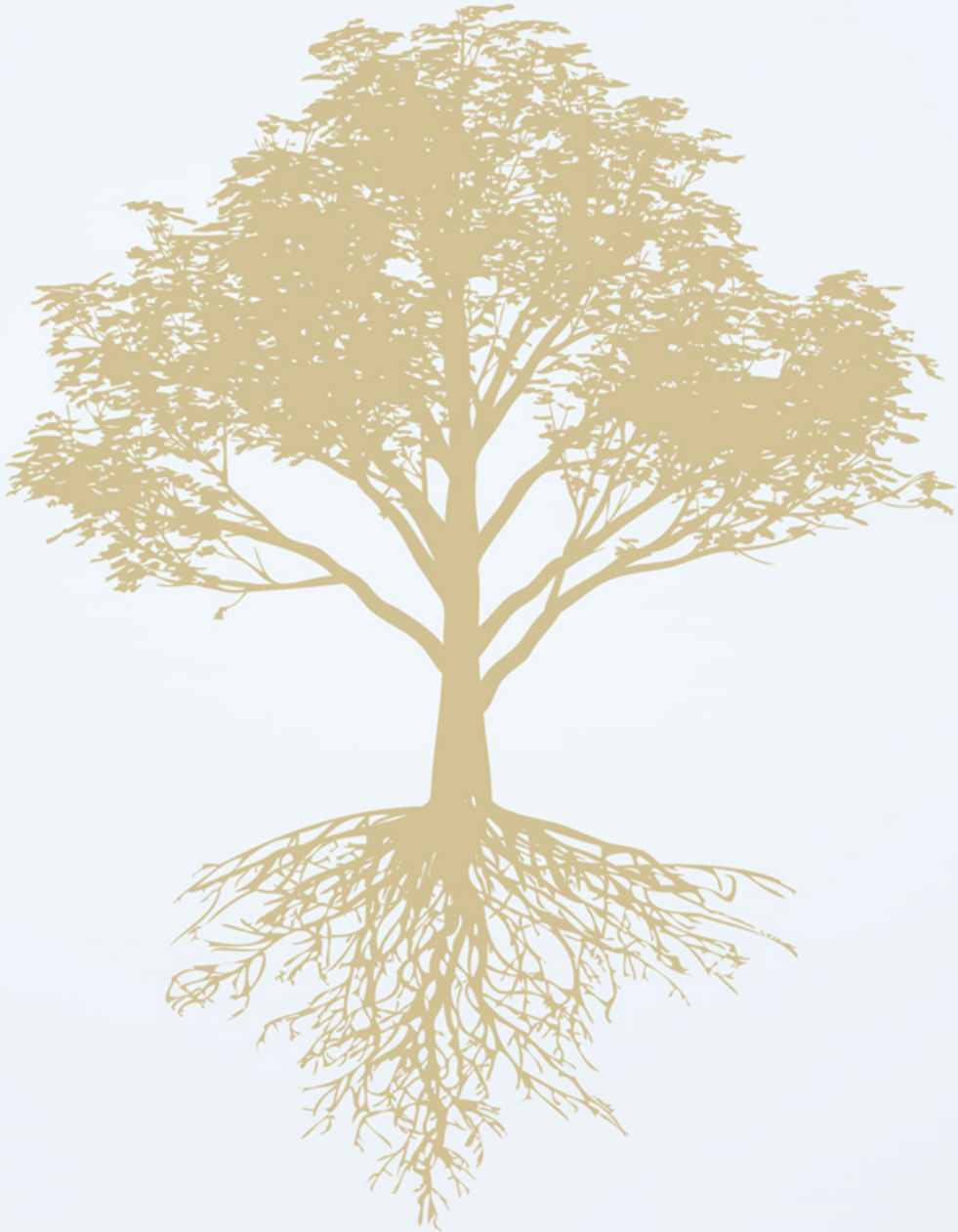
Strategies for Change

Research Initiatives and Recommendations to Improve Police-Community Relations in Oakland, Calif.



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Social Psychological Answers to Real-world Questions

Edited by
Jennifer L. Eberhardt, Ph.D.

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Strategies for Change: Research Initiatives and Recommendations to Improve Police-Community Relations in Oakland, California

EXECUTIVE SUMMARY

Law enforcement agencies across the United States are facing claims that they discriminate against community members of color. Inquiries into these claims often involve analyzing data from police stops. These so-called *stop data reports* typically take one of two approaches: either attack the agency for intentional racism, or deny the presence of racial disparities altogether. Yet neither of these approaches has yielded adequate progress toward many agencies' mission of serving their communities with fairness and respect.

Taking a different approach, the City of Oakland engaged our team of Stanford social psychologists to examine relations between the Oakland Police Department (OPD) and the Oakland community, and then to develop evidence-based remedies for any racial disparities we might find. Racial disparities in policing likely have many causes. To examine these causes, our team has undertaken five research initiatives. We describe our research methods, findings, and recommendations in *Strategies for Change: Research Initiatives and Recommendations to Improve Police-Community Relations in Oakland, Calif.* We provide a technical report of our main research initiative, a thorough analysis of OPD stop data, in *Data for Change: A Statistical Analysis of Police Stops, Searches, Handcuffings, and Arrests in Oakland, Calif., 2013-2014.*

Across our research programs, we indeed uncovered evidence that OPD officers treat people of different races differently. At the same time, we found little evidence that these racial disparities arose from overt bias or purposeful discrimination. Instead, our research suggests that many subtle and unexamined cultural norms, beliefs, and practices sustain disparate outcomes. Our findings also suggest 50 evidence-based actions that agencies can take to change department cultures and strengthen police-community ties. Below, we highlight some of our research initiatives, findings, and recommendations for improving police-community relations in Oakland and other U.S. cities.

The 5 research initiatives

- Statistical analyses of stop data from 28,119 forms that 510 OPD officers filed after stopping drivers and pedestrians in Oakland, Calif., between April 1, 2013 and April 30, 2014 (for a summary, see Chapter 1 of *Strategies for Change;* for the technical report, see *Data for Change*);
- Development of computational tools to analyze linguistic data from body-worn cameras (BWCs) and, using these tools, analyses of some 157,000 words spoken by OPD officers during 380 stops in April of 2014 (see Chapter 2 of *Strategies for Change*);
- Development of computational tools to analyze written narratives from police stop data forms, and, using these tools as well as human experts, analyses of some 1,000 OPD officer narratives from April of 2014 (see Chapter 3 of *Strategies for Change*);

- Two surveys of 416 Oakland community members regarding their attitudes toward and experiences with OPD officers (see Chapter 4 of *Strategies for Change*);
- Development and evaluation of implicit bias and procedural justice training modules with 675 OPD officers (see Chapter 5 of *Strategies for Change*).

Key findings

- OPD officers stopped, searched, handcuffed, and arrested more African Americans than Whites, a finding that remained significant even after we controlled for neighborhood crime rates and demographics; officer race, gender, and experience; and other factors that shape police actions.
- Some 60% of OPD stops were of African Americans, who make up 28% of Oakland's population.
- Of OPD officers making at least one stop during the 13-month period of study:
  - Only 20% stopped a White person, while 96% stopped an African American person;
  - Only 26% handcuffed a White person, while 72% handcuffed an African American person (excluding arrests);
  - Only 23% conducted a discretionary search of a White person, while 65% conducted a discretionary search of an African American person.
- When OPD officers could identify the person's race before a stop, they were much more likely to stop an African American, as compared to when officers could not identify the person's race.
- With African Americans, OPD officers used more severe legal language (e.g., mentioned *probation, parole,* and *arrest)* and offered fewer explanations for the stop than with Whites.
- In police-initiated interactions, African American and Hispanic Oakland residents felt more disrespected and misunderstood than did White and Asian Oakland residents.

Select Recommendations

- Our findings suggest the OPD has a culture where officers stop, search, handcuff, and arrest more African Americans than Whites. We suspect many other law enforcement agencies have similar cultures. In *Strategies for Change*, we thus recommend the OPD and other agencies regularly review their policies, practices, and procedures for evidence of disparate outcomes.
- As our findings reveal that less-experienced officers show more racial disparities in their stops, better training of new officers could likely reduce the degree of these disparities. To this end, *Strategies for Change* presents several recommendations for how to improve officer training.
- Although the OPD collects copious amounts of data, few measures track the OPD's relationship with the community. In *Strategies for Change*, we thus recommend several actions that the OPD and other law enforcement agencies can take to measure what matters most.
- More broadly, we observe that many law enforcement agencies do not fully embrace data because they view it as evidence that could be used against them, rather than as feedback about what is or is not working, and why. In *Strategies for Change*, we recommend more than a dozen actions that the OPD and other law enforcement agencies can take to better leverage data.

INTRODUCTION

Our task

In May 2014, the City of Oakland contracted with our team of Stanford University researchers to assist the Oakland Police Department (OPD) in complying with a federal order to collect and analyze data on OPD officers' self-initiated stops[1] of pedestrians and vehicles by race. Our task was to analyze the reports that OPD officers completed after every stop they initiated between April 1, 2013, and April 30, 2014. These reports are called Field Interview/Stop Data Reports (FI/SDR), and the information they contain is called *stop data.*

We present our independent, detailed, and rigorous assessment of these stop data in *Data for Change: A Statistical Analysis of Police Stops, Searches, Handcuffings, and Arrests in Oakland, Calif., 2013-2014.* In addition, we summarize the findings of this stop data analysis, discuss four other research initiatives, and list 50 recommendations for reform in the current document, *Strategies for Change: Research Initiatives and Recommendations to Improve Police-Community Relations in Oakland, Calif.*

Our approach

Analysts usually take one of two approaches to police stop data. The first approach is to lay out the evidence for racial disparities in stops, and then conclude that the police are racists who are deliberately targeting people of color. This approach intends to shake law enforcement agencies into changing their ways. Instead, it usually incites so much police resistance that meaningful reform becomes difficult, if not impossible.

The second approach is the opposite of the first: Analysts find no evidence for racial disparities in stops. These analysts often use bloated statistical models so chock-full of covariates (i.e., control variables) that any evidence of disparate treatment disappears. For instance, their reports often conclude that African Americans are more likely to commit crime than are other groups, and so police are just going where the crime is. Everything is as it should be. There is nothing to see here. Yet the daily experiences of communities of color suggest otherwise, and their frustration with these null-finding reports harms relations with police.

In our stop data analysis, we take a third approach—a problem-solving approach–that concludes with neither attack nor denial. We report some real and significant racial disparities in OPD stops, searches, handcuffings, and arrests, even after accounting for crime rates, demographics, and other factors that influence policing activity. The OPD acknowledges these disparities and is eager to address them. To this end, we have conducted our analyses in a manner that allows the OPD to make evidence-based changes in their policies, practices, and procedures. For example, using statistical models, we have isolated the conditions under which racial disparities are greatest

[1] For a stop to be included in this dataset, an officer must have been required to complete a Field Interview/Stop Data Report (FI/SDR). In other words, the stop must have been self-initiated and have involved one or more members of the community who was detained, arrested, or subjected to a search or the request to be searched. This dataset does not include casual encounters where officers talked to a community member who was free to leave at any time.

and least. Simply knowing where, when, and how racial disparities are likely to emerge gives the agency direction on how to lessen them. This approach has yielded dozens of tactics that the OPD and other law enforcement agencies can undertake to reduce racial disparities. In other words, our approach both acknowledges existing racial disparities in policing and gives police the tools they need to mitigate and perhaps even eliminate these disparities.

Soon, a new California Assembly Bill (AB 953) will require law enforcement agencies across the state to collect the sort of stop data we have analyzed here. Yet to date, many law enforcement agencies are not sure how to use their data to make change, as they lack a common model for addressing racial disparities in a productive way. Here we offer a model of how policing agencies can use data to solve problems, instead of using data to attack or deny.

As researchers, we can apply a problem-solving approach only when law enforcement agencies value, trust, and understand this approach. The OPD is such an agency. The OPD leadership has given us unprecedented access to the data on which our work relies. They understand that our findings may be unfavorable at times, yet they have shown willingness to address the racial disparities that come to light. Because of their position, we now understand more about improving police-community relations than ever before. On this issue, the OPD has contributed greatly to the Oakland community, many other communities, and the law enforcement industry as a whole.

Chapter 1: Summary of the Methods and Results in *Data for Change*

By Rebecca C. Hetey, Ph.D., Benoît Monin, Ph.D., Amrita Maitreyi, B.S., and Jennifer L. Eberhardt, Ph.D.

To understand and improve police-community relations in Oakland, Calif., the Stanford research team is analyzing body-worn camera (BWC) footage, community resident surveys, police training evaluations, and several other kinds of data. Yet the anchor of our efforts has been 13 months' worth of data from the OPD's Field Interview/Stop Data Reports (FI/SDR). We present our analyses of these so-called *stop data* in our technical report titled *Data for Change: A Statistical Analysis of Police Stops, Searches, Handcuffings, and Arrests in Oakland, Calif., 2013-2014.* In this chapter, we provide a brief overview of this report's methods and findings.

In reporting our OPD stop data analyses, our team wanted to avoid the two approaches that many previous analysts have taken: either attack the department for presumably intentional racism, or deny the presence of racial disparities altogether. Instead, we wanted to use science to diagnose problems and prescribe solutions. Many police departments across the country now collect data on vehicle and pedestrian stops. We urge these law enforcement agencies to put those data to work to reveal some hard truths about racial inequality in policing.

In addition, we also recommend that agencies use their stop data to create more fair and just systems. For example, in our analyses, we found the strongest patterns of racial disparities among stops made for alleged traffic violations. Agencies could use this finding by first examining how their policies and practices lead to racial disparities in traffic violation stops, and then changing their policies and practices to reduce racial disparities. More broadly, both *Data for Change* and this document, *Strategies for Change,* suggest ways that law enforcement agencies can better use data to learn and improve, rather than to attack or deny.

Our methods

Our task was to explore whether the race of community members affected the likelihood that OPD officers would stop them, and then whether race affected how OPD officers treated community members once they were stopped. In addition to an officer's decision to make a stop, we focused on police actions that we call *post-stop outcomes.* These outcomes included handcuffing, searching, and arresting community members. In other words, we examined how the race of community members influenced the entire course of a police stop.

During the 13-month time period we analyzed, 510 sworn OPD officers made 28,119 stops. During this time, each officer made an average of 55 stops. The majority of stops, 69%, were vehicles stopped because of traffic violations. Another quarter of stops were of pedestrians.

Who gets stopped? We found that 60% of all OPD stops were of African Americans. In addition, OPD officers stopped more than three times the number of African Americans than

Hispanics (18% of stops), who were the next most common racial group that officers stopped. In comparison, 13% of stops were of Whites.

Sixty percent may sound like a big number, but we cannot fully understand its magnitude until we compare it to a familiar point of reference—a *benchmark*. For instance, knowing that African Americans are only 28% of the population of Oakland gives us a sense that the 60% African American stop rate is high relative to the population of African Americans in that city.

To understand racial differences in stop rates and stop outcomes, we also need to examine *other factors* that could contribute to racial differences in police stops. One such factor is a neighborhood's crime rate. When police departments face a claim of racial profiling, perhaps the most common rebuttal is that the police are simply going where the crime is. If high-crime neighborhoods tend to have higher concentrations of African Americans, and if police stop more people in high-crime neighborhoods as a matter of enforcement strategy, then it logically follows that the police will stop more African Americans. In this scenario, bias is not driving racial disparities in stops; crime is.

