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Race, poverty, and the traffic ticket cycle

Exploring the situational context of the application of police discretion

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Abstract

Purpose – Through systematic observation of police decision-making behavior, the aim of this paper is to investigate what factors differentiate between citizens who receive a warning vs a ticket from police and whether the influence of those factors varies by race. The paper also explores the context of those decisions for both blacks and whites to further the understanding of the underlying mechanisms of any observed differences in the likelihood of receiving a ticket vs a warning.

Design/methodology/approach – Data were collected during police ridealongs conducted in a sample of cities within Cuyahoga County, Ohio. A total of 140 ridealongs were completed, yielding a total of 312 vehicle or citizen stops.

Findings – The paper finds that black citizens are more likely to receive a ticket than white citizens. However, the paper also finds important differences in the situational context of traffic stops for blacks and whites and uncover evidence of a cycle of traffic tickets and license suspensions among some black drivers.

Research limitations/implications – The study demonstrates the importance of examining the underlying situational context in analyses of decision making in traffic stops. The main limitation of the analyses is that the data were limited to one county in the state of Ohio.

Practical implications – The data suggests that one of the causes of the racial disparities in tickets vs warnings involves a cycle of tickets and license suspensions that occurs among some black drivers. These drivers appear to become caught up in a cycle where a compilation of prior tickets from traffic infractions, driving without insurance, or defaulting on child support payments leads to high numbers of points and subsequent license suspensions. The paper discusses some practical implications for addressing this pattern, including specific programs that could be adopted by municipalities that seek to break the cycle of repeated violation of driver's license laws.

Originality/value – Beyond identifying the impact of citizen race on the likelihood of receiving a warning vs a ticket during a traffic stop, this study contributes to the existing literature by exploring the situational context of these decisions, and identifying the ways in which variations in situational contexts help explain racial differences in outcomes in traffic stops. The identification of a traffic ticket cycle among some black drivers appears to be an original finding.

Keywords Discrimination, Decision making, Patrol, Discretion, Profiling

Paper type Research paper

The authors wish to acknowledge the assistance of the supervisory personnel in the four police departments who provided their cooperation and assistance in permitting them to ride along with their officers and the officers themselves for their willingness to be observed by a research assistant during their shift. The authors also wish to thank the 13 research assistants who worked on the project, patiently scheduling (and re-scheduling) shifts to ride along with officers and diligently filling out observational forms. The authors also appreciate the assistance of Michael O'Malley and Joyce Dodrill of the Cuyahoga County Prosecutor's Office for their assistance with the project at various points along the way and to Cuyahoga County Prosecutor Bill Mason for providing the opportunity to carry out this study.

Whether they see the violation themselves or become aware of it by other means, the police have the ability to shape multiple outcomes in the criminal justice process including who is stopped, detained, and arrested (Smith and Visser, 1981). Because these decisions are often made without supervisors or others present, and because officers enjoy a position of control compared to the citizen (Alpert and Dunham, 2004), this discretion has the potential to be applied unequally across demographic subgroups. A majority of Americans surveyed believe racial profiling by police to be widespread (Weitzer and Tuch, 2005). They also generally find that minorities harbor more negative views of law enforcement and that trust in the police is lowest among black respondents (e.g. Gallagher *et al.*, 2001; Warren, 2010; Webb and Marshall, 1995; Weitzer and Tuch, 2002).

Some argue that statistics showing a disproportionate number of minorities among those stopped, ticketed, searched, or arrested by police provide evidence of racial profiling (Dunn and Reed, 2011). However, decision making by police officers and how they apply discretion are complex processes that are challenging to study. Research suggests that a number of factors influence how police make discretionary decisions, including the seriousness of the offense and the citizen's demeanor (Black, 1980; Black and Reiss, 1970; Lundman *et al.*, 1978; Smith, 1984, 1987; Smith *et al.*, 1984; Visser, 1983; Worden, 1989; Worden and Shepard, 1996).

Stimulated by concern that black citizens were overrepresented among those arrested and charged with drug offenses in Cuyahoga County, the goal of this study was to examine the application of police discretion in decision making in the county, including how frequently police initiate discretionary police-citizen interactions and the outcomes of these contacts. The study also assessed the impact of officer and citizen characteristics on these outcomes.

