The Efficacy and Effect of Racial Profiling:
A Mathematical Modeling Approach

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Abstract

Racial profiling – the use of race, ethnicity, or national origin by law enforcement officials to make judgments of criminal suspicion – is assessed in terms of its effect on targeted populations and law enforcement efficiency. A mathematical model, comparing multiple profiling and non-profiling simulated scenarios, is employed. This analysis indicates that racial profiling exacerbates incarceration disparities between groups whether or not the groups differ in criminal activity, and that the presumed benefits of profiling can be illusory. “Optimal” profiling (i.e., with the highest long-term criminal capture rates) appears to occur when stop rate ratios match criminality rate ratios between groups. Policy implications are considered with regard to assessing the utility of racial profiling and strategies for detecting and deterring it.

Keywords: Racial profiling; criminal incapacitation; drug war
Racial disparities in the U.S. criminal justice system are pronounced [Council of Economic Advisors, 1999]. The US Department of Justice has projected that 28.5 percent of Black men will be incarcerated in their lifetimes, as compared to 4.4 percent of White men [Bureau of Justice Statistics, 1997]. Racial disparities appear to reside throughout the criminal justice system, having a cumulative effect on incarceration rates. For example, a report from the National Council on Crime and Delinquency [NCCD, 2000] illustrates how Black juveniles are increasingly over-represented at succeeding phases of criminal justice. Furthermore, although Blacks constitute a minority of all drug dealers, for a variety of reasons, the majority of those arrested for selling are Black [Saner, MacCoun, & Reuter, 1995].

These disparities, in and of themselves, do not necessitate that racial prejudice is operating. It is possible that racial disparities in criminal justice represent real behavioral differences across groups, differences that may also interact with laws, regulations, and sentencing guidelines (e.g., for crack versus powder cocaine) which may introduce institutional bias. However, a large corpus of experimental research indicates that judicial decisionmakers are more likely to find guilty and give harsher sentences to minority defendants, all else being equal [e.g., Sommers & Ellsworth, 2001; Sweeney & Haney, 1992]. Nevertheless, whether racial bias is responsible for disparities in criminal justice remains an empirical question. The aim of the present analysis is to focus on a single, but very influential stage of the criminal justice process, police stops, and a specific strategy, racial profiling, to investigate its implications for racial disparities.

Because the rationale behind racial profiling involves the intuitively appealing presumption that targeting groups who have a higher criminality rate improves police efficiency and thereby increases public safety, an empirical evaluation of racial profiling should also
consider the extent to which it increases rates of criminal incapacitation. In sum, the purpose of
the present analysis is to look at both the efficacy of racial profiling in terms of criminal
incapacitation as well as the effect it has on racial disparities in criminal justice in order to
inform the ongoing debate over this practice, which entails a tradeoff between public safety and
civil liberties.

**Racial Profiling**

Racial profiling is the police practice of focusing on members of particular race (or ethnic
or national origin) groups for extra scrutiny and intervention. The most common example of
racial profiling is traffic stops of young, Black men, and it appears to be most commonly
employed as a drug trafficking interdiction strategy. It is most often an implicit policy, but in
some agencies, until recently, it has been prescribed protocol [Harris, 2002].

The inclination by police to use race as a factor in determining probable cause may
explain why fully 42 percent of African Americans (compared to 6 percent of European
Americans), in a national Gallup poll reported having been stopped by police on the basis of skin
color [Newport, 1999]. The same survey found that education and income level did not
moderate these results. The list of prominent minority men, including celebrities, politicians,
and academics, who report having been profiled is long [e.g., Russell, 1998, p. 36].

Less anecdotal evidence is available in studies of police data. Some police departments
have examined their own personnel’s behaviors. For example, a San Diego Police Department
internal survey indicated that Black and Latino drivers were more likely to be stopped and
searched than were White drivers [SDPD, 2001]. A particularly compelling revelation comes
from internal documents of the California Highway Patrol. In the period studied, Latino and
Black drivers in California’s Central Coast and Central Valley were three and two times, respectively, more likely to be stopped by the CHP than were White motorists [Zamora, 2001]. In neither case is it self-evident that such disparities are due to bias on the part of police. However, in the CHP case racial disparities were most pronounced with regard to “consent searches.” These are searches wherein, because there is no evident probable cause (e.g., no apparent evidence of wrongdoing) police must ask the driver to submit to a search voluntarily. Because, by definition, consent searches preclude probable cause, racial disparities are very likely to reflect racial bias. This analysis was sufficiently convincing to compel the CHP to end all searches during minor traffic stops [Broder, 2003]. The body of evidence from across the United States [see Harris, 2002, for a thorough review] appears to indicate that, despite official condemnations and disavowals, racial profiling is a real and perhaps pervasive phenomenon.

**Modeling Racial Profiling**

Racial profiling is an approach that has strong intuitive appeal. The idea that stopping a greater proportion of people from groups with higher crime rates will yield higher criminal capture rates sounds logical. Nevertheless, it is a premise that has not been empirically tested. Unfortunately, this is a more challenging task than one might imagine because useful and complete data relevant to racial profiling is difficult, if at all possible, to obtain.

**Difficulties in assessing racial profiling**. Determining the effect of racial profiling is challenging, at best. This is so primarily because the data necessary to assess police efficiency as a function of using race as a component of determining suspiciousness are generally not collected. In fact, the General Accounting Office recently attempted to study the prevalence and impact of racial profiling, only to conclude that the data to make such judgments are not
available [United States General Accounting Office, 2000] and the Legislative Analyst Office of the State of California even more recently drew a similar conclusion [LAO, 2002].

Data that would be useful in studying racial profiling would include, first and foremost, the races of people who are stopped, but not cited or arrested by the police. Such data, however, is generally unavailable because law enforcement agencies resist collecting it, usually arguing that it would impose a crippling administrative burden. Consequently, mandating such data collection is an uphill battle. This was exemplified in Massachusetts where, in 2000, the state senate attempted to pass a law that would require police to report the race of everyone they stop, but strong objections by law enforcement groups persuaded the bill’s sponsors to revise it to require such reporting only for those cited. In California too, bipartisan legislation was passed in 1999 to compel police to record and report the race of people stopped, but Governor Gray Davis, in deference to law enforcers, vetoed the bill. Furthermore, when law enforcement agencies do collect race-stop data, the reporting by agents may be inconsistent. For example, a study of the San Francisco Police Department found that police were giving citations (all of which must enter department records) to a greater number of motorists than the number of stops they were reporting [Schlosberg, 2002]. Furthermore, when agencies analyze data internally, it has been observed that they often go to lengths, without adequate statistical basis, to explain away racial disparities in stops [LAO, 2002].