To explore factors other than race that could nevertheless lead to apparent racial disparities in police stops and stop outcomes, we began assembling a database about Oakland from a variety of sources. Our team wanted to paint as full a portrait as possible of the City of Oakland to provide a backdrop against which to understand the stop data. For example, from the United States Census Bureau we obtained information about the residents of Oakland's diverse neighborhoods, including their races, ages, poverty and unemployment rates, and even the stability of their families. We also included information about neighborhood crime rates, economic well-being, and urban blight. To this rich database, we then added information about the immediate context surrounding each stop such as when, why, and how the stop was made; the person who was stopped; and the officer who made the stop.

We then used information in this database when we tested whether stops differed by the race of community members. If we statistically control for these other factors and still get a "significant effect" of community members' race, then we can conclude that race is the true driver of the results we see, rather than area crime rates, poverty rates, or other neighborhood, demographic, or situational factors. We also used our rich database to investigate the effects of some of these factors on stops and stop outcomes, and even pitted them against each other to see which was more powerful in predicting police activity.

Our results

Overall, we found a consistent pattern of racial disparities in which community members the OPD stopped, handcuffed, searched, and arrested. In other words, we found significant racial disparities across the entire course of the police-community member interaction. These disparities remained even after we controlled for a wide range of factors, such as neighborhood crime rates and racial demographics of the neighborhood where the stop took place.

Stops. We first analyzed officers' decision to make a stop. Looking at census tracts, we examined whether OPD officers stopped more African Americans than we would predict from the percentage representation of African Americans in the neighborhood population. Census tracts, which roughly correspond to neighborhoods, are small geographic areas within counties that are defined by the United States Census Bureau. Each tract generally has a population between 1,200 and 8,000 people, with the optimum number being around 4,000 people.

In our dataset, OPD officers made stops in 113 unique census tracts across the City of Oakland. We found that, regardless of the percentage of African Americans living in each neighborhood, OPD officers stopped a greater percentage of African Americans than we would have predicted from the neighborhood's racial makeup. This result goes against the idea that officers are merely stopping people in proportion to their representation in Oakland's neighborhoods. In other words, the complexion of OPD stops in a neighborhood did not mirror the complexion of the neighborhood's residents. We also found that when officers were able to identify the race of the person before stopping him or her, they were much more likely to be stopping an African American (62%), as compared to when they couldn't tell the race of the person (48%).

In our next analysis, we looked at the effect of neighborhood crime rates on stops. We found the usual strong correlation showing that the higher a neighborhood's crime rate, the more stops the OPD made there. When we took both the crime rate and the racial makeup of a neighborhood into account, we found that crime rate drove the total number of stops made in the neighborhood, not the race of the people who live there. In other words, we found no evidence that the OPD was specifically targeting African American neighborhoods. Instead, the OPD does target neighborhoods with higher crime rates. As the first analysis revealed, however, once in a neighborhood, OPD officers tend to stop more African Americans than is proportional to their representation in the neighborhood.

In addition, we simulated how many stops we would expect the OPD to make in a neighborhood based purely on crime rate (and assuming the racial distribution of stops would otherwise perfectly mirror the racial demographics of the neighborhood). This simulation predicted around 8,000 stops of African Americans. In reality, though, we observed more than 16,000 stops of African Americans—twice the number we expected.

Handcuffings. We next analyzed instances of handcuffing. For these analyses, we excluded stops that resulted in arrests because handcuffing is more or less automatic during arrests. We found that African American men were handcuffed in one out of every four stops, as compared to one in every 15 stops for White men. Even after controlling for neighborhood crime rates, demographics, and many other factors, our analyses showed that OPD officers handcuffed significantly more African Americans than Whites. This African American-White handcuffing gap was especially pronounced for vehicle stops and stops made because of traffic violations.

Searches. When we analyzed officers' decision to conduct a search, we excluded low-discretion searches because OPD policy mandates them. For example, when someone is arrested and

is taken into custody, the officer is required to search him or her. Thus the officer doesn't have much choice in whether to conduct the search. We were interested in cases where officers had some degree of discretion because past literature has shown that officer discretion tends to bring out racial disparities in treatment of community members.

Excluding low-discretion searches, we found that officers searched African American men in one out of every five stops, as compared to one out of every 20 stops for White men. Even after controlling for neighborhood crime rate, racial demographics, and many other factors, our analyses showed that OPD officers were more likely to search African Americans than Whites. This African American-White search gap was especially pronounced for vehicle stops and stops made because of traffic violations.

In addition, although officers were more likely to search African Americans, they were no more likely to find contraband on African Americans than on community members of other races. In other words, community members' race did not predict whether the police found contraband during a search. Overall, 28% of searches led to the recovery of contraband.

Arrests. We then analyzed stops in which OPD officers ultimately made either a felony or a misdemeanor arrest. Overall, officers arrested more than one in every six African American men they stopped, as compared to only one in 14 White men. Even after controlling for multiple factors including the crime rate and the racial demographics of the neighborhood where the stop took place, we found that officers arrested significantly more African Americans than Whites in much of Oakland, though not in the majority of policing regions. As was the case for handcuffing and searching, the African American-White arrest gap was most pronounced for vehicle stops and stops made because of traffic violations.

The Officers. We also explored how individual officers differ in their policing practices. To accomplish this, we reorganized the 28,119 stops into the actions of 510 individual officers who made at least one stop during the 13-month period of analysis. Rather than examining, for example, how many searches the OPD conducted, we examined how many searches each officer conducted. To preserve the anonymity of the officers, we used an internal OPD personnel-tracking number that allowed us to group all of the stops conducted by the same officer without knowing his or her identity.

Of the 510 officers in our data set, 89% were men and 11% were women. In terms of race, 43% were White, 22% were Hispanic, 17% were African American, 14% were Asian American, and 4% were listed as Other. The vast majority of officers, 93%, were not residents of Oakland and therefore did not live in the community they served. The average age of officers at the time they made the stops was 37 years. The average time officers had been at the OPD was about nine years.

Not all officers in our dataset were equally active. In fact, the bulk of stops and post-stop activity came from a small fraction of officers. Just 20% of the officers made 54% of all stops. These 100 members of the OPD each made 96 or more stops. In contrast, approximately one-quarter of officers made only 10 stops or fewer during the entire 13 months.

Moreover, only 20% of officers were responsible for 67% of all instances of handcuffing. Each of these 100 officers handcuffed 11 or more people. In contrast, 22% of officers did not handcuff anyone during the entire 13 months.

Similarly, just 20% of officers conducted 70% of high-discretion searches. Each of these 100 officers conducted nine or more searches throughout the year. In contrast, a full 28% of officers did not conduct a single high-discretion search.

Finally, just 20% of officers made 70% of all arrests. These 100 officers each made 13 or more arrests during the period in question. In contrast, 27% of officers did not make any arrests.

We found that making stops, handcuffing, conducting high-discretion searches, and making arrests are strongly correlated, meaning that the officers who handcuff people tend to be the same officers who conduct a lot of searches. We also found evidence that more senior officers on the force were less active, making fewer searches, handcuffings, and arrests. These results remained even after controlling for an officer's total number of stops, suggesting that senior officers chose not to engage in more highly engaged police activities when they had the opportunity to do so.

Racial Disparities in Individual Policing. Using the officer database, we next explored how the race of the person stopped affected each officer's policing activities. We discovered that, during the 13-month period in our data:

- Only 20% of officers stopped a White person;
- Yet 96% of officers stopped an African American person;
- Only 26% of officers handcuffed a White person who was not ultimately arrested;
- Yet 72% of officers handcuffed an African American person who was not arrested;
- Only 23% of officers discretionarily searched a White person;
- Yet 65% of officers discretionarily searched an African American person;
- Only 30% of officers arrested a White person;
- Yet 67% of officers arrested an African American person.

To analyze further the racial patterning of individual officers' activities, we created a subsample of active officers who made at least 10 stops of Whites and 10 stops of African Americans over the course of the 13 months. Among this set of highly active officers, we likewise found greater activity with African American community members:

- Some 53% of highly active officers handcuffed a White person who was not ultimately arrested;
- Yet 90% of highly active officers handcuffed an African American person who was ultimately not arrested;
- Only 40% of highly active officers discretionarily searched a White person;

- Yet 84% of highly active officers searched an African American person;
- 50% of highly active officers arrested a White person;
- Yet 86% of highly active officers arrested an African American person.

The path forward

We want law enforcement agencies and other analysts to use *Data for Change* as a guide for how to collect, analyze, and make decisions based on data. There is no time like the present. Last year, the California State Assembly passed the Racial Profiling and Identity Act of 2015, AB 953, which will require every law enforcement agency in the state to collect data very similar to the data we analyzed in this report.

Our results are not evidence that OPD officers are "racists." Our mission is not to point fingers at specific individuals, but to explore an institution's effects on its communities, particularly its communities of color. That exploration revealed that racial disparities in policing are widespread and systemic.

Many people believe that law enforcement agencies just need to remove their few "bad apples" and then they will become egalitarian institutions. These alleged bad apples are racist individuals who are intentionally and consciously discriminating against people of color.

Yet our research simply does not support the notion that a few bad apples are driving the racial disparities in Oakland policing. In a 13-month period, for instance, three-quarters of all OPD officers who made stops never handcuffed, searched, or arrested a White person, but the majority of officers who made stops did perform these actions with African Americans. These findings are not evidence of a few or even many bad apples, but of pervasive cultural norms (that is, the unwritten rules of how to behave) about how to police people of different races. Focusing on individual officers, rather than on the culture as a whole, would likely allow racial disparities in policing to persist.

Instead, our report suggests that law enforcement agencies must change the cultural beliefs, policies, practices, and norms that encourage racial disparities in treatment. What we know about cultures is that they change fastest when leaders are on board and driving the agenda. For its part, the OPD leadership has already begun to answer the call for change. We encourage other agencies to follow their lead.

Chapter 2: Automated Analysis of Body-Worn Camera Footage

By Rob Voigt, M.A., Nicholas P. Camp, M.S., Vinodkumar Prabhakaran, Ph.D., William L. Hamilton, M.S., Rebecca C. Hetey, Ph.D., Camilla M. Griffiths, B.A., David Jurgens, Ph.D., Kristin Pauker, Ph.D., Dan Jurafsky, Ph.D., and Jennifer L. Eberhardt, Ph.D.

Support for police use of body-worn cameras (BWCs) is broad and growing. Community members and activists are pushing the police to wear cameras to increase transparency and accountability in their encounters with the public. Police officers see the cameras as a way to protect themselves from unfair accusations and lawsuits. When there are disputes between the police and the public, the camera acts as another witness to what actually happened.

Despite the growing support for BWCs, no law enforcement agency systematically analyzes the massive amounts of footage these cameras produce. When departments do review BWC recordings, they do so on a case-by-case basis. As a result, the vast majority of footage is never examined.

One reason that law enforcement agencies do not systematically analyze BWC footage is that they and the public tend to think of the footage as evidence, rather than data. Evidence can prove liability or innocence in one specific case, but data can show patterns across incidents and possibly be used to change those patterns. Studying BWC footage in the aggregate could provide unparalleled insights into how police officers typically interact with community members, as well as how to improve those interactions.

To leverage BWC footage as data, we are developing computational tools that examine broad patterns in police-community interactions, including whether and how these interactions differ by the race of the community members involved. We plan to use these tools to quickly and accurately analyze the words officers use, their tone of voice, how many turns they take in their conversations with community members, and other indicators of the content and quality of the interaction. In combination with other stop data (e.g., the race of the person stopped, the location of the stop, the outcome of the stop), these tools will allow law enforcement agencies and researchers to examine whether and how police-community interactions unfold differently as a function of race. Agencies can also use these tools to identify and disseminate best practices for interacting with community members—especially community members of color—as well as to track the state of police-community relations over time.

How and why we study officers' language

One of the most powerful tools at an officer's disposal is his or her language. The words officers use can have strong effects on the trajectory of their interaction with community members. Two officers can perform the same action but leave very different impressions on the community member, depending on what they say and how they say it.

We have begun systematically analyzing officers' language as they interact with community

members and as recorded by BWCs. In our analysis of Oakland Police Department (OPD) stop data (for a summary, see Chapter 1 of this document; for the complete technical report, see *Data for Change*), we included reports that OPD officers completed between April 2013 and April 2014. For our BWC footage analysis, we focused on OPD vehicle stops of African American or White community members in April 2014—approximately 1,000 files.

To analyze officer language data on a large scale, we first created a set of categories of officers' language use, including standard categories such as APOLOGIES (words and phrases like *excuse me*, *sorry*, and *apologies*), GRATITUDE (*thanks*, etc.), and FORMAL TITLES (words like *sir* and *ma'am*); and police-relevant categories like POLICE EQUIPMENT (words and phrases like *breathalyzer*, *radar*, *handcuffs*, and *badge*).[2] These categories reflect both linguistics and social psychology research, as well as new categories relevant to the particular circumstances of police-community interactions. We then count how many officers' utterances contain words or phrases that fit into each category. Finally, we use statistical models to understand whether and how officers use these categories differently depending on the race of the community member.

Our statistical models also take into account other factors that are likely to shape the language officers use, such as the context in which the interaction took place. For example, in cases where the community member is arrested, the officer is certainly much more likely to use the word *arrest*. Because African American community members are arrested more often than White community members in our data, this association of *arrest* with *African American* reflects a contextual feature rather than the officer's choices or habits.

Predicting a community member's race from officer's language

We began with a preliminary question: Can we predict the race of a community member simply from the words an officer uses with him or her?

To answer this question, we created a randomly selected, artificially balanced dataset of stops (N = 380) with 50% White and 50% African American community members. Then, for each interaction, we measured a wide variety of linguistic indicators. These included: counts of every word and pair of words, measurements for dozens of linguistic categories, the total number of words spoken, the number of questions the officer asked, and so on. Because we have the same number of White and African American vehicle stops, a tool performing at chance would be 50% accurate at predicting the race of the community member from the officer's language. Yet our model is 68% accurate—an improvement of 18% over chance. These results suggest that officers speak differently to White versus African American community members. The results presented in the following sections were obtained by analyzing the utterances spoken by officers to community members in this same subsample of the overall dataset (N=10,322).

Words associated with African Americans versus Whites

[2] Pennebaker, J. W., Booth, R. J., & Francis, M. E. (2007). Linguistic Inquiry and Word Count: LIWC 2007. Austin, TX.

We next asked which words officers used with African Americans more than with White community members. We used a standard metric from natural language statistics, the log-odds ratio metric,[3] which identifies words that occur more often in one category than another after controlling for their expected occurrence based on the total number of words. We used this metric on all 380 interactions in our dataset, and controlled for context by comparing stops with the same outcome.

For instance, as illustrated in Table 2.1, we compared stops where African American community members received a warning with stops where White community members received a warning, and then separately compared stops in which community members received a citation. In each box, the words and phrases are listed in descending order of association with the racial group.[4]

Table 2.1. Examples of Words Officers Use More Often with African Americans or Whites.