In order to be able to identify each critical decision-making point where discretion can be applied by police officers and to examine how that discretion is used, we collected data through direct observations of police activity and debriefing (interviewing) of police officers immediately following encounters with citizens that were precipitated by an officer's suspicion. These data were collected through trained researcher ridealongs with police officers. This form of systematic observation of police behavior has been used in prior research to study police decision-making processes and is considered to be one of the best ways to examine these processes (see, e.g. Klinger, 1994; Lundman, 1996; Novak *et al.*, 2002; Sykes and Clark, 1975). It is virtually the only methodology that will allow for the collection of data on decisions not to issue a ticket during a traffic stop[1].

While we initially planned to examine whether and how the initiation of interactions with citizens by police played into the overrepresentation of blacks among those arrested and charged with drug offenses in the county, for reasons explained in Methodology, the study became an investigation of what factors differentiated between those citizens who received a warning from police compared to those who received a ticket and whether the influence of those factors varied by race. Furthermore, we examine the context of those decisions for both blacks and whites in order to further our understanding of the underlying mechanisms that affect the likelihood of receiving a ticket vs a warning.

Literature review

Criminological literature dating back to the 1930s examines the influence of extra legal factors on the criminal justice process. Among the factors receiving the most attention are citizen demeanor, citizen characteristics, and officer characteristics.

Citizen demeanor

Many observational studies suggest that an individual's demeanor toward the officer during police-citizen interactions significantly influences the likelihood of arrest (Black, 1980; Black and Reiss, 1970; Lundman, 1996; Lundman *et al.*, 1978; Smith, 1984, 1987; Smith and Visser, 1981; Smith *et al.*, 1984; Visser, 1983; Worden, 1989; Worden and Shepard, 1996). Reports from citizens who were stopped for speeding also suggest that polite citizen behavior can result in a decreased sanction. Showing remorse to officers (e.g. "I'm sorry") more often leads to lower fines for speeding (Day and Ross, 2010). Higgins *et al.*'s (2012) study of Louisville police asked officers to complete survey forms after traffic stops. Though they did not ask about the demeanor of the driver specifically, officers reported that they were most likely to search those they felt to be most blameworthy, regardless of race.

Citizen demographic characteristics

Of particular concern to researchers and the public is whether the demographic characteristics of citizens, specifically race or ethnicity, affect the likelihood of being stopped or arrested by police, regardless of actual behavior that would warrant a police response. While the National Research Council (2004) concluded that the body of research on whether the race, age, and gender of the suspect affects police behavior has produced inconclusive results, more recent research on various outcomes of police-citizen encounters points to the existence of a racial "gap" between how white citizens and citizens of color are treated by police.

For example, prior research suggests that police decisions are made based on race at various points in police-citizen interactions from the decision to query a license plate to the decision to search and arrest. Meehan and Ponder (2002) found that officers ran license plate queries of African Americans at a higher rate than whites. Engel and Calnon's (2004) analysis of survey data found that young black males reported being issued a ticket vs a warning 1.4 times more often than similarly situated whites. Ridgeway's (2006) propensity score analysis of traffic stops in Oakland, California found no race differences in officers' decisions to stop or ticket a motorist, but found that black drivers were six times more likely to be patted down and three times more likely to experience a discretionary probable cause search than white drivers in the same situation (i.e. both had committed the same offense and had the same behavioral response to being stopped). Kochel *et al.*'s (2011) meta-analysis of over 60 studies published from 1977 to 2007 on the effect of race on police arrest decisions found that the chances of a minority suspect being arrested were 30 percent higher than those for whites.

Much of the research focusses on the decision to search. However, searches are rare, occurring in only 1-8 percent of traffic stops (Schafer *et al.*, 2006), and nearly all of these studies use self-reported data from officers or citizens. For example, Higgins *et al.*'s (2008) study in Louisville reported disproportionate searches of racial minorities with blacks being searched 1.3 times more often than whites. Higgins *et al.*'s (2011) analysis of data from the Police-Public Contact Survey showed that blacks were significantly more likely to be searched than whites. Schafer *et al.*'s (2006) analysis of officer reports revealed that overall, blacks were more likely to be searched than whites, but once contraband was discovered, non-whites were more likely to receive a warning.