Even if legislation were passed mandating data collection and external analysis, one powerful irony of racial profiling might render it useless. The act of profiling itself will serve to skew resulting statistics. Specifically, if profiling is employed, wherein Blacks, for example, are disproportionately stopped by police at least in part because of their skin color, the threshold for suspicious behavior will necessarily be lower for police to stop Blacks than to stop Whites.
Consequently, Whites who are stopped will have typically behaved most suspiciously. They may, in turn, be more likely to have committed a crime (e.g., possess narcotics or a concealed weapon) and therefore be arrested. As a result, the relative ratios of stops to arrests for Blacks and Whites will be skewed to favor (i.e., make appear less criminal) Blacks in contradiction of the prevailing stereotype.¹

This scenario may be precisely what explains a finding by the Office of the Attorney General (OAG) of the State of New York [1999] in its investigation of New York City’s “Stop and Frisk” program, an aggressive street crime initiative undertaken by the NYPD. In one of the few large-scale empirical investigations of the role of race of suspect in police conduct, the New York State OAG found, first, that Blacks and Hispanics were stopped by the police in much greater proportions than were Whites. However, they also found that a smaller proportion of Blacks who were stopped were arrested (1 in 9.5) relative to Whites (1 in 7.9) (and 1 in 8.8 for Hispanics). The ACLU found similar and even more pronounced results in their analysis of the San Francisco Police Department [Schlosberg, 2002]. One interpretation of these results, of course, could be that Blacks (and Hispanics) really are less likely to be criminals, but this conclusion would be tenuous, given that the “samples” on which these statistics are based are not randomly drawn.

We are left with an empirical paradox. To determine the impact of racial profiling, we must first identify when and where it is occurring. But to find out if racial profiling is being carried out, we must determine not only whether or not a greater proportion of one group is being stopped by the police than are others, but also whether or not this is the case because of group membership and not greater criminality. However, as the New York City data suggest, if profiling is occurring it will confound our determination of the real relative criminality rates.

¹ See Ayres (2002) for a similar discussion with regard to “outcome tests” of discrimination.
Unfortunately, we can never with confidence rule out that profiling is occurring because even if it is officially prohibited it is likely to be practiced (as appears to be the case in New York City), perhaps even inadvertently, due to the power of stereotypes. The only certain way to circumvent this inherent confound in assessments of race and criminality rates is to adopt a more scientific approach. In other words, one would have to stop people randomly (i.e., spot checks), regardless of their behavior, interview and search them, and record their race and culpability. Such a procedure executed by government agents is very unlikely to garner bureaucratic, public, or political support, and social scientists could not carry it out because the necessary act of obtaining informed consent (for as intrusive a procedure as a body search) would skew the sample through self-selection – criminals would be far less likely to consent. Without knowing the true rates of criminality, we cannot accurately assess whether profiling is occurring because we cannot separate the effects of race from those of other cues (e.g., suspicious behavior) that police use to determine whom to stop.

With considerable effort, some analysts have approximated this. Specifically, Lamberth, in his capacity as an expert witness in legal actions relating to racial profiling [Lamberth, 1994] has assessed not only the population rates of different racial and ethnic groups in areas studied (i.e., areas near targeted thoroughfares, such as specific stretches of the New Jersey Turnpike), and the racial/ethnic makeup of the drivers and passengers in those areas (because they may differ from the population), and the rates at which members of different race and ethnic groups are stopped, searched, detained, and arrested, but, importantly, also the rates of traffic violations as a function of race and ethnicity in those studied areas. This approach is essential to determining the extent to which racial profiling is occurring because traffic violations are the pretexts under which race-based stops are made. Without this latter data, known as
“benchmarks” [Lamberth, 2000], one cannot make a determination about the extent to which racial profiling is occurring because different groups may indeed differ in their rates of violations, which could explain differential stop and arrest rates. Lamberth has used benchmark data to demonstrate that police stop rates for minorities were disproportionate to their rates of traffic violations to the satisfaction of a New Jersey State Superior Court Judge [State v. Pedro Soto, 734 A. 2d 350 (N.J. Super. Ct. Law. Div. 1996), as cited in Harris, 2002]. Such procedures, however, are exceedingly labor intensive. Further, they have been critiqued for failing to distinguish between types of violations, and even if they could, it is unclear which types of violations are most likely to provoke traffic stops [Ahmed & Rezmovic, 2001].

Another potential source of data on race and criminality is the National Crime Victimization Survey (NCVS), carried out by the U.S. Department of Justice’s Bureau of Justice Statistics. The NCVS is a large, national survey of approximately 100,000 people that provides, among other things, the race of criminal offenders for violent crimes, as reported by victims in the sample. It indicates that Blacks are somewhat over-represented as reported offenders – e.g., 22.5 percent for violent crimes in 1998 [Bureau of Justice Statistics, 2000]. However, the NCVS is not very helpful with regard to racial profiling because profiling is most commonly employed in the prosecution of “victimless” crimes, especially drug possession.

A computational alternative. In the absence of the guarantee of unbiased police, or the moral or legal authority to instruct the police or researchers to stop and search civilians at random, we must be more resourceful. Accordingly, to test the effects of racial profiling, we can employ a mathematical simulation. The following model enables one to stipulate the presumed criminality rates of hypothetical populations and then determine their incarceration rates as a function of the differential rates at which they are stopped by police based on race. In this
manner we can simulate the short and long term effects of racial profiling without concern for confounding variables such as real differences in criminality. Needless to say, this approach has its limitations, particularly in that it serves only as a hypothetical model to produce generalized trends, and does not make actual predictions. Nevertheless, it affords an opportunity to assess the theoretical impact of racial profiling under a variety of conditions (e.g., whether or not the targeted group has a higher criminality rate).

Racial profiling adds a probabilistic component to policing; based on presumed prior probabilities of criminality as a function of group membership, police target different groups differentially. Accordingly, this model aims to assess the contribution of that probabilistic component, but does not address the other variables (e.g., suspect behavior) that also influence police decisions.

Assumptions of the model. In order to run a computational simulation of the effects of racial profiling, several assumptions have to be made about the hypothetical populations. First, we must assume that the actual percentage of each group that is inclined to commit crimes is stable across time – that as old criminals die off or are reformed, new ones are born and develop to replace them. It is likely that in the real world such things fluctuate over time, but it is beyond the scope of, and not necessary for, this analysis to predict such trends. A related assumption holds that at any given point in time, there will be a finite number of criminals, so that for every criminal taken off the street, there will not be an unlimited supply ready to take his or her place. Again, this is not necessarily the case in real demographics; for example, drug dealing may operate in a zero sum market and so as one drug dealer or courier is removed from the streets, someone who might otherwise not have gotten involved in crime may be swayed by the opportunity. However, there must be limits to the extent to which this would occur, and we will
assume that such a phenomenon would not differ as a function of group membership (e.g., race).

This model is designed to determine the effects of racial profiling, so the incarceration rates it predicts will be due only to profiling, where race is used as a pretext for suspicion. Convictions and incarcerations that may result from crime reports, where the perpetrator is recognized and identified, for instance, are a separate matter. The model is based on probabilities, as is the practice of racial profiling. Therefore, the model assumes that, given the proportion of members of a group that are actually criminals, and are not already incarcerated, that same proportion of the number of people of that group who are stopped by the police will, by virtue of their culpability and having now been apprehended, be convicted and incarcerated. For example, if 10 percent of the non-incarcerated members of a group are criminals (e.g., engage regularly in drug trafficking or possession), and 100 members of that group are randomly stopped by the police, the model will hold that 10 of those 100 will be convicted and incarcerated. Needless to say, this is an oversimplification of the real process, where criminals are not stopped at random, and real criminals are often let go by the police or acquitted by courts. However, as noted above, the model is intended to make probabilistic estimates about the contribution racial profiling (a probabilities-based practice) makes to criminal justice, and this assumption allows that. As a consequence of this assumption, the current model can test the degree to which racial profiling discriminates and is effective even if we assume (however tenuously) that members of all groups are getting a fair shake in the criminal justice system at every stage, except being stopped by the police.