	African Americans	Whites
WARNING	man, warrant, we, your ID, he, what, gonna, a break, cut you, listen, buy, hey, plate, passenger, no big deal, she, you got, right, hey, thank you, pick up, get, okay, sticker, all right, cut, probation	light, at this, actually, red box, I pulled, turn, onto, sign, red light, and registration, you over, hello, your right, citation, a lot, try, ran, help, pulled you, your registration, lot, will, oh, okay, left turn, your left, I just, your headlights
CITATION	suspended, got, tow, car, you got, insurance, I'm going, to tow, hear you, somebody, this, card, is suspended, paperwork, without, going to, hear, ain't, not going, to cite, have insurance, car is, this ?, hold, you've, got to, driving without, insurance card, license and, already	left turn, citation, illegal left, phone, in California, pulled, intersection, the fine, contest, you were, making, us, pulled you, through the, questions about, turn from, safely, current address, pay, saw, pay the, are you, current, within, sir, still live, can go, the reason

These results suggest that officers are more casual when talking to African American community members, using forms like *hey* as opposed to *hello*, and *man* as opposed to *sir*, and using informal forms like *gonna*, *got to*, and *ain't*. Officers are also more likely to say *thank you* to African American community members. Other analyses suggest that officers ask more questions of African American community members, and are also more likely to mention probation.

With White community members, officers focus more on elements of procedure, using words like *citation* or *registration*, and asking community members to sign the *red box*, as well as focusing on the actual offense, such as *illegal left*, running a *red light*, and being on the *phone*. Officers are also more likely to tell White community members that they can *contest* a citation, and more

[3] Monroe, B. L., Colaresi, M. P., & Quinn, K. M. (2008). Fightin' words: Lexical feature selection and evaluation for identifying the content of political conflict. *Political Analysis, 16*, 372-403.

[4] Stops that ended in an arrest were removed, partly because in our dataset they were rare (*N*=25), and partly because they were not racially balanced (only African Americans were arrested).

likely to comment on *the reason* for the stop. Below we will say more about this difference in mentioning "the reasons" for the stop.

Mentions of probation and parole

In the previous analysis, we found that OPD officers were more likely to mention the word *probation* in conversations with African American community members, even in stops where the outcome was a warning. We next asked, are officers more likely to mention probation, parole, or other severe legal circumstances with African American community members across stop outcomes (i.e., warning, citation, and arrest)?

To answer this question, we first looked at the raw count of mentions of probation and parole by race and stop outcome. As Table 2.2 indicates, OPD officers used these words far more often with African American than with White community members.

Table 2.2. Uses of the Words* Probation *and* Parole *by Race and Stop Result.

	African American	White
WARNING	41 (0.57 per interaction)	12 (0.10 per interaction)
CITATION	31 (0.26 per interaction)	3 (0.04 per interaction)

To look at this pattern in greater depth, we examined a larger set of words relating to severe legal circumstances like *probation, arrest*, and *prison*, and a comparison set of more neutral words (see below for examples).

Severe Legal Words and Phrases

arrest, record, probation, parole, prison, jail, felon/felony, suspend/suspended, convict, on paperwork

Neutral Legal Words and Phrases

registration, license, expire/expired, citation, DMV, ticket, fix-it, guilt, register, violation, legal, illegal, admit

It is possible that officers use words related to probation or parole more often with African American than White community members because African American community members are more likely to be on probation or parole. Although we cannot know for certain whether a community member who was not searched was on probation or parole, we can statistically control for whether they were searched and whether that search was a probation/parole search, the result of the stop (arrest, citation, or warning), and the gender of the community member. After controlling

for these factors, our statistical models show that officers use neutral legal words more often with White community members, but use severe legal words more often with African American community members.

It might be the case that officers use severe legal words in stops that are more severe in nature, such as in a traffic violation that posed an immediate danger to public safety. But in Chapter 3 we show that, even after controlling for the type and severity of the stop, OPD officers are still more likely to use neutral legal words with White community members, and are more likely to use severe legal words with African American community members.

The reason for the stop

We also found that the phrase *the reason* appeared more in footage involving White community members. Is it the case that OPD officers more often explain the reason for the stop to White community members than they do to African American community members? As in the previous section, we ran statistical models testing the association between community member's race and the following words:

Explanations for the Stop Language

the reason, because, 'cause, cause, why, stopping/stopped you, pulling/pulled you

After statistically controlling for whether there was a search, the result of the stop, and the gender of the community member, we found that OPD officers more often used these explanatory words with White community members than they did with African American community members. These findings suggest that OPD officers more often explain the reason for their stop to White community members. In the next chapter, we confirm that officers are more likely to give reasons for the stop to White community members, even after controlling for the type and severity of the stop.

Overt bias

We next wanted to examine whether OPD officers displayed any patterns of overt bias in addressing White and African American community members. Did officers use slurs or foul language more when speaking to one group than to the other?

This does not appear to be the case. In our data, we did not find a single case of an OPD officer using a racial slur. We did find occurrences of swear words, but these were extremely rare: a total of 11 occurrences out of more than 157,000 words spoken to community members in the dataset examined in this chapter. Almost all of these occurrences were friendly uses—for example, "Yeah, it sucks, I know," after giving a ticket.

Overt hostility was not only rare but also unbiased. A statistical model controlling for contextual factors confirmed that, even in the rare instances of swearing, officers' use of these words did not differ by race of the community member.

Future research: Understanding conversation structure

Although analyzing words and phrases is an important first step in understanding police-community interactions, in future work we will investigate how language unfolds over the course of a stop. For example, to follow up on the finding that officers seem to ask African American community members about probation more often than they ask White community members, we can look at where in the interaction the officer mentions probation (early in the interaction? after other events?). We can also ask where in the conversation officers give reasons for the stop (e.g., do officers give White community members the reason for the stop earlier than they do African American community members?). With this information, we can not only understand how officers' language shapes interactions with community members but also design interventions to improve those interactions with more strategic use of language.

Chapter 3: Expert and Automated Analysis of Officer Narratives

By Vinodkumar Prabhakaran, Ph.D., Nicholas P. Camp, M.S., Dan Jurafsky, and Jennifer L. Eberhardt, Ph.D.

As we foreshadowed in Chapter 2, the reason why an officer stops a community member likely shapes how their interaction subsequently plays out. For example, an officer may speak quite differently during a stop for a traffic violation than she does during a stop of a criminal suspect. Even among traffic stops, an officer's language may differ depending on the severity of the violation, likely using less polite language for, say, someone speeding through a school zone than for someone driving with a broken taillight.

In this chapter, we more closely examine Oakland Police Department (OPD) officers' reasons for traffic stops. For this examination, we analyzed data from the narrative field of the Field Interview/Stop Data Report (FI/SDR), also known as the *stop data form*. OPD officers use the narrative field of the stop data form to describe in their own words the circumstances surrounding a stop. To enrich our exploration of police-community relations in Oakland, we first developed a coding scheme to analyze these narratives. We then recruited experts to use our coding scheme to sort some 1,000 traffic violations from April 2014 by type (e.g., moving violations vs. equipment violations) and severity (from minor to severe). These analyses uncovered racial disparities in both type and severity of stops, with OPD officers disproportionately stopping African Americans for all types of violations, as well as for very minor violations.

Using our coding scheme, we then created an automated machine-learning technique that, when refined, will allow the OPD and other police departments to analyze their narrative data cheaply, quickly, and reliably. In future studies, we will combine narrative data analysis with other stop data and body-worn camera (BWC) footage analyses to gain a richer understanding of how race and other factors shape police-community interactions. We will also use these data to understand what causes policy-community interactions to go well or poorly.

Types of stops

The OPD stop data form has a field where officers select one of several prepopulated reasons for stopping a community member. Of the 28,119 stops OPD officers made between April 2013 and April 2014, some 18,100 were traffic violations. Yet selecting the "traffic violation" option on the stop data form does not give a rich description of the situation. In particular, officers cannot indicate the type or severity of the traffic violation—two factors that are likely to affect how an officer and a stopped community member interact.

Moreover, the single "traffic violation" option tells us little about how an officer made the decision to stop a particular driver, as it encompasses both situations in which officers must enforce traffic laws in the interest of safety, as well as stops in which officers exercise a large degree of individual judgment. In Oakland, as in other U.S. cities, an officer may lawfully use a minor traffic violation as a justification or pretext for a stop, and then during the stop seek information about

other possible wrongdoing, often based on the officer's intuitions.[5] Yet past research has found that the more officers rely on their intuition or discretion when deciding to make a stop, the more likely they are to stop African American community members.[6] Data from the open-ended narrative field could shed light on how often and with what consequences OPD officers stop motorists of color as a justification to gather other information.

Through several discussions with senior OPD staff, we created the following typology with which to code the reasons for stops officers articulated in the narrative field of the stop data form:

1. **IntelligenceBased (INT):** Stops made because the person and/or vehicle is wanted in relation to a specific crime or an ongoing investigation, as per information from dispatch, daily bulletins, daily notifications, emails, etc.
2. **ReasonableSuspicion/ProbableCause (RS/PC):** Stops made because the officer on patrol has suspicions or probable cause based on his or her own observations. These observations may connect the vehicle, driver, or occupant(s) to criminal activity, and are described in the narrative field.
3. **TrafficViolation-Moving (MOV):** Stops made because of the community member's operation of the vehicle violates laws, threatening public safety.
4. **TrafficViolation-Equipment (EQU):** Stops made because the vehicle or associated equipment is not in compliance with laws; these usually do not cause serious threats to public safety.
5. **Pretextual (PRE):** Stops made because of minor moving or equipment traffic violations, but the expert reviewer feels that the officer made the stop for reasons other than the officially stated ones. Pretextual stops are lawful stops that allow officers to confirm or dispel their hunches or suspicions, in an effort to stop potential crimes.

Severity of stops scale

In a second round of discussions, we developed the following four-point scale to rate the severity of the violation:

1. **Very severe:** The traffic violation posed an immediate danger to the driver's or someone else's safety, and so the vehicle had to be stopped.
2. **Somewhat severe:** The traffic violation could have endangered the driver's or someone else's safety, and so the vehicle was stopped to prevent potential danger.
3. **Somewhat minor:** The traffic violation did not pose an immediate danger to the driver's

[5] Epp, C. R., Maynard-Moody, S., & Haider-Markel, D. P. (2014). *Pulled over: How police stops define race and citizenship*. Chicago: University of Chicago Press.

[6] Glaser, J. (2015). *Suspect race: Causes and consequences of racial profiling*. New York: Oxford University Press.

or anyone else's safety, and so the officer used his/her discretion in making the stop.

4. **Very minor:** The traffic violation posed no danger to the driver's or anyone else's safety, and the officer relied largely on his/her discretion to justify making a traffic enforcement stop.

Narrative coding method

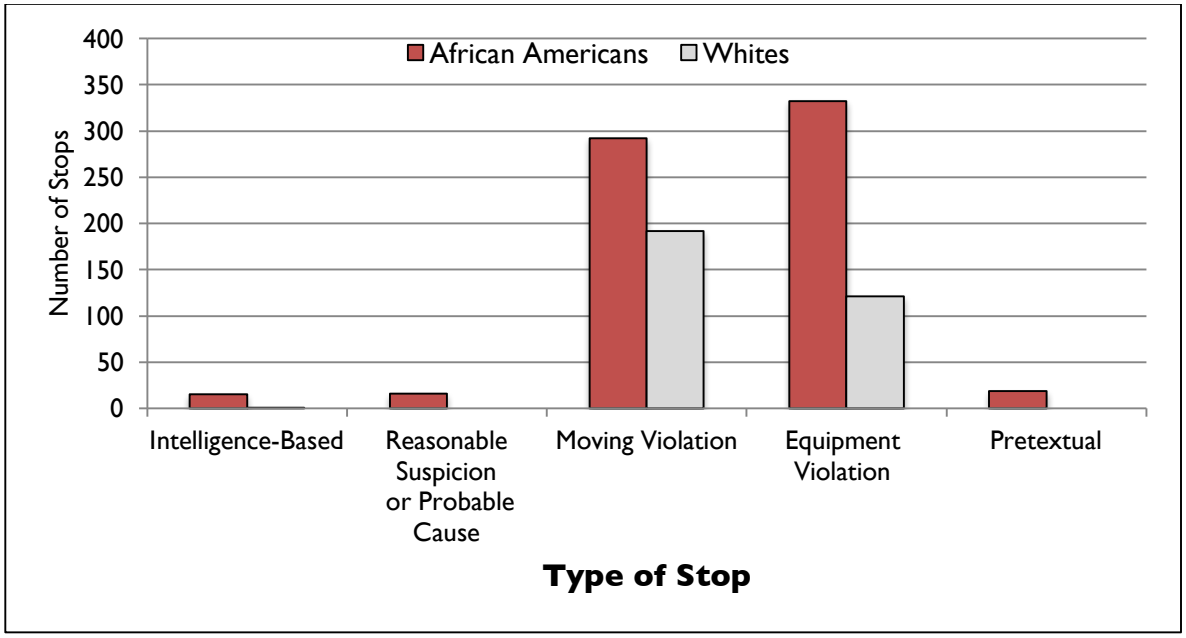
For our analysis, we first sampled the narrative data from the 1,010 stop data forms involving African American or White community members that were completed in April 2014. We then recruited 13 OPD senior staff to apply the type and severity coding schemes to the narratives. Officers coded 10 narratives for training purposes. Subsequently, each officer analyzed 100 narratives, first applying the type coding scheme over the course of one week, and then applying the severity coding scheme over the course of a second week. Out of the 1,000 reports, at least two officers coded 300 stops in common so that we could establish inter-rater agreement. We obtained high inter-rater agreement for the type coding, and fair to moderate agreement for the severity coding.

Results: Who gets stopped, and why?

Figure 3.1 shows the frequencies of stop type broken down by race and the type of stop. Overall, African Americans were stopped more frequently than Whites, regardless of the type of stop.[7] However, the data also reveal differences in why officers stopped African American and White community members. Whites were more likely to be stopped for moving violations, such as running a stop sign or failure to signal, whereas African Americans were more likely to be stopped for equipment violations, such as expired registration or broken taillights. OPD officers made very few stops because of intelligence, reasonable suspicion/probable cause, or pretext. Yet when officers did make these types of stops, they almost always stopped African Americans.

[7] Chi-square tests of race are significant for each stop type, all *p*'s<.0001

Figure 3.1. OPD Officers Stop African Americans More, Especially for Equipment Violations.