The possibility of racial bias in the application of discretion has been the focus of Department of Justice (DOJ) investigations of several major city police departments in Ohio. In 1999, Columbus was the subject of a police misconduct suit filed by the

DOJ for excessive use of force, false arrests, and illegal search and seizures, which included an examination of whether officers in the department engaged in racial discrimination against citizens. The American Civil Liberties Union, along with the Cincinnati Black United Front, filed a federal lawsuit against the Cincinnati Police Department in 2001 claiming the department engaged in racial profiling and discrimination, which ultimately resulted in the Cincinnati Collaborative Agreement. In that same year after the civil unrest produced by the shooting of Timothy Thomas, DOJ opened a pattern or practice investigation of the Cincinnati Police Department. As recently as March 2013, the Cleveland Police Department became the subject of another pattern and practice DOJ investigation concerning their use of force. Cleveland's department was previously investigated by DOJ in 2000 and 2004.

Officer demographic characteristics

Research examining police discretion normally controls for officer characteristics that may influence their discretionary decisions. Typically these studies record data on the officers' race, level of education, and age or years of experience. Studies disagree, however, on the importance of these characteristics. Novak (2004) found that officers with fewer years of experience are less likely to issue tickets or make arrests during traffic encounters, suggesting that younger officers may be less coercive. While some studies report that the race of the officer impacts the likelihood of arrest (e.g. Donohue and Levitt, 2001), other studies find no effect of officers' race or experience on traffic stop outcomes (Brown and Frank, 2005). After testing a variety of officer characteristics, including officer race and gender, Alpert *et al.* (2004) found that only officer age and education mattered. Older officers and those with a high school education were more likely to stop individuals. A recent study by Rojek *et al.* (2012) reveals that while searches are more likely to be conducted by white officers than black officers and to occur among black drivers, white officers were particularly likely to search white drivers when the stop occurred in a predominantly black community.

Other studies use officer surveys to identify behavioral differences among officers. For example, Engel *et al.* (2012) reported that both white and black officers classified black drivers as more disrespectful and non-compliant than white drivers. An obvious disadvantage of this methodology is the reliance on officers' self-reports of the incident.

In sum, using various methodologies, prior research suggests that officers rely on informal guidelines when deciding whom to stop, ticket, and arrest, and the behavior or attitude of the citizen partly determines the outcome of these interactions. Furthermore, some studies find that non-white citizens are more likely to be subjected to harsher outcomes than white citizens, even after controlling for the behavior of the citizen. This differential treatment by race has been reported across multiple points in the citizen-police interaction. In order to shed further light on the differential application of police discretion, research must focus on the situational context underlying how police use their discretion in encounters with citizens. This became a primary goal of our study.

Methodology

Sample

With the goal of assessing police discretion in Cuyahoga County, Ohio, and because it is impractical to observe all departments in the county, we collected data in the city of Cleveland and three suburbs. We chose the Cleveland Police Department because it contributes a large proportion of cases to the Cuyahoga County criminal justice system. In order to obtain as representative a sample of suburban departments within the

county as possible, we drew a stratified sample of police departments. To ensure a sufficient number of data collection points, we limited our sampling frame to suburbs with a minimum population of 1,000 residents or more, which excluded eight cities. As Cuyahoga County borders Lake Erie on the northern side, Cleveland is surrounded by suburban cities on the west, east, and south sides. Thirty-five cities surround Cleveland's borders and are referred to as the inner ring suburbs. The remaining 21 suburban cities, which are largely racially homogeneous, constitute the outer ring suburbs. We stratified the cities into three groups: inner ring suburbs on the eastern side of the county; inner ring suburbs on the western side of the county; and all outer ring suburbs. One city was selected from within each group with our final sample including the cities of Brook Park, Shaker Heights, and Westlake.