Finally, the model does not assume that groups differ or are the same in their actual rates of criminality. In fact, criminality is an important variable in the model. We want to know what happens as a result of profiling when members of different groups are and are not equally likely
to commit crimes, and with this model we can test multiple scenarios to make this determination. This capacity reflects one of the major advantages of a simulation analysis of this sort.

“Criminality rate” is a latent variable that is essentially unknowable at any given time, particularly given the likelihood of biases in criminal justice statistics, as well as limitations of crime report and victimization survey data. Nevertheless, it is a crucial factor in understanding the efficacy and impact of racial profiling.

Running the model. The effect of racial profiling on incarceration rates can be expressed mathematically with the following formula:

$$I_t = I_{t-1} + \sigma(C - I_{t-1}) - \rho I_{t-2}$$

where, for a given group, $I$ represents the percent of people who are incarcerated, $C$ is the percent of that group who are criminals (and, the model assumes, will be discovered as such if stopped)$^2$, $\sigma$ is the rate at which that group is stopped by the police (this determines the profiling rate), $\rho$ is the re-entry rate of incarcerated criminals (i.e., the percent of incarcerated criminals that leave prison and are replaced in the general population in each cycle, either by returning to the population or by dying and being replaced)$^3$, and $t$ is a period of time during which a full cycle of stopping ($\sigma$) occurs. The re-entry rate ($\rho$) is set somewhat arbitrarily. If it is below the overall incarceration rate, incarcerated populations will tend to grow, as has been the case in the United States in recent decades. This variable enables the incarcerated population to change independent of the overall population$^4$, thereby allowing for a test of the effectiveness of

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2 $C$, the percent of the total group that is criminal, is a constant (as noted previously in the assumptions), but the proportion of the group at-large that is criminal ($C-I_{t-1}$) varies, as a function of $I_{t-1}$.

3 With regard to re-entered criminals, we make the somewhat cynical assumption that these re-entered criminals are still “criminals” and will be apprehended if stopped. This enables us to keep the criminality rate constant for each group.

4 An alternative would be to allow the prison population to grow unchecked, which would yield a very misleading representation, one in which the percent incarcerated could exceed 100 percent. Alternatively, we could set the re-entry rate equal to the total new conviction rate for each period, thereby holding prison population constant, but
profiling with regard to criminal incapacitation. The re-entry rate ($\rho$) is set at 5 percent for all scenarios reported below and the other variables in the model are manipulated around it to allow for comparisons.

In the equation, $I_{t-1}$ (the percent of the group who are incarcerated in the previous epoch) is subtracted from $C$ (the percent of the total group who are criminals) and the result is multiplied by $\sigma$ (the stopping, or profiling, rate). This is done to take into account that the percent of the at-large (non-incarcerated) population that is criminal is smaller than the percent of the total (at-large plus incarcerated) population of that group that is criminal. For example, if 10 percent of the total population of some group are criminals, but four percent of the group (all of whom are criminals) are incarcerated, then only 6.25 percent of the remaining, non-incarcerated group are criminals. Consequently, when members of that group are stopped during the next epoch, only 6.25 percent of those stopped will be sent to prison, according to the present model.

In order to test the effect of profiling over time, we run multiple iterations of the equation, building on the updated parameters from each previous iteration. We therefore test for the effects of profiling at time $t+1$, $t+2$, etc.

It should be noted that, although the parameters for each scenario will be stated in percentage terms, the actual model is run on raw numerical data which is then graphed in percentage terms. It should further be noted that the results presented below reflect simulations wherein the absolute number of each group stopped in each iteration is fixed – a percentage of the total group population (e.g., if there are 20,000 people in group A and the stop rate for that group is five percent, then 4,000 are stopped in each epoch). This enables the total number stopped per epoch to remain constant, again accommodating a test of police efficiency.

allowing disparities between groups to emerge. This too would be misleading, especially because one purpose of this investigation is to determine the efficacy of racial profiling for criminal incapacitation/crime reduction.
However, it may seem problematic because this means that a larger proportion of the group will be stopped with each iteration (if the group is profiled – a smaller proportion would be stopped for a group that is undersampled) and police would have to look longer and harder for members of that group to stop as their absolute non-incarcerated numbers declined but the number they stopped remained constant. This poses a reasonable point of concern. Accordingly, we can run corresponding scenarios wherein the absolute number stopped per group per iteration is a fixed percentage of the number of non-incarcerated members of that group (e.g., if there are 20,000 A’s, the stop rate is twenty percent, and 1,000 are already incarcerated, then 3,800 would be stopped in the next iteration). Results using this adaptation of the model are virtually identical to those reported below.

Scenario 1: Equal Criminality, Equal Stopping. Figure 1 illustrates our first scenario. This scenario compares the incarceration rates of two groups (A and B) over time. Group A is the minority group, comprising 20 percent of the total population, and Group B comprises the remaining 80 percent (see the table below the graph for the parameters’ specific values in this scenario). Their proportions of the total population are important because, as will become clear, the overall incarceration rate tends to follow that of the majority group more closely for the simple reason that the larger group contributes more weight to the total percentage. In this scenario, the two groups have equal “true criminality” rates (10 percent). This means that 10 percent of group A and 10 percent of group B (and, therefore, 10 percent of the total population) are inclined to commit crimes and will be caught doing so if stopped at random by the police (recall the assumptions above about the probabilistic nature of this model, designed to address the probabilistic nature of racial profiling). This scenario also presumes that both groups start with the same incarceration rate, 5 percent, reflecting an assumption that there has been no prior
group-based disparate treatment in the system.

**Figure 1:**
Effect of racial profiling over time, Scenario 1 – No criminality differences, no profiling.

<table>
<thead>
<tr>
<th>Group</th>
<th>% of Population</th>
<th>Criminality Rate (C)</th>
<th>Incarcerated at Start ($I_{t=0}$)</th>
<th>Stop Rate ($\sigma$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>20%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>B</td>
<td>80%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Profiling is the differential treatment of members of the two groups based on their group membership. Consequently, the variable of greatest interest is the stop rate. If the police were profiling in this scenario, $\sigma$ would differ for the two groups. Because it does not, the long term incarceration rate is the same, and in fact constant, for both groups. Note that there is no change in incarceration rate in this scenario because the overall re-entry rate ($\rho$) is set equal to the overall stop rate ($\sigma$). This provides a useful baseline for making comparisons between this (as well as the next) profiling-free scenario, wherein no additional resources (i.e., time and effort to make stops) are committed, and scenarios in which profiling is utilized to increase efficiency by diverting, but not increasing, resources. In this scenario, there should be no expectation of an increase in criminal incarcerations – it represents the theoretical status quo.
**Scenario 1': Unequal Criminality, Equal Stopping.** In Scenario 1, the criminality and stop rates were equal for both groups and so there were no differences in incarceration rates. Another possibility is that there is no profiling, but there are real differences between the groups in terms of criminality rates. In this scenario (see Figure 2), therefore, all parameters will be the same as those in Scenario 1, except that the criminality rates for the two groups will be changed such that group A, the minority group, has a rate (25 percent) four times that of group B, the majority group (6.25 percent), thus maintaining the overall criminality rate of 10 percent in order to facilitate comparison. Additionally, maintaining the assumption that there has been no criminal justice bias to date, the percent incarcerated at the start differs for the two groups, reflecting their differential criminality rates. Accordingly, half of the criminals from each group and the total population have been incarcerated at the start of the projection. Similar to Scenario 1, the net effect, given no additional resources allocated and no profiling, is the status quo for both groups and the total population. Like scenario 1, this serves as a good comparison standard, or baseline,
for determining the effects of racial profiling, assuming that no additional resource allocations accompany the initiation of profiling.