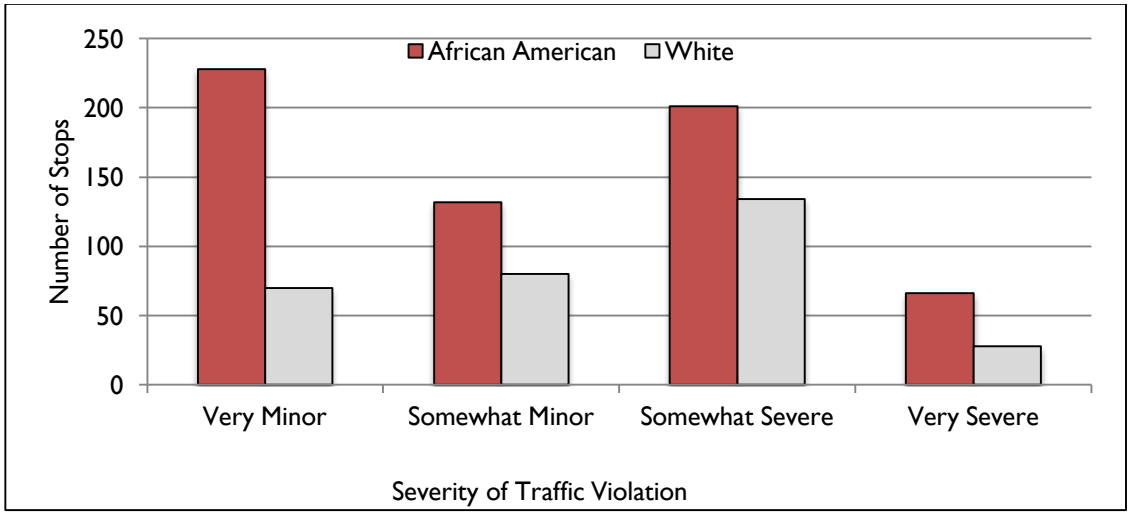


In the month of data we coded, OPD officers stopped more African American drivers than White drivers for every type of stop. These racial gaps were most pronounced for equipment violations, a category of offense where officers have wide discretion in the decision to make a stop.

As Figure 3.2 shows, the data from the severity ratings tell a similar story: OPD officers most frequently stopped Whites for "somewhat severe" offenses, whereas they most frequently stopped African American drivers for "very minor" offenses. Although OPD officers stopped African American community members more frequently than Whites at every level of severity, this gap was the most pronounced in cases where the violation was least severe.[8] In other words, racial gaps are most pronounced for offenses where officers have the most discretion to intervene.

[8] Chi-square tests of race are significant for each level of severity, *p*'s<.0001

Figure 3.2. OPD Officers Stop African Americans More, Especially for Very Minor Violations.



Does controlling for stop type or severity change Chapter 2's results?

One of our motivations for analyzing these narrative data was to investigate whether the race differences in officers' use of language, which we reported in Chapter 2, were partly or wholly due to race differences in type or severity of violations. In particular, in Chapter 2 we found that OPD officers used more severe legal language with African Americans than with Whites, and used more neutral legal language and spoke more about "the reason" for the stop with Whites than with African Americans.

As Figures 3.1 and 3.2 show, the race of community members was indeed related to the type and severity of the violation OPD officers cited. Yet controlling for stop type and severity did not affect the results reported in Chapter 2. In other words, adding stop type and severity into the statistical model did not change the trends, effect sizes, or significance levels we reported. These findings allow us to make an even stronger claim than did our prior results: OPD officers use more severe legal words with African Americans, but more neutral legal words and "reason for the stop" words with Whites, irrespective of the type or severity of the stops.

Automating the analysis of narrative data

After validating our coding scheme with human experts, we then developed advanced natural-language-processing and machine-learning techniques for coding the narratives in the stop data forms. Once refined, these techniques will eliminate the need for human coders, and allow the OPD and other law enforcement agencies to analyze large quantities of narrative data cheaply, quickly, and reliably.

To create these automated techniques, we used a supervised machine-learning algorithm

called the Support Vector Machine (SVM)[9] to distinguish the different types and severities of the stops we established in our first, human-coded study. In preliminary experiments, we first represented each officer's narrative as a simple "bag" of words and phrases, and then had the SVM comb through the hundreds of thousands of words and phrases and find the ones that distinguished each type or severity of stop. For example, the SVM found that moving violations are reliably associated with words and phrases such as *stop sign*, *cell phone*, *lane*, *during*, *approach*, *intersection*, etc.

This early version of the SVM accurately predicted the type of 85% of the stops, and accurately predicted the severity of 53% of the stops (chance would predict the severity of only 21% of the stops). In particular, the model is quite accurate in predicting *Very Minor* cases (67%-69%), but not accurate in predicting *Very Severe* class (8%-24% accuracy), indicating that our algorithm is not yet usable. We plan to continue using more advanced natural-language-processing techniques to improve our narrative analysis tool.

From our analysis of officer narratives, it is clear that very different types of stops are categorized with the same "Traffic Violation" label under the current stop data system. While some traffic violations pose a threat to the safety of the driver and those around them and demand officers act immediately, police officers can enforce milder infractions with more discretion. When we examine the narrative justification for such stops in a month's worth of traffic stops, we find that Black motorists are disproportionately likely to be stopped for less severe equipment violations. By automating this process, the OPD will be able to identify and manage officer discretion to promote rightful policing.

[9] Cortes, C., & Vapnik, V. (1995). Support-vector networks. *Machine Learning*, *20*, 273-297.

Chapter 4: Surveys of Oakland Community Members About the Police

By Nicholas P. Camp, M.S., and Jennifer L. Eberhardt, Ph.D.

Maintaining positive relations between police officers and the communities they serve is a top priority for the City of Oakland, as well as for the nation at large. Indeed, building police-community trust is the cornerstone of the President's Report on 21st Century Policing.[10] Police-community relations are especially important in communities of color, where distrust and suspicion have historically marked relations with the police.

To understand the current state of relations between the Oakland community and the Oakland Police Department (OPD), we conducted two surveys of 416 respondents in both Oakland-area Department of Motor Vehicles (DMV) offices (i.e., the Claremont and Coliseum offices). The first survey asked a diverse cross-section of Oakland residents about their attitudes toward the OPD and police in general. The second survey assessed respondents' most recent encounter with an OPD officer, asking specific questions and giving respondents space to describe their experiences in their own words.

In this chapter, we present the results of these two surveys. The experiences Oaklanders have with the police are varied, yet some themes emerge. Specifically, we find that race and context matter in interactions with the police. African American and Hispanic Oaklanders trust the police less than White and Asian residents do, particularly when it comes to issues of racial bias. African American and Hispanic respondents were also more likely to have interacted with the OPD in the context of being pulled over or interviewed on the street. In these kinds of interactions, African American and Hispanic Oaklanders reported greater disrespect and less understanding than their White and Asian counterparts. However, these race gaps disappeared when we analyzed interactions where community members sought out police instead of police officers stopping community members. Together, the surveys below shed light on the relationship between the OPD and the community it serves.

Survey respondents

Stanford-trained research assistants recruited people waiting for appointments or service at the Claremont and Oakland Coliseum DMV offices. For the attitudes survey, we analyzed the data of respondents who indicated that they were Oakland residents (*N*=283 respondents). For the experiences survey, we analyzed the data of respondents if they indicated that their last interaction with a police officer occurred in Oakland (*N*=133 respondents).

Table 4.1 presents the demographic profile of Oakland as a whole, as reported in the 2010 census, alongside the demographic profiles of the respondents to our two surveys. As this table shows, our samples were representative of Oakland in many respects, although we slightly

[10] See http://www.cops.usdoj.gov/pdf/taskforce/TaskForce_FinalReport.pdf

undersampled Asian and Hispanic respondents and slightly oversampled African American respondents. These sampling patterns were unintentional.

Table 4.1. Demographic Profiles of Oakland Residents and Survey Respondents.

	Oakland Residents* (Pop= 390,724)	Attitude Survey Respondents (*N*=283)	Experience Survey Respondents (*N*=135)
White/Caucasian	25.9%	22.6%	26.6%
Hispanic	25.4%	9.5%	9.6%
Asian	16.7%	7.7%	6.7%
African American	27.3%	43.5%	43.0%
Multiracial	3.6%	11.0%	7.4%
Some Other Race	1.1%	3.9%	6.7%
Proportion Female	42.5%	43.0%	46.4%
Median Age	36.2	34.0	37.0
Educational Attainment (% High School Degree/% Bachelor's Degree or Higher)	18.5%/36.3%	56.5%/37.8%	57%/46.0%

* Data are from the 2010 United States Census and 2006-2010 American Community Survey.

Attitudes survey questions

The purpose of this survey was to assess Oakland residents' attitudes toward the police generally and Oakland Police Department officers specifically. We used the following attitude items from previous research on attitudes toward the police in Oakland.[11]

Table 4.2. Attitudes Survey Items.

Scale Name	Sample Question	Response Scale
Trust in the Police (15 items)	The police listen to your views before deciding how to handle problems.	1 (Strongly Disagree) - 5 (Strongly Agree)
Perceptions of Bias (6 items)	How much do police in your community consider a person's race when they decide which cars to stop for possible traffic violations?	1 (Not at all) - 5 (A great deal)
Police Efficacy (4 items)	How effective have police in your community been in controlling violent crime over the past year?	1 (Not at all effective) - 5 (Very Effective)
Fear of Crime (5 items)	How much do you worry about being the victim of a robbery in your neighborhood?	1 (Not at all) - 5 (Very Much)

Trust in the Police. How much do Oakland residents trust the police? We averaged each respondent's responses to the trust items to create a single scale with values ranging from 1 (a very low level of trust) to 5 (a very high level of trust). The mean level of trust on this scale was 2.83, a small but statistically significant difference from the midpoint of the scale.[12] This suggests that, on average, respondents slightly distrust the police.

We also tested how respondents' age, gender, race, education level, and political leanings related to the trust they felt toward the police, using multiple regression. This statistical technique allows us to examine each of these factors, controlling for the influence of the other factors. The strongest predictor of trust in the police was political orientation, with more conservative respondents placing greater trust in the police.[13] The next strongest predictor of trust was race: Compared to African American and Hispanic respondents (M=2.53), White and Asian respondents

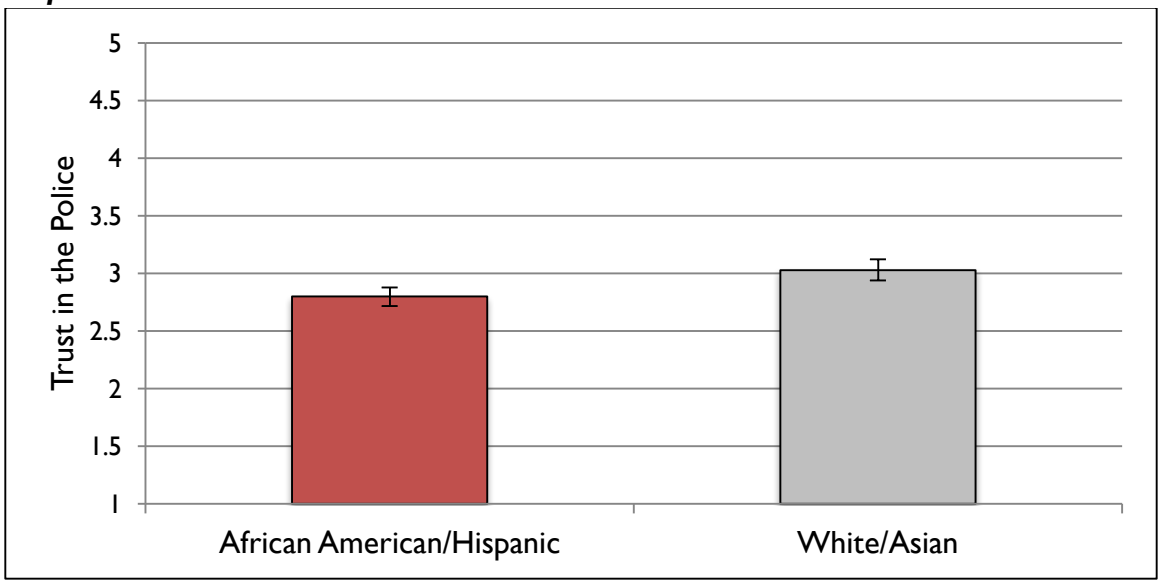
[11] Tyler, T. R., & Canelo-Cocho, J. (1999). *Report on the evaluation of Oakland police tactics.* Unpublished manuscript, University of California at Berkeley.

[12] $t(282)=-3.88$, $p<.001$

[13] $b=.11$, $t(250)=3.63$, $p<.001$

had greater trust in the police (M=2.85).[14] Figure 4.1 illustrates the differences in racial attitudes toward the police, controlling for all other variables.[15]

Figure 4.1. Whites and Asians Trust the Police More Than Do African Americans and Hispanics.



Analyses control for age, gender, political orientation, and education level.

Perceptions of Police Bias. How much do community members feel that race plays a role in officers' decisions? We averaged responses across the different perceptions of bias items, creating a composite ranging from 1 (race plays no role in policing) to 5 (race plays a very large role in policing). Across all respondents, the mean response on the scale was 3.67, indicating that community members felt that race strongly influences whom police officers will stop and whom police officers will help with their problems.

We also tested whether demographic groups differed in their perceptions of police bias. Race played a large role in shaping these views: White and Asian respondents believed that race had less of an influence on policing than African American and Hispanic respondents did.[16] Figure 4.2 demonstrates these differences. In addition, female respondents and more politically liberal respondents perceived more racial bias in policing than their male and conservative counterparts.[17]

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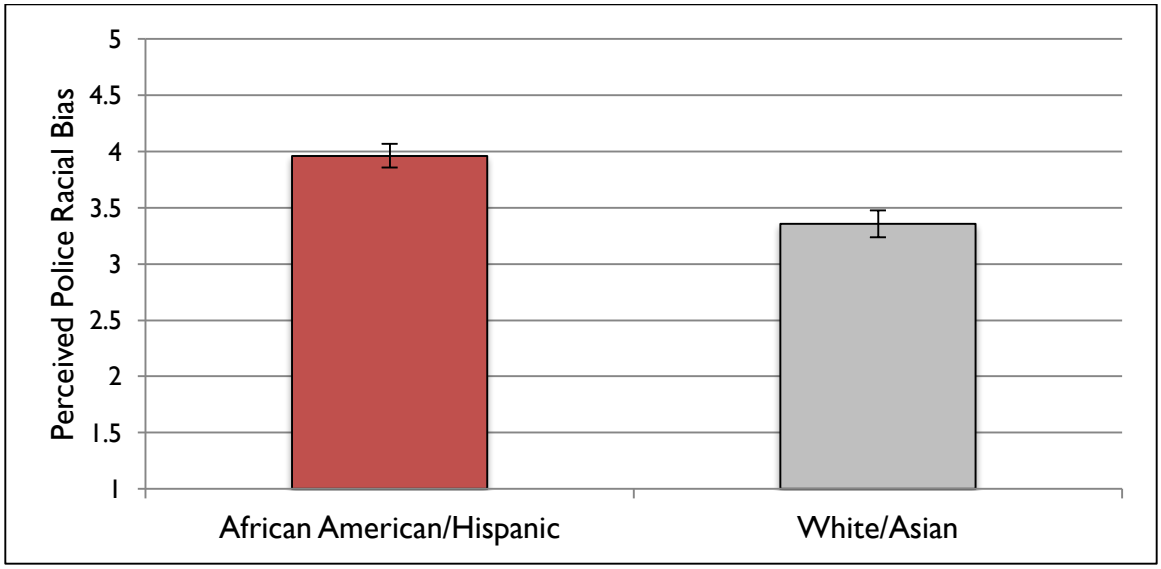
[14] b=.023, t(250)=2.32, p=.027; multiracial and respondents of other races did not differ from African American and Hispanic respondents.

[15] Age, education level, and gender did not predict trust in the police (all ps<.05).

