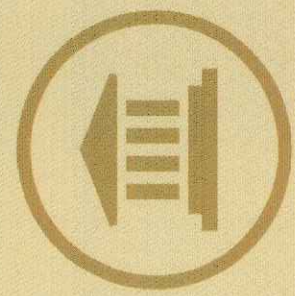


Overview of Racial Profiling Research and Methodological Concerns



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**“Consequences are real
inasmuch as they’re
perceived to be real.”**

– W. I. Thomas

Framing the Problem of Racial Profiling

- Strikes at the very heart of democratic principles – equal protection under the law and from the intrusion of government.
- Racial history of the United States is a significant factor that cannot be ignored and has an influence on both contemporary social organization and police practices and perceptions - leading to substantial disparities.
- Whether real or perceived, racial profiling is an issue that needs to be addressed thoughtfully.



History of Racial Profiling

- History of Racial Profiling deeply intertwined with sordid history of race relations in the US – and it's every bit as complicated as an issue
- Residential social organization deeply influenced by racist past.
- Police historically a tool for reinforcing racial/class boundaries.
- Numerous social problems persist in most economically disadvantaged and segregated areas.
- Absence of informal controls necessitates stronger formal controls.
- Policies like “War on Drugs” and concentration of police resources mirror history – leading to disproportionate minority contact with police.
- Tensions and skepticism linger among police, disadvantaged and minority citizens.



Research on Racial Profiling

- Some high profile court cases and studies have found strong indications that specific departments have engaged in biased behavior. However, this is highly contextual and regionalized (I-95 corridor and courier profiles, Floyd decision, etc.).
- What is more widely agreed upon is the existence of racial disparity (≠ racial profiling¹) – minority citizens generally more likely to be disproportionately represented through all stages of the criminal justice system, beginning with police contact.
- “The problem with interpreting these findings is that the mere presence of disparity in the aggregate rate of stops does not in itself demonstrate racial prejudice, any more than racial disparity in prison populations demonstrates racial prejudice by sentencing judges.” Likewise, Fridell (2004, p. 2) noted that “because the data will never ‘prove’ or ‘disprove’ racially biased policing, we contend that vehicle stop data collection and analysis should never be viewed—either by police or resident stakeholders—as a ‘pass-fail test.’” Thus, measurements of the factors that influence individual officer decisionmaking are critical to determine whether or not officers are acting on racial prejudice, animus, cognitive bias, or profiling.” (Engel 2008, p. 250)



Racial Disparity & Policing

- Stops – disparities widely documented; however, significant methodological deficiencies. Effects seem to be mediated somewhat by controlling for other factors; however, some studies indicate that disparities seem to linger after controls.
- Post- Stop Outcomes -
 - Citations - Mixed results. Some evidence that YBM's stopped more (using pretexts), but cited less.
 - Search/Seizure – minorities much more likely to be searched, less/equally likely to find contraband.
 - Arrest – Most studies indicate minorities 1.5-2X more likely to be arrested, even after controlling for other factors (Kochel et al 2011), but some suggest no difference.



Racial Profiling Theories

- Aggregate Level Explanations
 - Differential Offending Hypothesis – argues that rates of criminal behavior, caused by ecological disadvantage, account in part for disparities.
 - Institutionalized Racism/Disproportionate Contact – increased exposure to police reflects racially inequitable organization of society and disproportionate attention of police on disadvantaged areas/pretext stops.
- Individual Level Explanations
 - Racial Animus (“Bad Apples”) – argues that bulk of disparities can be explained by a few bad actors among police who act and make decisions based on racial prejudice.
 - Implicit Bias/Social Conditioning/Focal Concerns – as a consequence of societal tensions, social organization of race and police, officers differentially exposed to segregated/disadvantaged areas and a disproportionate share of crime involved individuals who reinforce stereotypes – this frames police decision-making, perceptions of threat, and suspiciousness/blameworthiness.



Racial Profiling Research & the Law

- Discriminatory Intent vs. Disparate Impact
- Evidentiary requirements to establish discriminatory intent:
 - 1.) Similarly Situated Persons eligible for police stops
 - 2.) How much statistical evidence of racial/ethnic disparities exist
- A changing tide? A note on disparate impact.