Alpert *et al.*'s (2004) study of police officer discretion in Savannah, Georgia observed officers on 132, eight-hour shifts, during which time the officers formed suspicion 174 times. These suspicions resulted in 103 motor vehicle stops. We implemented a similar strategy to ensure sufficient statistical power for quantitative analyses. We originally proposed observing a total of 180 eight-hour shifts, with 72 in the City of Cleveland, and 108 in the three additional municipalities. With the City of Cleveland moving to ten-hour shifts shortly before the study began, we revised our plan to observe 58 shifts in Cleveland. However, shifts were only completed in the first of the city's five districts due to a lack of support for the project from the Cleveland Police Patrolmen's Association[2].

Ultimately, our team of 13 trained researcher assistants rode along a total of 140 times (observations) with officers in the four participating cities from January 2011 to November 2011. Observations ranged from four to ten hours in length. These 140 observations included 65 weekend observations (Friday through Sunday) and 75 weekday observations (Monday through Thursday). We oversampled second shifts since this part of the day is usually the most active for police and thus they were expected to yield more interactions. Of the 140 observations there were nearly twice as many second shifts as first or third (though Shaker Heights only uses two shifts). This yielded a total of 312 motor vehicle or citizen stops.

Data collection tools and measures

Observers used three types of standardized data collection forms to record information during each observation. The first measured the demographic characteristics of the officer including age, race, gender, years in the department, and whether they were assigned to a particular beat. The second was completed at the conclusion of each observation and included information about the officer's general attitude before and after the observation. The third form was completed each time an officer made a decision about whether or not to initiate an interaction with a citizen. This form included information about the citizen, the events that took place during the interaction, the outcome of the interaction, and a debriefing of the officer afterwards in order to gauge his or her decision-making processes.

Analysis

We assessed the frequency of police-citizen interactions, the characteristics of those involved in these interactions, and interaction outcomes. We used cross-tabulations to examine whether the characteristics of the officer and the citizen impacted the outcomes of the interactions. Finally, we conducted a logistic regression analysis examining predictors of the likelihood of receiving a ticket (coded as 1) vs a warning

(coded as 0). The independent variables included officer characteristics (officer is a male, a minority, has more than a high school education, years on the department), citizen characteristics (citizen is male, black, displays negative demeanor), and incident characteristics (the stop was the result of behavior vs appearance).

Findings

A total of 312 police-citizen interactions were observed over 140 shifts, with approximately 30 percent occurring in each of the three suburbs and 6.4 percent occurring in Cleveland. Shaker Heights had the highest average number of interactions per shift (2.86), followed by Brook Park (2.2), Westlake (2.07), and Cleveland's first district (1.25). We oversampled second shifts so that about 50 percent of the ridealongs took place during second shift, and 25 percent in first and third shifts.

Few changes in officers' attitudes were observed, and those that did occur were in a positive direction. The overwhelming majority of officers had a positive attitude toward the observer at both the beginning and end of the ridealong, most likely because only officers who volunteered were included in the study. In fewer than ten cases did the observers report notable changes in the officers' behavior as a result of their presence.

The average number of times police initiated interactions with citizens per shift was four, although observers reported anywhere from zero to ten police-citizen contacts per ridealong. Nearly half (48 percent) of all police-initiated citizen interactions occurred in commercial areas, compared to 43 percent in residential areas. Just over one-third (35.6 percent) of the ridealongs were conducted on weekend nights.

The most common outcome was a warning (53 percent of all stops) followed by a citation/ticket (34 percent). In only five of the 312 interactions (1.7 percent) the citizen was arrested. Two of these five involved individuals who had warrants out for their arrest. The remainder involved citizens found to be driving while intoxicated. In only five interactions (1.6 percent) the citizen's vehicle was towed. This most often occurred when the driver was found to have a suspended license. Due to the infrequency of arrest, our analyses focus on factors related to the likelihood of receiving a warning vs a ticket and the situational context in which these decisions occur.

The demographic characteristics of officers are presented in Table I. The overwhelming majority of officers who agreed to participate were male (98.6 percent), and white (86.7 percent)[3], with 65 percent being between the ages of 30 and 49. Most studies that examine the possible effects of officer characteristics on their behavior during police-citizen interactions find little effect of gender or race on factors such as the likelihood to use force or to ticket once the officer's assignment is taken into consideration (Geller and Scott, 1992). We examined cross-tabulations between these officer characteristics and the outcome of the interaction and did not find any significant effects for race or gender of the officer.