[16] b=-.60, t(250)=-4.47, p<.001

[17] Effect of gender: b=.27, t(250)=2.33; p=.02, effect of political conservatism: b=.13, t(250)=3.45, p<.001

Figure 4.2. Oakland Residents' Perceptions of Racial Bias in Policing.



Analyses control for gender, age, political affiliation, and education level.

Perceived Efficacy. How effective do Oakland residents feel the OPD is at controlling different kinds of crime? We averaged respondents' perceptions of OPD efficacy at controlling gun crime, violent crime, gangs, and drug crime to create a scale ranging from 1 (not at all effective) to 5 (very effective). Although the mean response on this scale was 2.47, respondents' answers skewed toward the negative end of the scale. Indeed, 33.0% percent of the respondents felt that the OPD had not been at all effective in addressing serious crimes.

Perceptions of efficacy differed by age (older respondents felt police were more effective) and political orientation (conservatives felt that police were more effective).[18] Additionally, White and Asian respondents believed that the police were more effective than African American and Hispanic respondents did.[19]

Encounters with Police. Compared to White and Asian respondents, African American and Hispanic respondents reported more stops by the OPD in the previous year, with the latter two groups being 15% more likely to report having been stopped than the former two groups. While only 23.3% of White and Asian respondents reported being stopped by the OPD in the last year, 38.3% of African American and Hispanic respondents reported a stop. This race gap persists even after controlling for several demographic variables, so that the odds of an African American or Hispanic respondent having been stopped by the OPD in the previous year was almost twice that of a White or Asian respondent of the same age, gender, and education level.[20]

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[18] Effect of age: b=.01, $t(244)$=2.49, p=.01; effect of political conservatism: b=.12, $t(244)$=2.35, p=.02

[19] b=.33, $t(244)$=2.02, p=.04

[20] b=.658, Odds Ratio=1.93, p=.039

Conclusions from the Attitudes Survey. On average, the Oakland residents we sampled had a negative view of the police. They felt somewhat distrustful of the police, believed that race played a large role in policing, and were pessimistic about the OPD's ability to reduce major crimes. These views were tied to race: Controlling for a range of demographic variables, African American and Hispanic respondents believed the police were less trustworthy, racially impartial, and effective than did White and Asian respondents.

Experiences survey

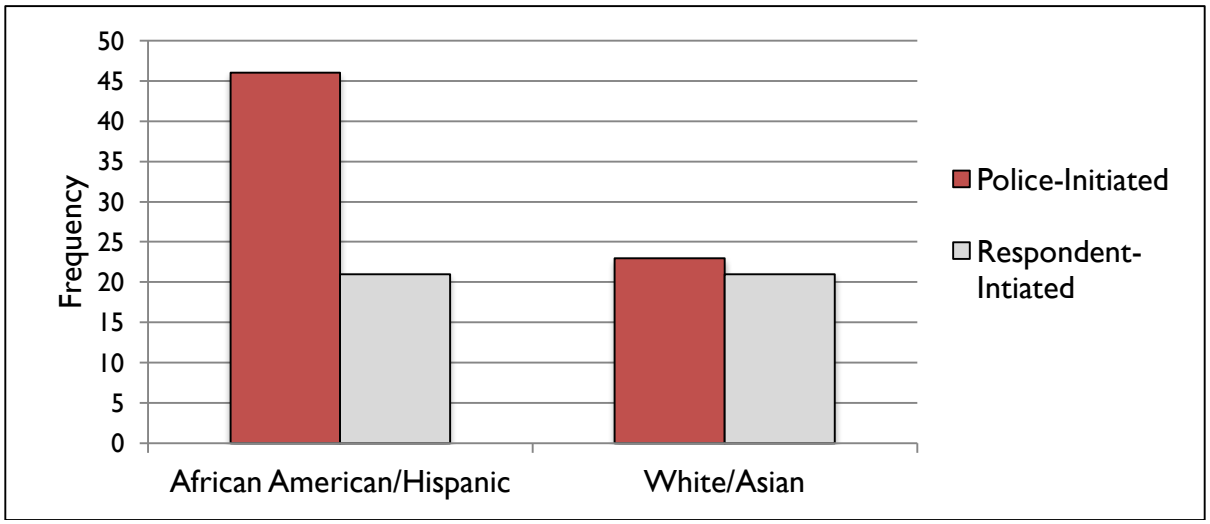
As our first survey showed, African American and Hispanic Oaklanders were more likely to report having been stopped by the police. Our second survey further examined what community members perceived those encounters with the police in Oakland to be like. To learn more about how people perceived their interactions with the police in Oakland, we asked respondents to think back to their last encounter with the OPD, regardless of whether the respondent contacted the OPD (respondent-initiated encounter) or the OPD contacted them (police-initiated encounter). On the survey, respondents described these interactions in their own words. They then answered specific questions about the interaction (e.g., how long ago was the interaction?) as well as their perceptions of the interaction.

Context of Interactions. Among our respondents, 71.7% described an interaction with an OPD officer within the previous year. Some 37.9% of respondents described a respondent-initiated encounter with the OPD (e.g., reporting a crime, asking police for directions), while 62.1% of respondents described a police-initiated encounter (e.g., being stopped or questioned by the police). Race shaped this pattern of results. As Figure 4.3 demonstrates, 69.6% of African American and Hispanic respondents wrote about police-initiated encounters, but only 30.4% these respondents wrote about respondent-initiated encounters. In contrast, equal numbers of White and Asian respondents sought out a police officer (52.3%) or had a police officer initiate contact with them (47.7%).[21]

Quality of Interactions with the OPD. After asking respondents about the circumstances of their interactions with the OPD, we wanted to find out more about the quality of their experiences. To this end, respondents indicated how respected they felt by the officer, how polite the officer was to them, how understanding the officer was, and how hard the police officer tried to be fair. These four items were highly correlated (α=.91), and so we created a composite score representing the respondent's perceived quality of interpersonal treatment, ranging from 1 (very negative) to 5 (very positive).

[21] $\chi^2(1, N=116)=4.51$, $p=.03$

Figure 4.3. African Americans and Hispanic Respondents Experienced More Police-Initiated Than Respondent-Initiated Contact with OPD Officers.



Respondents' experiences diverged, depending on the context of the interaction. When community members initiated contact with the OPD, they experienced officers as respectful and understanding, with 66% of respondents' scores falling at or above the midpoint of the scale. Their average score rested at 3.4, which was significantly above the midpoint.[22] In contrast, respondents who reported police-initiated interactions rated their experiences at only a 2.8 on this scale,[23] with only 44% of these respondents rating their experiences above the scale's midpoint.

We next examined whether respondents of different races reported different levels of quality in their interactions with officers. As Figure 4.4 shows, when respondents started the interaction with a police officer, African American/Hispanic respondents and White/Asian respondents did not differ in their quality ratings.[24] But for police-initiated interactions, African American and Hispanic respondents gave their interactions a mean rating of 2.5—almost a point lower than White and Asian respondents[25] in analyses controlling for age, educational attainment, and gender. African American and Hispanic respondents also felt that the police were less justified in stopping them.[26]

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[22] $t(49)=2.3$, $p=.03$

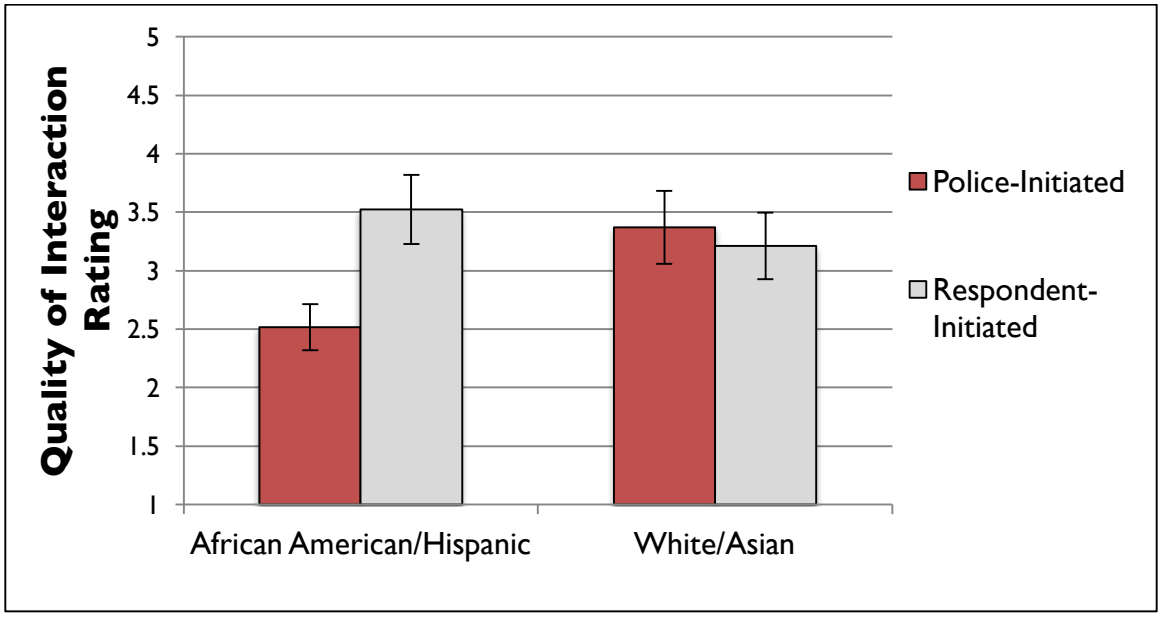
[23] This rating was lower than the midpoint of the scale, but did not differ significantly, $t(79)=-1.55$, $p=.12$

[24] $b=.31$, $t(115)=.76$, $p=.45$

[25] The effect of race significantly differed by context, $b=1.66$, $t(115)=2.16$, $p=.03$, an effect driven by the gap between African American/Hispanic and White/Asian respondents who had police-initiated interactions, $b=.85$, $t(115)=2.34$, $p=.02$.

[26] $b=1.38$, $t(53)=2.63$, $p=.01$

Figure 4.4. African Americans in Police-Initiated Encounters Report the Lowest-Quality Interactions.



Analyses control for age, gender, and educational attainment.

In a content analysis of these community narratives, 15.7% of African American and Hispanic respondents voiced concerns about being profiled or disrespected because of their race. This is a high number when we consider that the prompt simply asked respondents to describe their last interaction with a police officer, and did not mention race. Respondents voiced these concerns only in police-initiated interactions. No African American or Hispanic respondent mentioned race in a respondent-initiated interaction.

Stories of Police Interactions. Respondents described a wide variety of interactions with the police, ranging from conversations in the street, to being questioned by officers, to reporting crimes in progress. Table 4.3 shows some of the experiences that respondents described. Common themes respondents mentioned included: officer demeanor (was the officer seen as courteous or rude?), favorability of outcome (did the officer issue a ticket or a warning?), and officer efficacy (did the officer respond promptly and address the issue effectively?).

Conclusions from the Experience Survey. The experience survey went beyond respondents' attitudes about the police to ask about specific interactions they had had with the OPD. In their own words, respondents described encounters that made them feel safe, respected, and secure, as well as encounters that left them feeling upset, disrespected, and uncertain. In general, respondents were more positive about interactions they initiated with police officers than interactions that police officers initiated with them. One explanation of this difference is that community members who feel favorably toward the police are more likely to initiate interactions with police officers. Yet both quantitative and qualitative data suggest that respondents felt that officers were more

Table 4.3. Sample Respondent Stories About Their Most Recent Encounter with the OPD.

Respondent Demographics & Interaction Rating	Respondent Story
31-year-old White Man; Rating = 1.18	Local/neighborhood issue where police were in area. I asked for info on the event and was met with attitude and dismissal. Told me wasn't my business & to leave the area, which happens to be my home. All I needed was an explanation of what occurred to warrant their attendance.
24-year-old African American Man; Rating = 1.61	I was sitting in front of my home in my car when the first officer drove by then turned around then stopped behind me. The officer approached with his hand on his gun making me think he was nervous. He asked for my I.D. then after the second came he watched me. The second officer watched me like I was a threat at all times with his hand on his belt near his tazer. It was an overall unpleasant experience. I makes me fearful of the police.
29-year-old Multiracial Woman; Rating = 1.93	I was pulled over for driving to fast in the residential area. His response was nervous and he was very demanding. He told me I was going to fast and wanted to know where I was coming from and where I was headed. He then asked if I had a warrant, concealed weapons, dead body in the trunk, was I a fugitive on the run. I had my 5 year old daughter in the car. For her to be exposed to that and hear those things were upsetting. He asked me had I been drinking or doing drugs. My daughter has never heard of those type of things. The experience was demeaning. I was leaving church headed home. The speed had suddenly dropped and the sign was covered by a tree.
25-year-old Hispanic Woman; Rating = 2.7	The last time I can recall was when there was a shooting couple blocks from my parents room almost hitting my dad. No one was hurt… We had called maybe around 9pm and the dispatcher told us to wait for an officer. He didn't arrive until 1am... He took the bullet as evidence and gave my dad a # to his compliant he had made. The officer wasn't rude or anything, just asked if we were ok and wrote down our info and that was it… I don't know if they even tried to find the person who did it or not. I'm scared to even imagine nothing was really done.
32-year-old Asian Man; Rating = 3.3	From what one of my cousin told me (OPD), either at the beginning or ending of each month. There is a quote of tickets they have to give our and that I just happened to be caught in it. I pulled to a stop sign and went, the next thing you know there is a motorcycle officer behind me. I was pulled over and the officer informed me that I failed to make a full 3 second stop and as a result, I was issued a ticket. He was very nice to me throughout the ordeal, but I didn't feel comfortable at all. If anything, I was really nervous. As nice as the officer maybe it was an unpleasant feeling to received a ticket for a failure for a complete 3 second stop... most people don't even do that...

52-year-old White Woman; Rating = 3.7	The police come to my place of residence, because of a dispute between the couple who own the buildings (divorce)…The officer asked for my id and mediated between residents and the landlady. He did not enter after I asked him not to. I was glad the officer was there, bc the land-lady was slightly aggravated and was video-taping the interaction. The officer made her step away and stop taping. While I was surprised by the event, I would say overall the police was helpful and courteous.
50-year-old African American Woman; Rating = 4	My last interaction with a police officer was to speak with him about my oldest son who had some outstanding tickets. The officer was very helpful. He talked with me about options. He also stated that my son should not drive until the tickets were taken care of. He explained to me that he could possible have a "warrant." In spite out the "w" word he was very helpful and I felt safe in explaining my son situation.
24-year-old Multiracial Man; Rating = 4.8	I was riding my motorcycle & pulled up in front of my friend's apartment building late at night maybe 12 or 1 Am. I was going to give her a ride to another friends' house in the city. So I left the engine on. After a minute, an officer pulled up next to me and motioned for me to flip my visor so I could her him. I complied, leaving my other hand firmly on the hand grip. He explained to me that there was a noise ordinance that my idling engine was in violation. I apologized, told him I would park & kill the engine while I waited. He bade me a good evening & drove away. I was never uncomfortable during the interaction, and the officer was polite & professional.
34-year-old African American Woman; Rating = 5	My last interaction was last night. My car was carjacked. The officer was very friendly and he was sympathetic to me. He took my information and assured me that everything was going to be alright and to make sure that my husband cancelled all his credit cards and bank cards.

respectful and understanding in these interactions.