**Scenario 2: Equal Criminality, Unequal Stopping.** Figure 3 illustrates what might happen to incarceration rates over time if there are no true differences between groups but racial profiling is instituted nevertheless. In this scenario, at Time 1 and thereafter, 20 percent of A’s and only 1.25 percent of B’s (and still five per cent of the overall population, reflecting an attempt at increased efficiency with no increased expenditures) are stopped by the police. Prior to this, it is assumed, there was no profiling. Because there are no criminality differences and there has been no profiling to date, prior incarceration rates for the two groups are identical (5 percent). Regardless of the fact that members of group A are no more likely to be criminals, targeting them leads to a climb in the number of their incarcerations that ultimately asymptotes and stabilizes. In contrast, by virtue of having resources diverted away from group B, the incarceration rate for that group declines from the status quo, even though they are committing crimes in equal proportions. In fact, the number of criminals at large for group B grows over time as fewer of them are captured, and the converse is true for group A. In this sense, the profiling is self-defeating. It is also worth noting from this scenario that while the percent of B’s who are incarcerated drops, the overall number of incarcerations (for the total population) parallels that development because group B comprises the majority of the total population. In this case profiling leads not only to an overrepresentation of one group in prison, but also to an under-representation of the other group. Because this latter group is in the majority, this leads to a drop in overall incarcerations of criminals. This is not the necessary effect of racial profiling, but the possibility of such an outcome should lead one to question the effectiveness of racial profiling for crime reduction.


**Figure 3:**
Effect of racial profiling over time, Scenario 2 – No criminality differences, profiling.

<table>
<thead>
<tr>
<th>Group</th>
<th>% of Population</th>
<th>Criminality Rate (C)</th>
<th>Incarcerated at Start ($I_{t=0}$)</th>
<th>Stop Rate ($\sigma$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>20%</td>
<td>10%</td>
<td>5%</td>
<td>20%</td>
</tr>
<tr>
<td>B</td>
<td>80%</td>
<td>10%</td>
<td>5%</td>
<td>1.25%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Scenario 2': Unequal Criminality, Unequal Stopping. Scenario 2 illustrates that profiling alone can lead to disparities in conviction rates for groups, even if those groups have identical levels of criminality, and that this tactic can even lead to a decline in overall convictions/incarcerations of criminals. However, proponents (and many opponents and dispassionate observers) of racial profiling believe that the typically targeted groups do indeed have higher criminality rates, and so profiling is justifiable because it maximizes the likelihood of capturing criminals. To model the effects of profiling under these conditions, Scenario 2', like 1', places Group A’s criminality rate at 25 percent and Group B’s at 6.25 percent, a fourfold ratio. This keeps the overall rate (for both groups combined) at 10 percent for the purpose of comparison with the preceding scenarios. Because the groups differ in actual criminality, it is likely that their prior incarceration rates would differ proportionately. Accordingly, their initial incarceration rates have been set to 12.5 percent and 3.125 percent (differing, as with criminality rate, by a factor of 4), thus maintaining a combined rate of 5 percent, as in the preceding
scenarios. The effect of profiling with these group differences is illustrated in Figure 4.

**Figure 4:**
Effect of racial profiling over time, Scenario 2’ – Criminality differences, profiling.

As we can see from Figure 4, profiling again has only a modest and temporary positive effect on overall incarcerations (given some fairly generous assumptions about the differences in criminality between the groups), but has a lasting effect on the exaggeration of differences between the two groups and the reduction of the incarceration rate for the majority group. More extreme parameters (e.g., stop rates of 22% and 0.75%, or 25% and 0%, for Groups A and B, respectively), even when the profiled group has a higher criminality rate, can actually lead to a decline in overall criminal captures. For example, given the 25% and 6.25% criminality rates stipulated in scenarios 1' and 2', and stop rates of 22% and 0%, criminal captures ultimately drop to 4.73%. This is further exaggerated if criminality rates are less disparate between groups.

**Optimization Analysis**

These effects can be more thoroughly investigated using a sensitivity analysis technique wherein we systematically vary the profiling rate across a continuum, testing its effect on
criminal capture rates. Such an analysis, summarized in Table 1, allows for an assessment of the rates at which profiling would yield optimal results (i.e., the greatest net increase in criminal captures).

**Table 1: Effects of profiling rates, assuming 25:6.25 – or 4:1 – criminality ratio.**

<table>
<thead>
<tr>
<th>PROFILING RATE</th>
<th>% of Grp A stopped per cycle&lt;sup&gt;a&lt;/sup&gt;</th>
<th>% of Grp B stopped per cycle&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Ratio of %’s stopped (Grp A:Grp B)</th>
<th>% of Grp A incarcerated (% of Grp A criminals incarcerated)&lt;sup&gt;c&lt;/sup&gt;</th>
<th>% of Grp B incarcerated (% of Grp B criminals incarcerated)&lt;sup&gt;d&lt;/sup&gt;</th>
<th>% of Total incarcerated (% of Total criminals incarcerated)&lt;sup&gt;e&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.00</td>
<td>0.00</td>
<td>25:0</td>
<td>20.83 (83.3)</td>
<td>0.00 (0.0)</td>
<td>4.17 (41.7)</td>
<td></td>
</tr>
<tr>
<td>20.83</td>
<td>1.04</td>
<td>20:1</td>
<td>20.16 (80.6)</td>
<td>1.08 (17.2)</td>
<td>4.89 (48.9)</td>
<td></td>
</tr>
<tr>
<td>20.00</td>
<td>1.25</td>
<td>16:1</td>
<td>20.00 (80.0)</td>
<td>1.25 (20.0)</td>
<td>5.00 (50.0)</td>
<td></td>
</tr>
<tr>
<td>16.67</td>
<td>2.08</td>
<td>8:1</td>
<td>19.23 (76.9)</td>
<td>1.84 (29.4)</td>
<td>5.32 (53.2)</td>
<td></td>
</tr>
<tr>
<td>15.00</td>
<td>2.50</td>
<td>6:1</td>
<td>18.75 (75.0)</td>
<td>2.08 (33.3)</td>
<td>5.42 (54.2)</td>
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<td>13.89</td>
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<td>5:1</td>
<td>18.38 (73.5)</td>
<td>2.23 (35.7)</td>
<td>5.46 (54.6)</td>
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<td>12.50</td>
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<td>4:1</td>
<td>17.86 (71.4)</td>
<td>2.40 (38.5)</td>
<td>5.49 (54.9)</td>
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<td>3.13 (50.0)</td>
<td>5.00 (50.0)</td>
<td></td>
</tr>
</tbody>
</table>

Notes to Table 1:

a. Group A is the minority group, comprising 20% of the total population and, in this set of scenarios, having a criminality rate of 25%.
b. Group B is the majority group, comprising 80% of the total population and, in this set of scenarios, having a criminality rate of 6.25%.
c. The percent of group incarcerated statistics reflect the percent after repeated cycles and the trends have reached their asymptotes. Numbers in parentheses are the percent of the criminal population within each group that would be incarcerated as a function of racial profiling.