Methodological Issues

- "While the use of social science research can assist in legal decisions, it must be used with caution due to an inability to measure the reasons for officer decision-making. Although social science research and statistical analyses of police behavior are useful for identifying racial and ethnic DISPARITIES in traffic and pedestrian stops, their reliability for determining racial and ethnic discrimination is unknown." (Tillyer et al 2008)
- "It is argued that the over-reliance on social science research, in general, and statistical techniques, specifically, to provide evidence of discrimination in selective enforcement cases places policing research and legal decision making at a crossroads." Tillyer et al (2008)



Stops and Benchmarks

- Benchmarks – data used to compare demographic features of stops with those of the population ‘eligible’ to be stopped.
- An adequate benchmark would take into consideration (Tillyer 2008): (1) where groups drive, (2) when groups drive, (3) how often groups drive, (4) what groups drive, (5) how groups drive (i.e. frequency/magnitude of violations), and (6) who groups are (i.e. factors that influence likelihood of being stopped for various groups)
- Residential census populations are agreed to be the LEAST reliable comparison
- Traffic Violator observations are the only method accepted in (some) courts, but are problematic (don't cover wide geography time of day, etc.) - see Tillyer et al 2008 for a good review of flaws (esp. actuarial data which suggest significant racial differences in driving behavior/magnitude of violations)
- Veil of Darkness method – compares stops made in low lighting conditions to stops made in daylight – assumes officers cannot discern race at night (which may or may not be true in urban contexts).
- *Internal Benchmarks – statistically matches officers using stops made at same timeframe/place/contexts to evaluate differences based on race and other factors. Most methodologically sound; however, not without problems.



	Driving location	Time of travel	Driving frequency	Vehicle type and condition	Driving behavior	Drivers' characteristics	Strengths	Weaknesses
Census data and adjusted census data						X	Cost efficient Readily available Available at multiple jurisdictional levels Adjusted data provides more precise measure of driving population	Faulty underlying assumption Does not consider seasonal changes Inconsistent with other measures Additional assumptions added when using a spatial model
Drivers' license data						X	Cost efficient Measures only legal drivers Available at small jurisdictional units	Assumes that everyone with a license drives and all drivers hold valid licenses No measure of exposure to law enforcement or driving quality Does not consider drivers from other jurisdictions
Not-at-fault accident data	X	X		X	X	X	Addresses multiple risk factors Cost efficient and available Offers a measure of driving populations in an exact location	Drivers may not represent actual at-risk driving populations Sample size may threaten reliability Race/ethnicity may not be collected Limits the scope of analysis

(continued)

Source: Rob Tillyer, Robin S. Engel, Jennifer Calnon Cherkaskas, (2010), "Best practices in vehicle stop data collection and analysis", Policing: An International Journal of Police Strategies & Management, Vol. 33(1), pp. 69 - 92

	Driving location	Time of travel	Driving frequency	Vehicle type and condition	Driving behavior	Drivers' characteristics	Strengths	Weaknesses
Blind enforcement data	x	x	x	x	x	x	Multiple risk factors measured No external data collection required Readily available to law enforcement Potential to measure five risk factors	Speeding cameras: only one measure of law violating behavior, assumption that the owner was driving, and only one location is observed Nighttime stops: assumption that the racial/ethnic composition of drivers is identical at day and nighttime Limited by cost and time constraints Often only used in select locations, limiting its generalizability Measures of law violations often only include speed and/or red light violations Questionable reliability and validity, especially in low visibility situations
Observation and/or law violating data	x	x	x	x	x	x	Potential to measure all six risk factors	
Internal comparisons	x	x	x	x	x	x	Does not require external data to use as a benchmark	Group based disparities are not identifiable No unacceptable level of disparity is determined

Source: Rob Tillyer, Robin S. Engel, Jennifer Calnon Cherkaskas, (2010), "Best practices in vehicle stop data collection and analysis", Policing: An International Journal of Police Strategies & Management, Vol. 33(1), pp. 69 - 92

Thresholds for Demonstrating Bias

- Standard Deviations – most studies have looked for a ‘statistically significant’ ($Z \geq 1.96$, $T > 2$) threshold, and this has been largely accepted by the courts.
- False Positives/False Negatives - existing methods overly rely upon ‘statistical significance’ without considering factors like sample size, measurement, power, etc.
- No clear legal guidance on when disparities are problematic – unlikely that a definitive statistical threshold could be defined by statutes. Likely to be determined on a case-by-case basis by courts.