Members of different races had similar experiences in some respects, but divergent experiences in others. African American and Hispanic respondents felt they received the same quality experience as White and Asian respondents in respondent-initiated interactions. However, in officer-initiated contacts, African American and Hispanic community members felt less respected and understood by the officer with whom they interacted. Many respondents of color described feeling singled out, subject to increased scrutiny, or differentially treated because of their race when officers pulled them over. Moreover, African American and Hispanic respondents were more likely

to interact with officers in precisely these police-initiated circumstances, while White and Asian respondents were more likely to interact with officers because they chose to.

Discussion

Trust is inherently subjective, but it is objectively consequential for effective policing. The goal of these surveys was to get glimpse of Oakland residents' attitudes toward the police, as well as their experiences of interactions with the OPD. This glimpse revealed three themes:

1. The Oakland community is wary of the police. In the attitudes survey, we found that residents had moderate to negative views of the police. On some measures, such as trust, we found that participants were slightly below the midpoint of the scale on average, indicating slight mistrust of the police. Yet participants were less sanguine about the neutrality and efficacy of the OPD.

2. Context shapes experiences with the police. In the experience survey, we found that Oaklanders of all races felt that officers were more respectful and understanding in interactions that respondents initiated compared to interactions that police officers started. In addition, African American and Hispanic respondents reported lower-quality interactions when stopped by the police.

3. Race matters. We found that race shaped responses in all our surveys. African American and Hispanic respondents were less trusting of the police and perceived them as being more biased than Whites and Asians did. African American and Hispanic Oaklanders were also more likely to have been stopped by the OPD and less likely to have initiated interactions with the police. In officer-initiated interactions, African Americans and Hispanics were uncertain about whether their race drove the officer's decision to stop.

Our survey design carries some limitations. First, although the DMV is a diverse sample, it is not a representative one: We oversampled African American respondents, and had fewer Asian or Hispanic respondents compared to Oakland as a whole. Furthermore, respondents at the DMV may have been more likely than the Oakland population to have received a ticket requiring DMV action. Lastly, our surveys provide a snapshot of public opinion at a single moment in time. Overall, however, we heard a wide range of personal experiences, giving us a snapshot of Oaklanders' experiences with and opinions of the police.

As policies, practices, and opinions inside and outside Oakland change, we expect community members' opinions and experiences to shift as well. We recommend that the OPD continue to monitor public opinion using both quantitative and qualitative approaches as it endeavors to build trust with the Oakland community. By soliciting and analyzing such feedback, the department can identify barriers and best practices to strengthen these bonds.

Chapter 5: Social Tactics Training

By Jennifer L. Eberhardt, Ph.D., Hazel Rose Markus, Ph.D., Sarah Lyons-Padilla, Ph.D., Alana Conner, Ph.D., Camilla Griffiths, B.A., and Amrita Maitreyi, B.S.

Using different datasets, research methods, statistical techniques, and levels of analysis, we have so far shown in this report that racial disparities pervade police-community interactions in Oakland, Calif. In Chapter 1, we found that Oakland Police Department (OPD) officers disproportionately stop, handcuff, search, and arrest African Americans, even after statistically controlling for neighborhood crime rates and racial demographics. In Chapter 2, we found racial disparities in the language officers use with African American as compared to White community members. For example, during traffic stops, officers are more likely to tell Whites than African Americans the reason they were stopped, whereas officers are more likely to ask African Americans if they are on probation or parole.

In Chapter 3, we found that officers disproportionately stopped African Americans for minor traffic violations and equipment violations. Finally, in Chapter 4, we found racial disparities in Oakland community members' attitudes about and experiences with the OPD. In particular, African Americans and Hispanics perceive police officers to be less trustworthy and more biased than do Whites and Asians, and after police stops, African Americans and Hispanics report feeling less respected and understood than do Whites and Asians, as well as more concerned that the stop was because of their race.

The racial disparities we have uncovered during our two-year investigation are clear and undeniable. Yet unlike many law enforcement agencies around the country, the OPD acknowledges these racial disparities and is beginning to address them. In fact, twice a year, the department publicly releases its own descriptive analyses, which also show racial disparities in stops and searches.

In this chapter, we discuss how the OPD is using high-quality, evidence-based officer trainings to reduce racial disparities in policing. These trainings apply our own and our colleagues' social psychological research in *procedural justice*, which shows that people care as much about how they are treated during the course of an interaction as they do about the outcome of that interaction;[27] and *implicit bias,* which shows that many racial disparities are not intended or even conscious, but rather arise from unintended and subtle cognitive tendencies. The OPD leadership has offered trainings on both topics to all OPD sworn staff.

[27] Tyler, T. R., & Huo, Y. J. (2002). *Trust in the law: Encouraging public cooperation with the police and the courts.* New York: Russell Sage Foundation.

Procedural justice training

Police departments all over the country are adopting procedural justice training as a way to improve their relations with the public. In policing, for example, community members may care as much about how a police officer interacts with them as they do about, say, receiving a ticket. Across hundreds of studies, researchers have demonstrated that when officers behave in ways that are more procedurally just, citizens are more likely to feel the police are legitimate and, in turn, those citizens are more likely to obey the law.

From the spring of 2014 to the spring of 2015, the OPD leadership offered a one-day procedural justice training to the entire sworn OPD staff. A small team of OPD sworn staff and a well-respected Oakland community leader delivered the training. Trainings included the basic tenets of procedural justice: letting community members tell their story (*voice*), applying the law the equally to all members of the community (*fairness*), showing respect, and demonstrating trustworthiness. The OPD sworn staff learned about various threats to procedural justice, including police cynicism, stress, and poor health, as well as poor historical relations between the police and communities of color. Finally, officers learned of various procedural, behavioral, and psychological strategies to reduce threats to procedural justice and improve police-community relations. Overall, the training was well received by OPD sworn staff. Currently, the OPD leadership has made plans to offer the training to their civilian staff and to build the principles of procedural justice into some of the basic functions of the department, including recruitment and hiring.

Principled Policing training

In the spring of 2015, the OPD also joined an effort led by the California attorney general Kamala Harris to build the nation's first POST[28]-certified training on implicit bias and procedural justice. The course was titled *Principled Policing* and was delivered to 50 law enforcement executives from 28 agencies across the state of California. The California Department of Justice developed the training in partnership with Stanford SPARQ, the Oakland and Stockton Police Departments, and the community organization California Partnership for Safer Communities. The procedural justice component of the training drew significantly from the training that had been offered to OPD sworn staff. Members of Stanford SPARQ, including SPARQ co-directors Jennifer Eberhardt and Hazel Rose Markus, developed the implicit bias component of the training.

Following completion of the course, researchers from Stanford SPARQ conducted an evaluation with participants to assess the effectiveness of the course in educating police leaders about procedural justice and implicit bias, as well their perceptions of police-community relations.[29] In addition to advancing the leaders' knowledge of procedural justice and implicit bias, the evaluation revealed that the course increased these leaders' sympathy toward the community, raised

[28] Commission on Peace Officer Standards and Training (POST).

[29] For more information, please see the Stanford SPARQ and California Department of Justice's *Principled Policing* report, available at sparq.stanford.edu/principled-policing.

their confidence that better police-community relations are possible, and helped them recognize multiple routes to positive change.

We are now developing *Principled Policing* training for delivery to line officers at regional training centers across the state of California.

Implicit bias training

In the spring of 2016, Dr. Eberhardt offered a two-hour module on implicit bias to 90% of the OPD sworn staff—approximately 680 officers. The objectives were to teach officers about the concept of implicit bias, discuss sources of implicit bias, present a series of empirical studies on bias, and highlight promising interventions for mitigating bias and improving police-community relations. Implicit bias is a broad concept that can be defined as "thoughts or feelings about people that we are unaware of and can influence our own and others' actions." Although implicit bias can affect anyone in our society, the training emphasized the role that bias could play in the context of policing. A modified version of this implicit bias module will be integrated into the *Principled Policing* training now being developed for line officers across the state.

Although many people seize on implicit bias as the primary source of racial disparities in police stops, we believe that implicit bias is only one of multiple sources. Other sources of disparities could include the cultural norms and practices within law enforcement agencies, officers' perceptions of what their superiors want them to do, and institutional incentives that direct officers to focus more of their time on certain types of enforcement (e.g., arrests) and less on positive community contact.

The OPD has made a huge effort to address racial disparities through training. Yet, there are many more actions they could take. The final chapter of this report outlines and describes 50 recommended actions the OPD and other law enforcement agencies can take to mitigate racial disparities and improve police-community relations.

Chapter 6: Fifty Recommendations to Mitigate Racial Disparities and Improve Police-Community Relations

At the core of the Oakland Police Department's (OPD) stated mission, vision, and values is its commitment to serving a highly diverse community with fairness, respect, and honor. Across the United States, law enforcement agencies espouse similar principles. Yet for many agencies, tensions between the police and communities of color are at an all-time high. At the OPD, we found evidence of racial disparities across the entire course of police-community interactions. These disparities emerged in every dataset we examined—from the data captured on the stop data forms the police are required to complete, to the data captured on the body cameras the police are required to wear, to the data captured on the surveys community members volunteered to take. How can the OPD, as well as other agencies, improve police-community relations and more consistently deliver on its mission, realize its vision, and act on its values?

Our two-year inquiry suggests an answer. To improve police-community relations, law enforcement agencies like the OPD must reimagine themselves as learning institutions—that is, as places that collect and use high-quality data based on the goals and values they share with their communities. By continually collecting high-quality data, law enforcement agencies can not only identify the root causes of problems in their communities but also develop effective solutions to these problems. With time, these agencies may also be able to prevent problems in their communities before they arise.

Becoming learning institutions will require the OPD and other law enforcement agencies to adopt new policies, practices, technologies, and norms. In other words, these agencies must change their cultures. Using our analysis of stop data as an anchor, we have identified 50 specific actions that agencies can undertake to bring about measurable progress. Indeed, the OPD has already undertaken several of these recommended actions, with promising results.

Below we list the 50 recommended actions followed by a short description and rationale for each action. We group the recommendations, not in order of importance but thematically—into eight action areas. The first five action areas (A-E) focus on collecting, analyzing, using, and sharing high-quality data. The last three action areas (F-H) focus on developing the people and relationships that will drive the prescribed culture change. Together, the 50 recommended actions will help shift law enforcement agencies toward cultures of learning, strength, and growth.

A List of the 50 Recommendations

A) Measure What Matters

1) Continue collecting stop data.
2) Add a field on the stop data form to capture squad information.
3) Add a field on the stop data form to capture squad sergeant information.
4) Update the stop data form as needed.
5) Standardize, track, and analyze crime-related communications provided to officers.

B) Leverage Body-Worn Camera (BWC) Footage

6) Add a field on the stop data form regarding BWC usage.
7) Tag BWC footage.
8) Use BWC footage to train officers.
9) Require officers to self-audit racially charged BWC footage.
10) Use BWC footage to evaluate policies.
11) Invest in the development of a BWC early warning system.

C) Make Data Accessible

12) Build a stop data dashboard.
13) Automate stop data analyses.
14) Automate narrative analyses.
15) Assist researchers in building an automatic speech recognition system for BWC footage.
16) Improve systems for backing up and accessing BWC footage.

D) Collaborate with Data Partners

17) Hire a data manager.
18) Partner with outside researchers to analyze and use data.
19) Partner with outside researchers to conduct high-quality studies.

E) Improve Feedback Channels

20) Give officers individualized feedback on their stop performance.
21) Create new ways for officers to give feedback to command staff.
22) Use complaint data more effectively.
23) Conduct customer-service audits after routine stops.
24) Regularly administer community surveys.

F) Train Officers in Social Tactics

25) Make trainings shorter and more frequent.
26) Expand training topics.
27) Let officers choose which trainings to take.
28) Incentivize "training-in-action" workshops.
29) Rigorously measure the effects of all trainings.
30) Hire a training coordinator.

G) Increase Positive Contact with Communities

31) Hold monthly relationship-building meetings.
32) Enhance the capacity of Community Resource Officers.
33) Require squad-based community projects.
34) Train officers and community members together.
35) Encourage out-of-uniform contact with communities.
36) Distribute personalized business cards.
37) Show more care in high-crime areas.
38) Hold "critical incident" discussions and trainings.
39) Host annual conferences on police-community relations.
40) Develop and track measures of community engagement.

H) Enhance Risk Management

41) Continue risk management meetings.
42) Identify outlier officers.
43) Monitor and reduce time pressure.
44) Monitor and reduce stress and fatigue.
45) Identify factors associated with high- and low-performing squads.
46) Review policy: Handcuffing people undergoing a search.
47) Review policy: Searching people who are on probation or parole.
48) Review practice: Asking people whether they are on probation or parole.
49) Produce and publish an annual Racial Impact Report on stop data.
50) Analyze data for trends over time.

The 50 Recommendations Explained

A) Measure What Matters

Analyzing stop data gives law enforcement agencies a better understanding of how they make contact with the public, as well as the impact of that contact. The Oakland Police Department (OPD) wants to use stop data to guide and evaluate its enforcement strategies. Here, we offer recommendations for improving the stop data systems on which all of our analyses rest.

1) Continue collecting stop data. Under the Race and Identity Profiling Act of 2015 (AB 953), the State of California will soon require law enforcement agencies to collect data on both vehicle and pedestrian stops statewide. The OPD is well ahead of most others in this regard, as it already collects the vast majority of measures this new law will require. Given this, the OPD is positioned to serve as a model for other agencies across the state in developing not only a standardized stop data form, but also stop data policy, training, and data analysis.

2) Add a field on the stop data form to capture squad information. Stop outcomes (i.e., searches, search recoveries, handcuffing, and arrests) may vary substantially across squads. Analysis by squad would allow researchers to better identify what accounts for variation in stop outcomes, controlling, of course, for the context in which that squad operates. Unfortunately, precise information on squad assignment is not currently accessible in a format permitting systematic analysis. Although the OPD keeps records on the permanent squad assignment for each officer, officers can (and many frequently do) temporarily move across squads as needed. Therefore, we do not know what squad the officer was in at the time he or she made a stop.

We therefore recommend adding a text field to the stop data form where officers can enter both their temporary and permanent squad assignment at the time of the stop. This information would allow analysts to measure how much stop outcomes vary by the squad's experience level, gender diversity, racial diversity, and so forth. The OPD is in the process of revising the stop data form to capture squad information.

3) Add a field on the stop data form to capture squad sergeant information. Law enforcement agencies are hierarchical institutions: What officers believe their direct supervisors want strongly shapes their actions. Yet currently, we do not have precise information on the officer's squad sergeant at the time he or she made a stop. We recommend adding a text field to the stop data form where officers can enter their temporary and permanent squad sergeants. Having this information would allow researchers to examine how squad sergeants influence officers.

Squad sergeant information would also allow researchers to examine the relative contributions of officer experience and squad sergeant to the decisions officers are making about who to stop, search, handcuff, or arrest. Does an experienced officer behave the same way regardless of who his or her squad sergeant is? Alternatively, do all officers under the same squad sergeant begin to behave similarly? Although such information seems critical to any comprehensive stop data analysis, it is surprisingly rare. The OPD is in the process of revising the stop data form to collect

this information and will become one of the first law enforcement agencies to do so. Like information on squad assignment, information on squad sergeants is quite important for using stop data analysis to inform decisions on policy and practice.