The analysis manipulates the ratios of stop rates for the two groups from extremes of 25:0 (the most extreme level of profiling possible, given our baseline of an overall 5% criminality rate for the total population) to 1:1 (no profiling). In this analysis, we consider only a situation in which the minority group really does have a higher criminality rate because, in the absence of...
that there is no rationale for profiling and it is mathematically clear that profiling cannot yield greater efficiency (see, e.g., Figure 3).

The ratio of criminality rates for Groups A and B is 25:6.25 or 4:1. As this analysis reveals, that same ratio (4:1) in terms of stop rates for the two groups yields the highest long term criminal incapacitation rate: 54.9% of the criminal population. As the ratio moves away from 4:1 in both directions, with one exception, the overall incarceration rate declines. At the extreme, it drops below the status quo (without profiling) of 5% when profiling is dramatic (greater than 16:1). The exception to the decline is for the 3:1 ratio, which yields the same overall, long-term incapacitation rate. It should be noted, however, that the 4:1 profiling ratio has a higher apex (5.6) which it reaches earlier (the 12th cycle) than the 3:1 ratio (5.53 at the 14th cycle)\(^5\). If profiling is planned to be temporary and starting from a point at which profiling had not been previously occurring, this would be a worthwhile consideration.

Another important consideration is the disparities in the percentages of the groups being incarcerated under different scenarios. Here a linear trend is evident wherein the disproportion of Group A and Group B members being incarcerated decreases as the profiling rate declines (i.e., as the ratio goes from high to low). Consequently, whereas the same long term incarceration rate could be attained (54.9% of criminals) with the 4:1 and 3:1 ratios, the latter has a less disproportionate effect on the minority community, incarcerating 17.04% as opposed to 17.86% of them. Nevertheless, even under this “optimal” profiling condition, the ratio of percent incarcerated for the two groups is 6.55:1 while the criminality ratio between the two groups is only 4:1. Only when the profiling ratio is 1:1 are the incarceration rates proportionate to the criminality rates.

\(^5\) In fact, the more extreme the profiling (given a higher criminality rate for the targeted group), the higher and more precipitous the climb in incarcerations. For example, the 25:0 profiling rate yields a peak incarceration rate of 5.82 at the 5th cycle, but it falls off rapidly thereafter.
It is probably prudent to reiterate that, as alluded to above, there can be no “optimal profiling” if criminality rates are the same. Under these conditions, only equal stop rates would be optimal and any deviations from them would yield decrements in criminal capture rates, while nevertheless creating group disparities in incarceration rates.

Another way in which racial profiling could achieve optimal results would be for police to continually modify their stop rates based on changes in the groups’ criminality rates among the at-large population, thereby always targeting the group with the highest potential hit rate. This *moving target* approach would most certainly yield the greatest efficiency in terms of high capture rates per police hour (not considering police hours devoted to calculating criminality rates). However, for the reasons stated in the introduction with regard to the difficulty of obtaining true criminality rates among the at-large population (e.g., random sampling is not feasible), this does not seem realistic. Furthermore, because racial profiling in most law enforcement is not officially endorsed, it seems unlikely that such a sophisticated, organized effort could be maintained.

One could posit that police will, with some degree of accuracy, estimate criminality rates based on their own individual hit (i.e., arrests per stop) rates with suspects from different groups. However, as long as they are profiling in the first place, their hit rates will be confounded. In fact, they will tend to underestimate the criminality rates of groups they target because they will have deflated hit rates for them, having set lower standards of probable cause (see Ayres, 2002). Furthermore, psychological research has consistently demonstrated that stereotypes such as those on which racial profiling is based are highly resistant to change [e.g., Kunda & Oleson, 1995; Rothbart & John, 1985; Weber & Crocker, 1983]. Because racial profiling is, with rare exceptions, an informal and unofficial process, it is likely that it will be driven more by informal
stereotypes than by careful, actuarial analysis of criminality rates, even if such accountings were feasible. A static (non-optimizing) profiling strategy seems most likely, but appears to have very modest, and in some cases negative, utility with regard to criminal incapacitation.

**Miscellaneous Scenarios: Extreme Criminality Disparities; Profiling the Majority.**
Scenarios entailing more stark disparities in true criminality rate (e.g., 40 percent of the minority group and 2.5 percent of the majority group – still 10 percent overall) can show overall increases in criminal incapacitation with profiling (e.g., the combined incarceration curve asymptotes at 6.8 percent for the 40 percent/2.5 percent criminality and 20 percent/1.25 percent stop rates, higher than the 5 percent, no profiling, status quo – representing a 36 percent increase, or 18 percent more of all criminals being incapacitated). However, the incarceration disparities are even more pronounced – 32 percent of minority and 0.5 percent of majority group members would ultimately be incarcerated. Perhaps more importantly, such extreme and unrealistic criminality disparities may be the exceptions that prove the rule. In their absence, profiling does not appear to be an exceptionally practical strategy.

Another class of scenarios, wherein the profiled group is the majority, also promise to yield substantial gains in criminal incapacitation, provided the majority group has a relatively high criminality rate. However, barring South Africa during the Apartheid era, it is difficult to imagine a society in which such practices would be politically tenable. Furthermore, the practicality of stopping large percentages of a majority group (i.e., very large numbers of people) is also low, particularly considering the efficiency goals profiling is intended to promote.

The data presented above are purely hypothetical and somewhat arbitrary, and manipulations of the values designated for the variables in the model will yield varying results. Needless to say, if large proportions of both groups are stopped, and re-entry rates are not
exceptionally high, overall incarceration rates will grow substantially, but this would not reflect profiling so much as simple increased enforcement. Because police have limited time and resources, and because profiling is intended to improve efficiency, there is likely a trade-off between the number of stops of one group versus those of others. That is why the above scenarios compare what happens with and without profiling (and also with and without criminality differences between groups) with overall stop and re-entry rates held constant, to isolate the effect of profiling.

What is clear from all scenarios in which one group is profiled, or “over-sampled,” and especially when the other group is under-sampled, is that profiling invariably has the effect of increasing differences in incarceration rates between groups. If racial profiling is as prevalent as many suspect, and as surveys indicate, it could explain a large portion of the differential, and increasingly disparate incarceration rates of Black and White Americans.

The present analysis illustrates that, depending on the relative criminality and rate of profiling, a variety of outcomes are possible, some showing increasing and some showing decreasing overall incarcerations. However, it is striking how many scenarios where the minority group is profiled, regardless of criminality, reflect overall gains in incarceration (i.e., effectiveness) that appear to be trivial. More importantly, in all cases, profiling clearly leads to exaggerated disparities in conviction rates, and likely impressions of criminality that arise from resulting statistics.