Similarly, prior research finds officers' educational background has little impact on the outcome of police-citizen interactions (e.g. Alpert *et al.*, 2004). Among the participants in our study, most officers' highest education level was a high school diploma (43 percent) followed by an associate's degree (35 percent). In total, 22 percent had a bachelor's degree. We found that officers with a bachelor's degree were not any more or less likely to ticket suspects vs give warnings compared to those with lower education levels.

Table II presents data on the race, age, and gender of citizens stopped by officers. Officers perceived nearly two-thirds (61 percent) of those stopped to be male, 63 percent

Characteristic	Ridealongs	Police-citizen interactions
<i>Officer gender</i>		
Male	138 (98.6%)	301 (96.5%)
Female	2 (1.4%)	11 (3.5%)
<i>Officer race</i>		
White	117 (86.7%)	256 (86.2%)
Black	9 (6.4%)	11 (3.7%)
Latino	9 (6.4%)	30 (10.1%)
<i>Officer age (years)</i>		
20-29	18 (13.3%)	46 (15.2%)
30-39	54 (40.0%)	134 (44.4%)
40-49	34 (25.2%)	46 (15.2%)
50-59	27 (20.0%)	75 (24.8%)
60-69	2 (1.5%)	1 (0.3%)
<i>Officer highest degree</i>		
High school diploma	57 (42.9%)	104 (34.4%)
Associate degree	46 (34.6%)	112 (37.1%)
Bachelor degree	30 (22.6%)	86 (28.5%)

Table I.
Demographic characteristics of officers

<i>Officer's perception of citizen's gender</i>	
Male	186 (61.0%)
Female	117 (38.4%)
Mixed gender group	2 (0.7%)
<i>Officer's perception of citizen's race</i>	
White	170 (63.7%)
Black	84 (31.5%)
Latino	5 (1.9%)
Multiracial group	2 (0.7%)
Other	6 (2.2%)
<i>Officer's perception of citizen's age (years)</i>	
Under 20	33 (13.5%)
20-29	71 (29.0%)
30-39	29 (11.8%)
40-49	52 (21.2%)
50-59	32 (13.1%)
60-69	23 (9.4%)
70 and over	5 (2.0%)

Table II.
Demographic characteristics of citizens

white, and 62 percent between 20 and 49 years of age. Examining demographic characteristics by city, we find that in Cleveland's first district, Westlake, and Brook Park, the citizens stopped were most frequently white (43.8, 88.0, and 82.4 percent, respectively) while the majority of citizens stopped in Shaker Heights were black (69 percent). However, given the higher proportion of black drivers in Shaker Heights compared to the other jurisdictions included in the study, this was not entirely unexpected[4]. In all jurisdictions, the majority of citizens stopped were male, ranging from 55 percent of those stopped in Cleveland's first district to 64 percent of those stopped in Brook Park. The age distributions of those stopped were relatively similar across jurisdictions, although those stopped in Brook Park tended to be younger than in other locations.

Table III presents data comparing citizen demographics to the outcome of the stop. In all, 66 percent of the females stopped by officers received a warning compared to 59 percent of males, a difference that was not statistically significant. No significant differences in outcome were found across age groups. The likelihood of receiving a ticket ranged from about 27 percent for citizens aged 30-39 years to 50 percent for those aged 60 and over. About 31 percent of white citizens stopped were ticketed compared to 53 percent of blacks and 20 percent of Latinos, suggesting that black citizens were less likely to receive a warning than citizens in other racial categories.

In order to further investigate this racial difference, we explored the situational context of these decisions by looking at several additional breakdowns by race including the reason for the stop given to the observer and the reason given to the citizen. Both blacks and whites were most likely to be ticketed for reasons related to the behavior of the driver/citizen. However, the stops that resulted in tickets differed by race. The stops in which black citizens were most likely to be ticketed were when they were pulled over for making an illegal or improper turn (the reason for 28 percent of the stops of black citizens that resulted in tickets) and having a headlight violation (22 percent of these stops). The stops that most often resulted in tickets for white citizens were speeding (the reason police pulled over 43 percent of the whites who received tickets) followed by running a red light or stop sign (22 percent).