4) Update the stop data form as needed. In the next several months, the OPD will begin using a new stop data form that will include fields about squad assignment and squad sergeant. We recommend that the OPD continue to update the stop data form as needed. For example, currently, when officers make an arrest during a self-initiated stop, they indicate whether the arrest was for a felony or a misdemeanor, yet the specific offense information is not captured on the stop data form. We recommend that the OPD stop data form include information on the alleged offense, as state law (AB-953) will soon require. Collecting this information will increase the efficiency and accuracy of data entry and allow researchers to more easily analyze arrest data by race: Are African American community members more likely to be arrested than White community members for the same minor offenses, and if so, under what circumstances? Such analyses would allow the department to take a deeper look at the racial disparities in arrests we found in our stop data report.

5) Standardize, track, and analyze crime-related communications provided to officers. Just as squads could have an influence on officers' stop outcomes, so too could the directives (i.e., orders) given by squad sergeants, lieutenants, and command staff. At the moment, information about the timing of directives is often difficult to track or is kept in a form that is not easily analyzed (e.g., printed notes, email exchanges, oral presentations). The content, format, and frequency of directives seem to vary widely from commander to commander. Crime-related communications come not only as directives, but also as weekly priorities, crime bulletins, and 911 broadcasts—all of which could have their own influence on officers' stop decisions.

To the extent possible, we recommend that the department track and analyze the crime-related communications given to line officers by creating a digital repository where such communications are automatically collected and time-stamped with clear information about their distribution list. The potential impact of these communications on stop outcomes is great, yet surprisingly, that potential is rarely examined in law enforcement agencies generally. Are certain types of directives more likely to increase racial disparities in stops? Are certain ways of communicating about crime more likely to increase racial disparities in stops? Although command staff, outside monitors, and researchers typically treat self-initiated stops as discretionary, officers' decisions also reflect the information they receive and what they believe their supervisors and departments want. Just in the last several months, the Office of Inspector General (OIG) conducted a detailed analysis of crime-related information. Their approach to this issue is quite impressive, and we hope to work with them in the near future to examine these findings.

B) Leverage Body-Worn Camera (BWC) Footage

Despite the growing support for body-worn cameras (BWCs), no law enforcement agency has systematically analyzed the massive amounts of footage these cameras produce. Yet studying BWC

footage could provide unparalleled insights into police officers' interactions with community members. The OPD is uniquely positioned to lead the industry in this regard. The OPD has used BWCs for years, and the department has already begun to work with researchers on footage analysis. Here we offer recommendations to better leverage the data produced from BWCs.

6) Add a field on the stop data form regarding BWC usage. OPD policy requires officers to activate their BWCs any time they make a self-initiated stop. Yet, currently, there is no simple way to check how often officers follow this policy, or whether officers are more or less likely to turn on the camera for certain types of stops (e.g., stops that involve probable cause searches vs. consent searches). It is especially important to have footage available to inspect that involves police actions associated with large racial disparities (e.g., consent searches, weapons searches, handcuffing, traffic violations). We recommend that the department add a stop data form text field where officers can indicate whether their camera was activated and, if not, why. With a few keystrokes, the department could monitor how often officers use their cameras as required by official policy. The department could monitor trends in camera use over time as well. At our suggestion, the OPD is in the process of revising the stop data form to collect this information.

7) Tag BWC footage. Although OPD policy requires officers to activate their BWCs in certain situations, until recently, policy did not require officers to tag the footage that those cameras collect. At our suggestion, the department has begun tagging self-initiated stop footage with an incident number, which allows the department and researchers to associate each stop in the database with the BWC footage from that stop.

8) Use BWC footage to train officers. Although media coverage of BWC footage tends to highlight problematic police-community interactions, the vast number of interactions that go well receive little attention. The department should identify footage of exemplary interactions (such as those involving de-escalation), and then use that footage to teach officers best practices.

9) Require officers to audit their own BWC footage. In an effort to help squad sergeants and command staff better understand the nature of tensions on the street, we recommend that the department require officers to flag two interactions per month that were especially tense and were captured on their own BWCs. Such footage could include situations where a community member calls an officer a racist or expresses concern that he or she has been profiled. Such footage could include situations where a community member expresses anger about being handcuffed. Once flagged, the footage would offer command staff a clearer sense of what officers and community members are facing routinely in their interactions, and it places command staff in a better position to help solve problems and offer support.

To the extent that there are common situations that give rise to tension, command staff could also use some portion of this audited footage to train officers in best practices for handling difficult interactions. This self-auditing process may even lead to a change in policy. Our

recommendation is consistent with viewing law enforcement agencies as learning institutions—where change is motivated by self-discovery and problem solving rather than fear of punishment.

10) Use BWC footage to evaluate policies. The department could use BWC footage to evaluate the implementation and impact of new policies, as well as to check officers' compliance with existing policies. For example, during self-initiated stops, OPD officers are required to inform members of the public of their right to refuse a consent search. Command staff could audit footage to determine whether in fact officers tell community members that they have a right to refuse the consent search, when officers share this information, how they share it, and so forth. Command staff could also examine whether the race of community members affects how officers implement this policy, and then, in turn, whether and when interactions escalate. Finally, command staff could examine whether race is linked to community members' acceptance or refusal of consent searches. Might concerns about the consequences of refusing lead African American community members to be more likely to agree to consent searches than White community members? Currently, refusal rates of consent searches are not easily tracked. Body-worn camera footage would allow command staff to track this important outcome.

11) Invest in the development of a BWC early warning system. The department has invested heavily in the development of PRIME, an early warning system that uses a suite of metrics to determine which officers may be having trouble and which may be likely to have trouble in the near future. These metrics involve everything from tracking the number of complaints an officer receives to the amount of sick leave he or she takes. Many law enforcement agencies across the country are now investing in early warning systems. We recommend that the OPD invest in the development of an early warning system for BWC footage that would be integrated into the PRIME system. This would involve developing metrics for evaluating and analyzing police-community interactions captured on camera footage. Such metrics could not only be used to track the interactions that specific officers have, but also to track interactions across the entire OPD.

For example, the department could monitor the quality of police-community interactions across the department from one month to another. Such monitoring would allow the command staff to compare the quality of those interactions immediately before and after a major policy change in the department—to measure the impact that the policy is having on police-community relations. And when events happen that shake the nation, like those in Ferguson, New York, or Baltimore, the command staff could look to this early warning system to get an immediate read on how those events might reverberate in the day-to-day encounters of police officers in Oakland.

With access to this information in real time, command staff could quickly implement strategies designed to reduce police-community tension and they could immediately assess the impact of those strategies. An early warning system of this nature does not exist anywhere in the country, and most likely is several years away from being implemented. Yet the OPD is poised to lead the way on its development.

C) Make Data Accessible

Data are useful only if people can readily find, use, and interpret them. Here we suggest ways to make law enforcement data easier to access and apply.

12) Build a stop data dashboard. We recommend that the department build an interface in the PRIME early warning system that clearly summarizes and visualizes stop data—that is, a dashboard. This dashboard would allow the department to sort stop data by type of stop, reason for stop, search, search recovery, etc. The dashboard would allow command staff to seamlessly move from the stop data display to viewing the BWC footage from those stops. Using this dashboard, command staff could quickly glean trends, explore their own hypotheses, and develop sophisticated predictive algorithms, such as how officers' past behaviors predicts future behaviors. Command staff could examine whether recovering contraband during a search leads officers to attempt more searches; or whether taxing calls for service subsequently lead to more fruitless searches during self-initiated stops. Command staff could then use this knowledge to improve their enforcement strategies. The OPD has been working with a vendor to build a stop data dashboard; however, the interface with PRIME would be a more robust long-term solution.

13) Automate stop data analysis. We recommend that the department automate stop data analysis, to the extent possible, so that they can efficiently produce reports and rely on that information.

14) Automate narrative analysis. In addition to checking boxes on a stop data form, officers also enter information in a narrative field where they describe the circumstances surrounding each self-initiated stop. The department should work with researchers to develop algorithms for analyzing officers' narrative accounts, exploring why officers stop, search, handcuff, and take other actions. These narrative analyses could then guide policy, training, and enforcement strategy.

15) Assist researchers in building an automatic speech recognition system for BWC footage. The language officers use in their interactions with the public is especially important, as it can convey respect or contempt, compassion or disregard, concern or apathy. Analyzing officers' speech in BWC footage could allow the department to examine officers' language precisely and systematically, and then develop strategies for improving officer communication. For speech analysis to be feasible and sustainable, however, researchers must figure out ways to automate speech recognition. Watching footage is prohibitively expensive and time-consuming.

Instead, we recommend that the department assist researchers in developing a speech recognition system for the policing context. This system could analyze both the semantic content of encounters, such as the words used, and the non-semantic components of speech, such as pitch, pace, and turn-taking. Both aspects of speech may indicate, or even predict, the overall positivity or negativity of the interaction.

By using automatic speech recognition, the department could quickly analyze a huge number of videos. Researchers could then combine speech metrics with other stop data (e.g., the race of the person stopped, the location of the stop, the outcome of the stop) first to understand patterns in communication, and then to help officers communicate more effectively. The proposed speech recognition software would be the first of its kind, and could be adopted by police departments across the nation, giving them access to rich data that has never before been mined. The department has already begun to assist with this goal.

16) Improve systems for backing up and accessing BWC footage. At the moment, the department's server is slow and frequently crashes when handling BWC footage. These problems will only increase as supervisors and command staff begin to access footage more routinely. We recommend that the city improve systems for backing up and accessing BWC footage.

D) Collaborate with Data Partners

17) Hire a data manager. We recommend that the department hire a dedicated full-time data manager to oversee databases, data requests, research collaborations, and data for risk management. The data manager would interface with data scientists, go to conferences, stay familiar with the latest data-mining techniques, and assist in the development of new metrics. This person would also use public datasets (e.g., the Open Justice datasets made available through the California Department of Justice) to supplement and make sense of OPD data, as well as use geographical information systems (GIS) and time-series analyses to identify patterns involving space and time.

18) Partner with outside researchers to analyze and use data. The OPD should work with researchers to adopt novel, sophisticated statistical techniques and analyze their own data in-house.

19) Partner with outside researchers to conduct high-quality studies. The OPD should work with researchers to implement systematic studies that are inspired by stop data and are designed to improve a specific outcome. For example, some of the command staff claim that frequent probation/parole searches are necessary and good for the person who is on probation or parole because these searches send the message that "you are on our radar" and protects the person from slipping back into a life of crime. Although the command staff stands by this claim, we are aware of no research study that supports it. It could indeed be the case that frequent probation/parole searches reduce recidivism.

Yet the alternative hypothesis is also compelling: Frequent searches could lead people on probation or parole to feel harassed, marginalized, and subordinate—feelings that in turn could decrease civic engagement and enthusiasm for turning one's life around. In other words, excessive police stops could increase recidivism rather than reduce it. Partnerships with outside researchers would allow the department to test its assumptions as well as to test novel policing techniques.

E) Improve Feedback Channels

Thus far, we have focused on improving data systems so that the department has more complete data to make decisions. Building these data systems is critical for sustaining the positive changes the OPD has made in recent years. The recommendations in the following section focus on how departments can use these data to improve their operations and relationships with community members.

20) Give officers individualized feedback on their stop performance. We recommend that supervisors give officers annual feedback on their stop performance. Information on the number of stops, the number of searches, the search recovery rate, and so forth should be presented to officers along with benchmarks (e.g., data at the squad level, area level, and department level). Rather than providing this information only to officers who are extreme outliers (e.g., officers with very low recovery rates), we recommend that officers receive this information on a regular basis regardless of how they perform. That is, we recommend treating the data as informative rather than punitive. Routinely discussing officers' performance and helping them develop and reach their goals is consistent with the broader mission of law enforcement agencies' becoming learning institutions. We recommend that the command staff develop an assessment tool that supervisors can use for these discussions. To this end, having a stop data dashboard would be helpful.

21) Create new ways for officers to give feedback to command staff. Just as supervisors and command staff could provide more feedback to line officers, so too could line officers provide more feedback to supervisors and command staff. We recommend that the department develop new mechanisms for receiving feedback from line officers on what is and is not working well. This feedback could come in the form of regular department climate surveys or comment cards. Precautions must be taken to ensure this feedback is anonymous so line officers do not fear retaliation by more senior staff if they air complaints.

22) Use complaint data more effectively. Law enforcement agencies typically examine community complaints on a case-by-case basis. In addition to this, we recommend that the department conduct more detailed analyses of patterns across cases: What are people complaining about? When are they complaining? Who is complaining? This approach to complaint data would help the department understand, for instance, what types of self-initiated stops lead people to feel especially aggrieved, even when in isolation these complaints are not sustained.

We recommend that the OPD identify not only areas of complaints, but also where complaints are surprisingly absent. For example, one might expect more complaints to appear in use-of-force cases than in cases where there was no use of force. If this is not the case, then why? Are African American people from poor neighborhoods less likely to complain than White people from middle-class neighborhoods? If so, might this reflect a difference in how comfortable the two groups are making complaints or a difference in actual experience with the police? This counter-intuitive approach would give the OPD some understanding of possible disparities in access to complaint mechanisms and may help the OPD design better routes to assess community satisfaction.

23) Conduct customer-service audits after routine stops. Customer-service audits are used widely in other industries. Similarly, we strongly recommend that the department allow an independent entity (such as a research team) to contact community members who have recently undergone a police stop to ask about their experience. Currently, OPD officers turn on a BWC, complete a stop data form, and write a narrative about each self-initiated stop. Yet these data do not include community members' experience of the stop. Having community members' perspectives would allow researchers to gauge the impact of particular enforcement strategies on the public.

Standard surveys that randomly target community members, such as random-digit telephone surveys, are not adequate because many of the survey respondents have never been stopped by OPD officers, or have not been stopped recently. Instead we recommend identifying people who have been recently stopped by OPD and following up with them with an online questionnaire, phone questionnaire, in-person questionnaire, or even a focus group. These recommended customer service audits also would allow the department to get feedback from the public after they have had contact with the police when nothing goes wrong. That is, receiving this feedback would allow the department to track the police-community interactions that community members find most or least satisfying, and then identify which factors are associated with both of these types of interactions.

24) Regularly administer community surveys. Just as the department should get targeted feedback from community members who have had recent contact with the police, so too should it collect data from the broader public. We recommend that the department continue to work with researchers to collect community survey data. These data help the department understand its reputation in the community at large.

Additionally, community data show where to look for racial disparities in stops. In fact, gathering feedback from community members led us to examine racial disparities in handcuffing, an action with huge racial disparities that had not received much scrutiny by the OPD or other cities. Community data could also allow the department to test the impact of unexpected events, public announcements, and new policies on community attitudes over time.

F) Train Officers in Social Tactics

In many law enforcement agencies, officers view training in police-community relations as an indictment of their character rather than as an opportunity to grow, learn, and participate in the creation of knowledge. Line officers may feel they are receiving training in social tactics because others (including their command staff) feel they are deficient people. Here we offer recommendations for how the OPD can better deliver social tactics training.