A real world parallel. The hypothetical scenarios are informative, but to be more concrete, we can look more closely at the case of New York City’s “Stop and Frisk” program. The New York State Office of the Attorney General found, in their 1999 investigation, that Blacks and Latinos who were stopped were, in fact, less likely than were Whites to be arrested
(9.5 stops per 1 arrest, 8.8 to 1, and 7.9 to 1, respectively). However, because minorities were stopped at a far greater rate – 88,509 (50.6 percent), 57,723 (33 percent), and 22,565 (12.9 percent) of those stopped were Black, Latino, and White, respectively – a substantially greater proportion of the overall Black and Latino populations were arrested relative to Whites. Specifically, 9,317 Blacks (48 percent of all arrests), 6,559 Hispanics (33.8 percent of arrests), and 2,856 Whites (14.7 percent of arrests) were arrested during the period studied, even though they comprise about 26 percent, 24 percent, and 43 percent of the city’s population, respectively. And it should be noted that the racial and ethnic disparities in stop rates found in the New York study could not be fully attributed to locational differences (i.e., police targeting high crime areas in which more minorities live or transit)\(^6\). Blacks and Latinos were more likely to be stopped regardless of location. The same was found to be true in San Francisco [Schlosberg, 2002].

**Limitations of the model**

The mathematical model of the effects of racial profiling presented here is not without its limitations, and it is worth considering them in order to assess the utility of the analysis and possibilities for future analyses. First, this model is hypothetical and therefore cannot make projections of real trends. In order to do that, a complex, multivariate model, including best estimates of current and predicted parameters would be necessary. This is perhaps achievable, but such parameters would no doubt be controversial, or at least would be limited to specific places and times. The purpose of the present model is to illustrate simply the general trends that are likely as a consequence of police targeting members of certain social groups. It is not meant

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\(^6\) These locational considerations raise the issue of “hot spot” policing wherein the appearance and or effect of racial profiling can arise from police targeting areas that have higher crime rates but also higher minority representation. The present modeling analysis, however, is concerned with cases in which race is a direct determinant of suspicion, above and beyond any other factors such as location or socio-economic status.
to make specific predictions so much as depict the nature of the contribution of racial profiling as one of many factors in policing – that, as it turns out, it will exacerbate racial/ethnic disparities in incarceration rates and contribute modest, if any, gains in overall criminal incapacitation.

One of the reasons the model is not suited to make predictions about actual incarceration rates, in addition to its use of hypothetical data, is that it is very simple, and this in and of itself may be seen as a weakness. This can be considered a strength of the model as well, because parsimony in theory and modeling is a desirable attribute. The ratio of explanatory power to the number of variables is relatively high. More importantly, this model is designed to address the primary rationale for racial profiling; that focusing on a group presumed to be more likely to commit crimes is an efficient and effective strategy, to the extent that it leads to more captures of criminals. Under some circumstances this appears to be the case, but under others it is clearly not, and the model is valuable in illustrating this. Nevertheless, for those who want a more comprehensive picture, this model may be unsatisfying.

In attempting to achieve parsimony, the model has been designed with as few variables as possible: population proportion, criminality rate, and stop rate (with re-entry rate as a quasi-variable that was not varied in this analysis but serves to create an equilibrium for establishing baseline conditions). As a consequence, certain potential variables were held constant and embedded in the assumptions of the model. For one, it was assumed that racial disparities do not exist elsewhere in the criminal justice system. This is likely untrue. Nevertheless, as stated above, the purpose of the model was to depict the unique contribution of profiling. Other biases in the system would only contribute to disparities above and beyond those illustrated here.

Another assumption holds that criminality rates for different groups are stable across time. This could create the appearance that intra-group replacement rates (i.e., the likelihood that
an incapacitated criminal such as a drug dealer will be replaced by another person from the same
demographic group who would not otherwise have been involved in crime) are assumed equal
for the two groups. This is only partly true. The “criminality” variable is intended to reflect the
true proportion of a given group that is inclined to criminal behavior. This is taken into account
in the model such that those who are criminal, if stopped by the police, will be arrested.
Therefore, if one group has a higher criminality rate than the other, they will have a higher
replacement rate, until a sufficient proportion of their criminals are incarcerated (if racial
profiling is occurring) as to render the criminality rate among those at large equal to or less than
that for the other group. However, it would not be unreasonable to argue that if one group tends
to have lower socio-economic status and fewer employment, educational, and other constructive
opportunities, a greater number of criminals from this group may be “created” by opportunities
brought about when drug or weapons dealers are removed from circulation. This is a real
possibility that could be considered in a more complex model, but it would not likely be worth
the compromise to parsimony in the present model. If replacement rates vary because of market
factors, “creating” criminals from otherwise law-abiding citizens in greater proportions within
the groups targeted by police, then the effectiveness of profiling would be all the more
questionable as it would lead to increased criminal justice costs with decreased public safety7.

The present model could be criticized for focusing exclusively on criminal incapacitation,
as opposed to another public safety enhancing objective of policing: deterrence. Theoretically, if
racial profiling is sufficiently prevalent to be recognized by members of targeted groups, it could
serve to reduce, or at least alter, criminal behavior on the part of members of those groups. This
could offer an additional crime reduction benefit, beyond incapacitation, via incarceration.

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7 Public safety would actually decline because this state of affairs would create a larger population of active
criminals cycling in and out of prison.
However, there are two reasons to resist including this in the present model. First, as stated above, the primary rationale for racial profiling is capturing the greatest number of criminals as quickly as possible. It would be difficult to find a profiling advocate, even among the most aggressive law enforcers, who would argue that it is justifiable to send a unique message of deterrence to a specific racial or ethnic group, unless one could demonstrate that there is a widespread conspiracy in that group to commit crime. Therefore, in the interest of informing the policy debate, this model attempts to illustrate the impact of profiling for its presumed legitimate purposes only.

Another reason for excluding deterrence from the present model is the severe ambiguity of the motivational nature of this variable. Calibrating such motivational variables is fraught with uncertainty. More importantly, if we are to consider that profiling may send a deterrent message to targeted groups, we must also consider that it will send the complementary message to non-targeted groups – that they may act with relative impunity because they are less likely to draw police attention. Because the groups least likely to be profiled are majority groups (if for no other reason than political feasibility), the implication here is that the net effect on crime reduction could be negative (if criminality disparities between groups are not large) or neutral (if they are large) at best.

The present analysis does not consider another important effect of racial profiling: disproportions in the numbers of innocent group members who are stopped by the police. Clearly, profiling has the effect of increasing the proportion of innocent civilians who are stopped if they belong to the targeted group. Although beyond the scope of the present analysis, which is focused on police efficiency and criminal justice statistics, a direct demonstration of the effect of racial profiling on stop rates of innocent group members would be a valuable
contribution to understanding the impact of racial profiling and should be considered for future study.

**Implications**

Racial profiling has a discriminatory impact because, in addition to having the effect of interfering with a disproportionate number of innocent minority citizens, it leads to the disproportionate conviction and incarceration of minority criminals. It also skews criminal justice statistics, which can engender further discrimination. In the process, racial profiling has the capacity to undermine police effectiveness by reducing the overall proportion of criminals incarcerated. Why might this happen? Because, although racial profilers may think they are acting probabilistically (targeting racial and ethnic groups they think are most likely to commit crimes), by profiling they violate a very basic assumption of Bayesian probability theory – that when one samples a population, those sampled should remain in the general population about which one is trying to predict future characteristics. Violations of this assumption are tolerable as long as sampling is random and equal across groups. But those who profile are being bad Bayesians because when law enforcement agents “sample” someone they have a good chance of removing him from the population (or at least changing his status), so when they oversample one group relative to others, they change future probabilities. Consequently, the probability estimates on which profiling is based are likely to be inaccurate because of profiling itself, and, as illustrated by the present modeling, that problem will likely continue and even intensify as long as profiling is continued.