But what accounts for these differences? To contextualize, we examined the qualitative descriptions of the interactions between police and citizens in these circumstances. The descriptions of the situations in which whites received a ticket were quite varied. The most common was that the driver's speed was in excess of a cutoff beyond which the officer would automatically issue a ticket (typically 15 miles per hour). Although less common, the following circumstances also resulted in white individuals receiving tickets: the driver's license was suspended; the driver's license or plates had expired weeks or months prior; the driver had committed multiple infractions during the incident (e.g. headlight out, speeding, and not using a turn signal); the driver had a poor driving record; the driver was rude toward the officer; and the driver was perceived by the officer as being blatantly dishonest. Multiple examples of each of these circumstances were found in the descriptions of whites receiving tickets.

<i>Outcome of stop</i>	<i>Perceived gender of citizen</i>						
	Male	Female					
(a) ^a							
Warning	90 (59.2%)	67 (65.7%)					
Ticket	62 (40.8%)	35 (34.3%)					
Total	152 (100%)	102 (100%)					
	<i>Perceived race of citizen</i>						
(b) ^b	White	Black	Latino	Other			
Warning	101 (68.7%)	33 (47.1%)	4 (80.0%)	3 (50%)			
Ticket	46 (31.3%)	37 (52.9%)	1 (20.0%)	3 (50%)			
Total	147 (100%)	70 (100%)	5 (100%)	6 (100%)			
	<i>Perceived age of citizen</i>						
(c) ^c	Under 20	20s	30s	40s	50s	60 years and over	
Warning	18 (66.7%)	32 (53.3%)	16 (72.7%)	29 (67.4%)	16 (57.1%)	12 (50%)	
Ticket	9 (33.3%)	28 (46.7%)	6 (27.3%)	14 (32.6%)	12 (42.9%)	12 (50%)	
Total	27 (100%)	60 (100%)	22 (100%)	43 (100%)	28 (100%)	24 (100%)	

Notes: ^a $\chi^2 = 1.084$ (df = 1; $p > 0.05$); ^b $\chi^2 = 10.401$ (df = 3; $p < 0.05$); ^c $\chi^2 = 5.189$ (df = 5; $p > 0.05$)

Table III.
 (a) officers' perception of citizen gender by outcome of stop;
 (b) officers' perception of citizen race by outcome of stop; (c) officers' perception of citizen age by outcome of stop

In contrast, the situations describing interactions between citizens and police that resulted in black individuals receiving a ticket were considerably less varied. Moreover, the most predominant circumstance was that the driver was found to have a suspended license (or no license) after being pulled over for a different infraction. Other situations where blacks received tickets were: the driver committed multiple infractions during the incident; the driver's speed was in excess of a cutoff beyond which the officer would issue a ticket; the driver was rude toward the officer; and the driver was operating the vehicle in a dangerous manner to the point of nearly causing an accident. With the exception of the last one, all of the circumstances identified in the descriptions of interactions between police and black citizens that resulted in tickets were also circumstances that lead to white individuals receiving tickets. The main difference between the two groups in contexts leading to tickets is that black drivers were more commonly found to have a suspended license after being stopped by the officer whereas white drivers more commonly exceeded predetermined speeding cutoffs that officers use to guide their decision making.

The police-citizen interaction process

Each time an officer formed suspicion that led to a stop the action was coded according to what drew the officer's attention to the person or vehicle. These reasons were categorized according to the appearance of the person or vehicle, behavior of the person or vehicle, time and/or location of the person or vehicle, and whether the officer's attention was drawn based on information given to them by an outside source (i.e. being on the lookout for citizens or vehicles that match a particular description). The majority of the time (71 percent of all initiated interactions) the officer's attention was drawn to the person or vehicle because of their actions (behavior). In all, 27 percent of the time they based their decision to act on the appearance of the person or vehicle. Time and/or place played a factor in just 1.3 percent of interactions and information in 1 percent.