25) Make trainings shorter and more frequent. In many law enforcement agencies, trainings designed to improve police-community relations last many hours, sometimes several days. Because of the expense and logistics involved, law enforcement agencies are inclined to offer such

trainings infrequently. We recommend that the OPD break with industry tradition in this regard and instead offer more regular police-community training and in smaller doses.

For example, officers could take a series of two-hour trainings, several times a year, rather than take an eight-hour training every four or five years. More regular trainings may be not only less cost-prohibitive for the department but also more effective, as officers may learn more and be more inclined to incorporate the lessons of the trainings in their own day-to-day practices. In addition, when such training becomes routine, officers may be less inclined to think of the training as punitive.

26) Expand training topics. In line with re-imagining the department as a learning institution, we recommend that the department give officers a suite of trainings in social tactics. As in university settings, some courses could have prerequisites. Some courses may offer specialized training aimed at those who are playing a unique role within the department. For example, the department could offer a course on statistics and methods for law enforcement executives, or a training for sergeants on how to talk about stop data with their line officers. The department could offer 10-week courses (meeting once a week for an hour) for command staff or for people learning to be trainers of a specific social tactic.

27) Let officers choose which trainings to take. People tend to like and learn more from the activities they choose than from compulsory activities. And so allowing officers to choose which courses to take, and when, from a menu of options could likewise dispel the notion that social tactics training is punitive. Giving officers a choice would also likely improve their retention and application of the material presented.

28) Incentivize "training-in-action" workshops. The department could also incentivize (e.g., by providing in-service credits or time off) workshops for those who would like to continue meeting on a topic after a training has ended. These workshops could include a speaker series in which OPD staff has the opportunity to hear from those in other law enforcement agencies, other areas of the criminal justice system, or academic institutions. Alternatively, the workshops could involve a small group at the OPD working together on a special project, using the research learned in a social tactics training to solve a particular problem in Oakland.

29) Rigorously measure the effects of all trainings. All too often, law enforcement agencies pay for and implement social tactics trainings that are not proven to be effective. Simply asking training participants if they enjoyed the training is not enough. The department should insist on rigorously evaluating whether trainings improve police-community relations. This can be done by looking at community-level indicators before and after a training is deployed or, if the program is deployed progressively across the entire agency, by looking at outcomes for officers or squads who have already undergone the training versus those still waiting to receive it.

30) Hire a training coordinator. We recommend that the department hire a full-time training coordinator to manage and track the trainings offered in the department. This person

would regularly interact with other trainers across the department. The coordinator would ensure that the training offered at all levels of the OPD is consistent with social tactics training (e.g., procedural justice and implicit bias) and would work with instructors to incorporate social tactics principles where appropriate. The coordinator would help command staff decide on what refresher trainings are needed for those who have been identified in PRIME (the early warning system). The coordinator could also monitor the impact of policy changes (both on OPD staff and on members of the public) and would be available to design training options that would accompany those policy changes. Finally, the coordinator would visit other law enforcement agencies and attend conferences in an attempt to learn and share best training practices in the industry.

The primary goal of the training coordinator would be to ensure that the values of the department are infused in the trainings that are offered and that the different trainings offered throughout the department are integrated, such that officers feel that the trainings serve their needs and give them tools to make their job easier, rather than see trainings as a chore that is imposed on them by command staff.

G) Increase Positive Contact with Communities

The recommendations above highlight how data management can improve police-community interactions. The recommendations in the current section show how to improve police-community interactions in the moment, as those interactions are unfolding. Many of the recommendations in this section will require coordination with community leaders.

31) Hold monthly relationship-building meetings. One request coming directly from community leaders is to hold relationship-building meetings, or "tables," that include members of the OPD as well as community members who are committed to improving police-community relations. At these meetings, participants would discuss specific problems that have increased police-community tension and would work together on solutions that then would be heard by command staff and potentially implemented and monitored for impact. Different tables could be established in different parts of the city. These tables would be small and meet monthly. Area captains could foster a sense of accountability and agency by reporting on the success of actions suggested by the community in previous meetings. As these relationships develop, community members would increasingly be expected to take part in joint initiatives.

32) Enhance the capacity of Community Resource Officers. The OPD currently deploys Community Resource Officers (CROs) to work in neighborhoods on long-term crime fighting projects. The CROs are appointed to do investigatory work (across weeks or months) aimed at understanding the root causes of a recurring criminal justice problem, such as shots being fired from a corner parking lot or drugs being sold from someone's home. We recommend that the department expand the use of CROs and ask those CROs to attend relationship-building tables to discuss some of their closed cases. One way to improve police-community relations is to increase the capacity of CROs and to make the work they are doing for the community more visible.

33) Require squad-based community projects. Problem-oriented policing need not be the focus of CROs only. We recommend that squads also begin working together on long-term projects in areas most affected by crime. Involvement in such projects would remind officers that there are multiple crime-reduction strategies available for their use beyond, for example, stopping people for traffic violations. Through these projects, officers also could experience interacting with community members who are working hard to see the neighborhood thrive.

34) Train officers and community members together. We recommend offering a limited number of social tactics trainings to mixed classes of both officers and members of the public. These mixed classes would remind officers and community members of their shared goals—they both want to get home safely; they both want police-community relations to improve. The classes could provide a place for dialogue and perspective taking, and help both sides understand each other. The relationship-building tables could provide one context for mixed-training sessions.

35) Encourage out-of-uniform contact with communities. Uniforms are necessary for police officers to perform many of their duties. Yet, uniforms are not necessary in all circumstances. For example, when officers attend relationship-building tables or social tactics trainings involving community members, uniforms may get in the way of perspective taking, empathy, or working together. We recommend that officers attend more community meetings out of uniform.

36) Distribute personalized business cards. Whether in uniform or not, we recommend that OPD officers distribute personalized business cards to community members. At the moment, officers have generic cards that they distribute only when community members wish to file a complaint. Business cards can be used to establish positive relations with the public as well.

37) Show more care in high-crime areas. What people see matters. For instance, if people in high-crime areas rarely witness police officers knocking on doors to ensure that people are okay after shots are fired, yet they frequently witness the police conducting traffic stops on people not involved in crime, their impression of the police will be negative. We recommend that the OPD develop more crime reduction strategies that cast police officers as caretakers of the community.

38) Hold "critical incident" discussions and trainings. When critical incidents occur, such as controversial officer-involved shootings, we recommend that the OPD hold a series of discussions both internally (within the department) and externally (within the community) on how the department plans to respond. We also recommend that the department offer refresher training on de-escalation to officers who routinely make contact with the public. Without additional discussions and trainings tied to critical incidents, tension may remain unnecessarily high and can affect police-community interactions, especially during police-initiated stops.

39) Host annual conferences on police-community relations. We recommend that the department facilitate an annual conference on police-community relations that is planned and executed jointly by members of the department and community. The conference could involve

showcasing some of the projects from the relationship-building tables, Community Resource Officers, and squads. The conference could feature local community groups focused on social justice as well as speakers from different regions of the country. In addition to taking concrete steps to build and maintain trust in the community, the department needs to communicate what steps are already being taken. An annual conference is one vehicle for effective communication.

40) Develop and track measures of positive community engagement. To signal its commitment to improving police-community relations, we recommend that the department develop and track more metrics of positive community engagement. The department is already planning to reinstitute daily activity tracking sheets, which will promote a better understanding of how officers allocate their time. These activity sheets could also be used to document, and thereby encourage, positive contacts with community members as well. The department should consider using its metrics of positive community contact in evaluating officers' performance in addition to using standard measures like arrests, stops, searches, and search recoveries.

H) Enhance Risk Management

All law enforcement agencies face threats to harmonious police-community relations. Agencies differ, however, in how they manage those risks. In this section, we offer recommendations for improving risk management.

41) Continue risk management meetings. Once a month, the OPD command staff reviews data with a captain from one of the five areas of Oakland. Stop data reviews feature prominently in these meetings. The command staff compares stop data for the area to department-wide stop data over a six-month period. They break down stop metrics (e.g., reason for the stop, searches, stop outcomes, etc.) by race and discuss the trends. They also compare squads to one another.

These meetings are quite impressive, and we recommend continuing them. The approaches to the data presented at these meetings have become more thorough, sophisticated, and probing over time. The discussions inspired by the data have become much more problem focused and the command staff actively engages the captains in these problem-solving exercises. The meetings have clearly become an important stage upon which data-informed strategies and policies are developed.

42) Identify outlier officers. The department has already built a sophisticated early warning system (PRIME) that identifies outlier officers—officers who are at risk of developing problematic behaviors or who have already done so. We recommend that command staff begin to examine how much outlier status on stops or searches predicts outlier status on other dimensions in the PRIME system. The OPD could use these analyses to determine how much stopping and searching large numbers of people, for example, is associated with other problematic behaviors.

43) Monitor and reduce time pressure. Research shows that people make poorer decisions when they are under time pressure. When stressed, people are less likely to make decisions that are consistent with their underlying values. Even with adequate training in social tactics, officers are less likely to put that training to use when they are under time pressure. We recommend that the department better track the amount of time officers spend on various activities, with the goal of minimizing the amount of time spent on low-priority activities and maximizing the amount of time spent on high-priority activities (such as investigations or positive contact with the public). The reintroduction of daily activity tracking sheets will help in this regard.

44) Monitor and reduce stress and fatigue. When people feel drained, they perform worse and make poorer decisions. The OPD is making plans to open an onsite Wellness Center to meet officers' health needs and concerns. By the end of the calendar year, the department also plans to begin "Blue Courage" training with both sworn and civilian staff. This training comes with a heavy focus on health and wellness.

The department has become more attentive to short-term health issues, as well. For example, the department recently instituted a policy that requires officers on the front line during protests to be replaced and reshuffled more regularly, in order to protect these officers from stress and fatigue. This simple policy change has been associated with a significant reduction in use-of-force incidents.

The department should now consider examining the potential influence of momentary stress and fatigue on self-initiated stops. For example, analyzing stop data by officers' "time on shift" could be quite informative. Although officers may work an average of 40 regular hours per week, they work these hours in 10-hour shifts (or 12-hour swing shifts), and many work overtime.

Examining how these work schedules influence officer decision-making during police-initiated stops could uncover patterns and suggest improvements, as has happened in medicine, law, and other high-stress fields. Tracking the likelihood of a stop, search, or search recovery immediately following a challenging or demanding encounter might also be informative. Finally, analyzing moment-to-moment physiological changes (for example, via Fitbits or FuelBands) during calls for service and self-initiated stops would offer even finer-grained assessments of officer's physiological states during contact with the public.

45) Identify factors associated with high- and low-performing squads. We recommend that the department use data to identify high- and low-performing squads and to examine how much these performance differences are due to the individual officer characteristics, squad characteristics, squad supervisors, and the directives officers receive from command staff.

46) Review handcuffing policies. In our sample, 83% of searches involved handcuffing. Because handcuffing is such an intrusive and humiliating action, the OPD should review its handcuffing policies for their compliance with laws and best practices. The department devotes

much attention to outliers. Yet certain policies, common practices, and procedures can be as problematic as outliers, exposing the department to substantial risks.

47) Review search policies. Does the discovery that someone is on probation or parole always trigger a search? If so, the department should query whether this practice helps or hinders community-police relations, individuals' rehabilitation process, and the protection of the community from crime.

48) Review use of severe legal language. What are legitimate reasons to ask whether someone is on probation or parole? When is the right time to ask? What is the right way to ask? Our analyses reveal that 93% of probation/parole searches were of African Americans and Hispanics. Are members of these groups more likely to be asked this question than are Whites or Asians? To clarify practice in the field, we recommend recording in the stop data report whether the officer asked about the community member's probation or parole status as well as the justification for asking that question.

49) Produce and publish an annual Racial Impact Report. Large modern corporations now typically publish a "Citizenship Report," "Sustainability Report," or "Social Responsibility Report." Although no corporation deliberately sets out to create pollution or to harm the environment, they realize that no institutional actor can deliver goods or services at a large scale without creating negative externalities. The public now expects institutional actors to estimate their unintended impacts and remedy them.

Similarly, the OPD should publish an annual "Racial Impact Report" that not only tallies its successes but also candidly reports metrics such as racial differences in rates of handcuffing, searches, and arrests, the results of community surveys, etc. Such a document would acknowledge the racial issues confronting the OPD and law enforcement agencies generally while also highlighting how law enforcement agencies can be agents of change. Greater transparency could also show that some observed racial disparities result from well-intentioned policies rather than prejudiced officers; this mindset could also help command staff and city officials amend policies that may inequitably affect different citizens.

Beyond the duty of the department to probe for race effects, there should be a duty to examine how procedures and practices produce those effects. For example, we have found that the strongest race effects are associated with traffic violations. OPD officers disproportionately handcuff, search, and arrest African Americans after pulling them over for traffic violations. Why might this be? One possibility is that OPD officers are drawn (indeed, are told) to go to high-crime areas (targeted enforcement) and there happen to be more African Americans in those areas. Once officers are in those areas, they stop people and they are more likely to stop people for traffic violations because it is easy to do.

Our analyses show, however, that neighborhood crime rates do not fully explain why the OPD disproportionately stops African Americans, regardless of where they are in the city. African

American community members are also more likely to be handcuffed and searched than other groups during stops, even when the encounter does not end in an arrest. In fact, more than 90% of these encounters do not end in an arrest, so it is not immediately obvious how such a strategy reduces crime, even in high-crime areas.

This approach to solving crime seems to have few benefits, but high costs. People, especially African American people, are more likely to leave these encounters with negative feelings about the police, and this is especially the case when they believe they have been stopped for minor reasons. It may be the easiest strategy to stop African Americans in their cars in response to crime, but it may not be the best strategy. In fact, the department may consider limiting the conditions under which such a strategy is implemented. Such stops could be given low priority or altogether shifted away from patrol officers to specialty traffic units (i.e., officers specifically assigned to traffic).

50) Analyze data for trends over time. We recommend that the OPD leadership begin to look at their stop data longitudinally. Our hope is that our findings will serve as a benchmark for future years. The department will want to be especially mindful of increases in activities with the largest racial disparities, including traffic violations, handcuffing, and weapon searches.

To enable longitudinal analyses, the department will need to standardize what it records, what it counts, and how it time-stamps novel directives, policies, and trainings. For example, when looking at search recoveries over time, the department will need to be consistent in what counts as a weapon, whether it records a potential weapon (e.g., a screwdriver), and whether it attributes a weapon found in a car solely to the driver or also to passengers.

Concluding remarks

We have identified 50 recommended actions we believe agencies can take to improve and sustain better police-community relations. Our recommendations are broad, but they are anchored in our primary mission of pushing agencies to collect more data and to do more with the data they collect. For many agencies, this will require a change in mindset, seeing themselves not only as crime-fighting institutions, but also as learning institutions.

In California, law enforcement agencies will soon be required to collect stop data and to track those data by race. This new law presents an opportunity for change. The OPD has begun to answer the call for change by using stop data to diagnose problems and to direct enforcement strategy and policy. Addressing racial disparities in stop data is difficult to do, especially at this moment, when police-community tensions around the country are at an all-time high. Yet the OPD has already taken some important initial steps. We expect the department to go further by developing an implementation plan to address the broad array of issues we have listed here.