Racial profiling not only skews statistics and has discriminatory impact, but it potentially leads to ineffective policing. And here is where another irony of racial profiling lies. If profiling
really works the way it is supposed to (i.e., a larger proportion of one group is stopped and searched), the model predicts that as one group is continuously oversampled and incarcerated disproportionately, the percent of criminals from that group in the general population drops relative to other groups. This finding is dependent upon the model’s calculation of the at-large criminal population by subtracting the incarcerated criminal population from the total criminal population. This assumption drives the long-term reduction in efficacy of profiling depicted in the model, but seems absolutely necessary. If this were not the case, one would have to question the utility of profiling in the first place, unless the goal was simply to increase prison populations without decreasing crime.

The other force that undermines the effectiveness of profiling, according to the model, is the increase in the percentage of free (at large) criminals for other (non-profiled) groups due to undersampling, because of the efficiency trade-off (i.e., that in order to target one group without increasing resources other groups must be attended to less). In the U.S., the group that tends to be most undersampled, Whites, is the majority group. Consequently, a large number of criminals would be neglected by the police where profiling occurs.

The bases of racial profiling. Profiling has been tolerated, supported, and employed in part because, as evidenced by comments from high-level law enforcement officials [see Harris, 1999, 2002], it is perceived as being an effective means for improving the efficiency of their agents. By targeting groups that are presumed to have a higher rate of criminality, more criminals per police action will be caught. This is in many ways a reasonable perception that is often shared even by opponents of profiling, who argue against it on constitutional grounds [e.g., Kennedy, 1999]. They often acknowledge that it would be justifiable on purely pragmatic grounds. This perception is based on the presumption that Blacks are substantially more prone to
commit crimes than are whites, a view held by laypeople and scholars alike [Miller, 1996; Russell, 1998], even scholars who are concerned about racial disparities in criminal justice [e.g., Tonry, 1995].

Racial profiling is a form of stereotype-based discrimination. Stereotypes are beliefs people have about the traits (like criminality) that are typically possessed by members of particular groups. Like all beliefs, stereotypes can vary in how accurate they are, perhaps based on the thoroughness, objectivity, and representativeness of the information one has about the groups. Nevertheless, decades of psychological research have shown that there are many mechanisms by which perceptions of groups can become distorted regardless of the quality of the information [e.g., Hamilton & Gifford, 1976; Mackie, Hamilton, Susskind, & Rosselli, 1996]. Furthermore, stereotypes have been shown to be resistant to change, even in the presence of contradictory evidence [e.g., Kunda & Oleson, 1995; Rothbart & John, 1985; Weber & Crocker, 1983], and indeed to bolster themselves through self-fulfilling prophecies [Jussim & Fleming, 1996]. Consequently, stereotypes have a tendency to have compromised accuracy.

Compounding this problem is the reality that, on virtually every measurable dimension, human categories (e.g., race, ethnic, gender) have more variability within than between their groups [e.g., Barbujani, Magagni, Minch, Cavalli-Sforza, 1997; Rosenberg, Pritchard, Weber, Cann, Kidd, Zhivotovsky, & Feldman, 2002]. As a consequence, even when stereotypes may reflect a “kernel of truth” (i.e., a real difference), using a stereotype based on a group average is probably a crude strategy for making a prediction about an individual member of that group.

The relevance here to racial profiling is clear. Beliefs that people have about race/ethnicity and criminality are probably skewed by a lack of access to representative information, various cognitive biases, and resistance to change. Law enforcement agents are not
immune to these biases, and there is no evidence indicating that racial profiles used by law enforcement are based on any systematic, empirical analysis of representative data. Even judicially permissible race-neutral criminal profiles are based on “informal” criteria, as acknowledged repeatedly by the U. S. Supreme Court [e.g., Reid v. Georgia, 448 U.S. 438 (1980)]. Consequently, using stereotypes about race/ethnicity and criminality to try to predict which individuals are likely to be carrying drugs or weapons is, from a social psychological perspective, a problematic strategy.

As is depicted in Figures 3 and 4, the model predicts that the longer racial profiling is practiced, the more the returns diminish. However, it is unlikely that such diminishing returns will be noticed, and profiling practices adjusted accordingly, because incarceration rates for the profiled groups will remain high, thereby further supporting the stereotype and rationalizing the practice. Police and the public are also unlikely to notice that decreasing numbers of minorities who are stopped are guilty, not to mention that, as in New York City, fewer minorities than majority group members who were stopped were arrested. Here again, the New York City study is illuminating because the higher arrest rates for Whites who were stopped did not appear to alter police stereotypes and practices. Similarly, studies of racial disparities in U.S. Customs searches have found that those groups typically targeted are not most likely to be found carrying contraband [e.g., Ahmed & Rezmovic, 2001].

Compounding the problems associated with the fallibility of stereotypes is the logical flaw associated with making predictions for members of the general population based on qualities one has observed in a specific sub-population (e.g., convicted criminals). In the lexicon of the philosophical study of logic, this is referred to as “affirming the consequent,” and it appears that racial profiling involves an error very much like it [Glaser, 2002]. In logical
syllogistic terms, we know that given “if A then B,” when presented with A, we can conclude that B will also be present. But it would be affirming the consequent to conclude, when presented with B, that A is necessarily present also. More concretely, if we know, based on criminal justice statistics reported in the media, that Black men are over-represented in the criminal justice system, we might be justified in concluding that “if convicted criminal, then likely to be Black.” But it would be something akin to affirming the consequent to conclude that “if Black then likely to be criminal.” Consequently, racial profiling may lead law enforcement agents to waste resources by making inaccurate generalizations about the general population based on the incarcerated population.

Structural implications. Aggressive police tactics and tough sentencing laws aimed at reducing drug use and related crimes have led to dramatic increases in the incarcerations of non-violent criminals in recent decades [MacCoun & Reuter, 1998]. Racial profiling, combined with such trends, may help to explain why disproportionately large portions of the Black male population are currently incarcerated. Indeed, the Bureau of Justice Statistics [2003] estimates that 12 percent of Black men, 4 percent of Latino men, and 1.6 percent of White men in their twenties and early thirties were in prison or jail in the United States at midyear, 2002. With such a large proportion of Black men incarcerated, the likelihood that a Black child will have a close friend or family member in prison is very high. Furthermore, Raphael [2004] has demonstrated that high incarceration rates for Black men have substantial indirect, negative effects on employment prospects of unincarcerated Black men, and Pager [2003] has revealed that criminal records are especially stigmatizing for Black job-seekers.

Perhaps even more directly than its effect on incarceration rates, racial profiling necessitates that relatively large proportions of innocent minority group members will be stopped
by the police, likely leading to stigmatization and disenfranchisement. The practice of racial profiling is bound to undermine the sense of belonging and security of members of targeted groups. This is likely to lead to suspicion among minorities of the police, curtailment of behavior, and generally increased anxiety about one’s safety, freedom, and personal control.