Examining Stops vs. Outcomes

- Disparities in stops heavily influenced by inadequate benchmarks and controls.
- Outcomes provide more direct insights into police decision-making and possible bias.
- Key Outcomes: Discretionary Search Rates, Warning/Citation/Arrest Rates, Hit Rates for Contraband, and Use of Force.



Why Collect Data?

- Sends a clear message that agencies take profiling seriously and have nothing to hide.
- Can guide proactive means of avoiding civil actions and pattern and practice suits against departments.
- Data can help educate officers and citizens about both conscious and implicit bias.
- Data can frame community discussions about appropriate allocation of police resources/strategies – especially in disadvantaged areas.
- Data can be used to improve productivity – by evaluating benefits/costs of certain types of high discretion stops.



Challenges to Data Collection

- Vast differences in IT capacity/resources across departments.
- Budget/time/paperwork costs associated with data collection.
- Disengagement in legitimate stops may occur if officers fear being penalized.
- Reliability/validity challenges with officers collecting data.
- How will data be used – for proactive/positive training/education or for punitive lawsuits/formal actions?

Best Practices

- Development of data collection protocols should involve broad stakeholders – LE agencies, accountability entities, community groups, researchers, etc.
- Data collection should involve careful pilot testing
- Data collection should be automated to minimize manual data entry.
- Data collection should be integrated into the daily work habits of patrol officers – and involve minimal intrusion necessary to get sufficient data.
- Data should be regularly audited by independent observers and compared to existing data.
- Data should be collected on all officer-initiated stops.
- Data collection should be driven by theories of police decision-making – i.e. it should look more deeply within decisions on stops.



What Data to collect?

- **Stops** - time, date, location (X/Y), pre-stop indicators(sub-legal - i.e. suspicion), reason (legal), body language, driving behavior, occupants behaviors, duration of stop, driver/occupants required to exit, canine utilized
- **Drivers** - race/ethnicity (perceived), gender, age, resident/nonresident, demeanor
- **Vehicles** - type (make/model/year), condition, modifications, license #, state
- **Officers**- age, gender, race/ethnicity, assignment, education, disciplinary record, and experience
- ***Outcomes** - warned, cited, searched (reason/extent/consent), seizure (what/success rate by group), use of force, arrest and charges.
- **Benchmark data** - where/when/how often/what/how/who for 'eligible drivers' - (see Table 1 of Pg. 79, Tillyer et al 2010)
- **Body Cameras/Observational Data** – may be a useful source of data on officer/citizen interactions.
- **Citizen Satisfaction Survey data** – with carefully thought out sampling strategy and methods stratified to be representative of minority populations.



How to Analyze/Interpret the Data?

- ***Theory Driven Research** – collection and interpretation of results should be driven by theory about what drives police decision-making and might account for disparities.
- **Hierarchical Multivariate and Spatial Models** – deal with unique statistical properties of data that is *geographic* and nested within agencies, officers, and stops.
- **Propensity Score Matching** – statistical method utilized to ensure best possible comparison group is identified.
- **Hit Rates/Outcomes Test** – groups should be compared on rates at which contraband is detected.
- **Early Warning Systems** – efforts should be made to develop reliable systems which utilize data to identify potential problems without excessive false negative/false positives.



Policy Recommendations

- Strongly recommend funding an independent pilot initiative to develop a data collection system which allows for monitoring of both departments and individual officers and includes a wide array of stakeholders; including, researchers, police agencies, accountability entities, IT support, etc.
- Fiscal and operational impacts should be carefully considered along with the anticipated benefits/disadvantages of the proposed data collection system.
- Where possible, agency participation should be incentivized and encouraged as a way to promote transparency and address community concerns. Funding to offset expenses of data collection for early adopters involved in development should be considered.
- Remediation actions for agencies and officers where bias is demonstrated should be clearly spelled out - i.e. funding implications, mandatory training, discipline, etc.