**Policy considerations.** The preceding analysis reveals that the presumed gains from racial profiling (i.e., increased police efficiency, greater criminal incapacitation) are questionable. Racial profiling offers limited advantages that diminish rapidly and can even serve to undermine effective policing. Given these shortcomings, when considering whether any public safety benefit of profiling is worth the civil rights costs it involves, one would have to set the decision threshold at a rather low point. Should policy makers not be satisfied with this tradeoff, and therefore choose to act to eliminate racial profiling, they will have to contend with the political and structural terrain that has to date allowed it to occur.

Profiling has been consistently tolerated in State and Federal court rulings [Cole, 1999; Harris, 2002; Kennedy, 1997; Trende, 2000] and so is currently difficult to discourage through judicial channels [Beck & Daly, 1999]. Short of changing the tenor and composition of federal courts, and given media attention to, and vilification of agencies who have engaged in profiling (e.g., New Jersey State Troopers), legislative and administrative remedies seem most feasible. However, current calls for a halt to racial profiling and the requirement of relevant data collection will likely prove inadequate. Further data collection may well continue to document that racial profiling is prevalent in law enforcement, especially in drug interdiction efforts. However, as Cole [1999] reports, police discretion is great and courts are tolerant of very loosely defined pretexts for stopping minorities. Consequently, if reducing or eliminating racial profiling is the desired policy objective, data collection alone will not be sufficient, no matter the
findings.

One thing that has become abundantly clear from social psychological research over recent years is that stereotypes can and do operate outside of one’s conscious awareness or deliberate control [e.g., Banaji & Greenwald, 1995; Devine, 1989; Gilbert & Hixon, 1991; Greenwald & Banaji, 1995; Kawakami, Dion, & Dovidio, 1998]. Because stereotyping can occur outside our subjective awareness or control, we are all the more likely to behave in a biased manner toward stereotyped group members, despite our most earnest egalitarian motives. There is no reason to expect that police are immune to this. Consequently, even the most well-intentioned police officer is likely to use race (and its attendant stereotypes) to make an assessment of suspiciousness, whether the stereotype is accurate and diagnostic or not. If police are unaware that they are profiling, official prohibitions, even if heeded, will not be sufficient to eliminate it.

Whether by legislative action or law enforcement agency policy, or both, police should not only be discouraged from profiling, and trained on how to avoid it, but should be penalized if and when they do profile. This can be accomplished through Ayres’s (2002) outcome test approach, and continual monitoring of demographics in police stops (i.e., requiring police to report the race of all people they stop). Individual law enforcement agents should be evaluated for the accuracy, measured in conviction rates (for want of a better criterion) of their stops as a function of race or ethnicity. Police officers (and other potential profilers such as customs officials) should be held accountable, through promotion review and perhaps even censure, if they are found to persistently stop a disproportionate number of people from a particular group (or groups) while the conviction rates for those they stop from those groups are not roughly equivalent to the rates for others they stop who belong to different race, ethnic, or national
Psychological research has shown that decisionmakers who expect to be held accountable for the process and outcomes of their decisions tend to use stereotypes less and make more accurate judgments [Lerner & Tetlock, 1999]. This ought to hold true for the police as well, in discouraging profiling and improving law enforcement.

Importantly, ongoing monitoring of individual police will mitigate the effects of racial profiling even for officers who are unaware that they are using race as a proxy for criminality (as in the case of unconscious stereotyping). For such police, the monitoring should serve to raise consciousness and alert them to any discriminatory behavior they may be exhibiting.

The recommended strategy will ensure that police will not be penalized for simply arresting a higher proportion of one group than of others. As stated earlier, this is not a sufficient condition to conclude that racial bias is operating because if one group does indeed have a higher likelihood of committing a particular kind of crime, they would be stopped and should be arrested in greater proportions for committing that crime. As long as the ratio of stop rates for different race groups does not exceed the ratio of actual criminality rates, profiling is probably not occurring, and police should not be punished. Consequently, recording the race of all people stopped, and monitoring conviction rates by race, should serve to insulate police from liability for racial profiling, as long as they are not doing it.

One problem remains with this approach. Racial bias appears to operate elsewhere in the criminal justice system, and resources (e.g., income and assets), which often determine quality of defense, tend to be lower for minority defendants. Consequently, profiling aside, minorities are still likely to be convicted in higher proportions as an artifact of biases throughout the system.

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8 There is some reason to be skeptical about this conclusion to the extent that it is possible that police may use race as a proxy for stopping minorities and use other indicia with Whites, in effect trying harder to find non-racial criminal indicia for White citizens. If the minority groups in question really do have higher criminality rates, the effect may be the appearance of no profiling. This would preclude disparate impact effects, but indeed profiling would still be operating.
and lack of access to resources. Such biases could mask racial profiling. However, conviction is probably the best available standard for criminality, certainly better than arrest, which is perhaps subject to the same biases that stops are. In the absence of a truly objective standard, conviction may have to suffice.

In conclusion, even if the perceptions of heightened criminality among minorities were accurate, profiling based on these perceptions would be an efficient form of law enforcement only if time stood still. When we consider the effect of profiling over time, it becomes clear, first, that it engenders a self-fulfilling prophecy, creating the very statistics on which are based the perceptions that support it, and second, that it may lead to poorer law enforcement due to the neglect of a large criminal population.

**Racial Profiling in the New Millenium**

As revelations emerged in the late 1990’s about profiling in New Jersey, Maryland, Illinois, California, and other states, public condemnation was fairly uniform, and public officials at every level of government were clamoring to condemn and distance themselves from the practice, which was perceived as a clear violation of civil rights. Following the September 11, 2001 terrorist attacks, attitudes toward racial profiling, at least with regard to counterterrorism, appear to have shifted [e.g., Verhovek, 2001]. In a terrorism-alert era, the traditional tension between civil rights and public safety is further strained, and it appears that the amplified desire for public safety has to some extent eclipsed concerns for civil rights, prompting opinion-leaders to advocate racial profiling to combat terrorism [e.g., Malti-Douglas, 2002; Wilson & Higgins, 2002]. More importantly, it appears that the U.S. Department of Justice has engaged in racial profiling to the extent that it has detained, on the pretext of immigration violations, people of
specific national origins on the basis of those national origins.

It is difficult to apply directly the present model to the question of anti-terror profiling. Because terrorism is such an extremely rare event, the subtraction from the population of would-be terrorists would be trivial and not likely to lead to a noticeable change in incarceration proportions and disproportions. Consequently, the self-fulfilling and self-defeating nature of profiling would likely not apply. A more direct application would be that of the error of affirming the consequent. Even if most terrorists were Arabs/Muslims (a questionable assertion), only a minute fraction of Arabs/Muslims are terrorists.

The central question arising from the changed environment after 9/11 is, will the increased appetite for racial profiling in the name of public safety with regard to terrorism lead to advocacy for, or at least greater tolerance of, drug-war profiling? A better understanding of the actual utility of racial profiling will be crucial in allowing citizens and policy-makers to make the best judgments and decisions that will answer that question.

References


Effect of Racial Profiling

Department, May 8, 2001.