A citizen's likelihood of experiencing a particular outcome depended in part on these reasons. Citizens stopped for reasons related to their actions (behavior) were significantly more likely to receive tickets compared to those stopped for a factor related to their appearance (43 and 26 percent, respectively; $\chi^2 = 5.844, p < 0.05$).

After stopping a person or vehicle, observers noted the officer's interaction with the citizen including the reason given to the citizen for the stop. These reasons are listed in Table IV. The most common reason was speeding (constituting 22.5 percent of stops), followed by missing or broken headlights (17 percent) and running a red light or stop sign (11 percent).

The observers also took note of whether anyone else saw the interaction between the officer and citizen and if so, who was present. Prior studies suggest that the presence of bystanders affects police discretionary decisions, with officers less likely to cite a citizen with other officers present (Engel *et al.*, 2000) or other citizens present (Brown and Frank, 2005). In this study, the majority of police-citizen interactions (74 percent) took place with only one officer and one citizen present. In 37 percent of the interactions in which someone else was present (another citizen such as a passenger, or another officer), a ticket was issued compared to 39 percent of these interactions that resulted in warnings, suggesting that having others present did not impact one's likelihood of being ticketed.

Exploring the impact of citizen demeanor, most citizens (83 percent) were respectful, courteous, or helpful when interacting with officers, while less than 15 percent were

irritated, impersonal, or rude. Table V illustrates how the demeanor of the citizen affected the outcome of the stop. In total, 67 percent of the citizens who displayed positive demeanor during their interaction with the officer received a warning, while 61 percent of citizens with negative attitudes received a ticket. However, it appears that neutral demeanors also matter. Those with neutral demeanors received a ticket 67 percent of the time. The results indicate that officers are less likely to ticket citizens with positive demeanors compared to those with neutral or negative attitudes.

To examine whether citizen characteristics and demeanor would have an impact on the outcomes of stops after controlling for officer and incident characteristics, we ran a logistic regression model comparing the likelihood of receiving a ticket vs a warning. These results are displayed in Table VI. Four characteristics have a significant impact on the likelihood of receiving a ticket. The largest effect is for officer race; citizens

Reason for initial stop

Speeding	67 (22.5%)
Ran red light/stop sign	34 (11.4%)
Improper/illegal turn	30 (10.1%)
Headlight missing or broken	51 (17.1%)
Expired license or license plates	15 (5.0%)
Suspended license	7 (2.3%)
Walking on street/jaywalking	9 (3.0%)
License plate missing/wrong plate	11 (3.7%)
Other reckless driving infraction	24 (8.1%)
Other	50 (16.7%)

Table IV.
Officers' reason for initiating stop given to citizen

Outcome of stop	Citizen's demeanor		
	Positive	Neutral	Negative
Warning	137 (66.5%)	6 (33.3%)	11 (39.3%)
Ticket	69 (33.5%)	12 (66.7%)	17 (60.7%)
Total	206 (100%)	18 (100%)	28 (100%)

Note: $\chi^2 = 13.978$ (df = 2; $p < 0.01$)

Table V.
Citizen's demeanor by outcome of stop

Characteristic	<i>B</i>	Odds ratio
Minority officer	1.846**	6.335
Male officer	-0.467	0.627
Officer has more than high school education	0.180	1.197
Number of years officer has been in the department	0.036	1.037
Black citizen	0.962*	2.617
Male citizen	0.331	1.393
Negative citizen demeanor	1.349**	3.854
Behavior as reason for stop	1.292**	3.640

Notes: * $p < 0.05$; ** $p < 0.01$

Table VI.
Logistic regression analysis of factors predicting the likelihood of a ticket vs a warning in traffic stops in Cuyahoga County, Ohio

stopped by a minority officer are over six times more likely to receive a ticket. Demeanor has the next strongest impact; citizens displaying a negative demeanor are 3.8 times more likely to receive a ticket, supporting prior research. When a citizen is stopped as a result of their behavior as opposed to their appearance (or the appearance of their vehicle), they are 3.6 times more likely to receive a ticket. Finally, black citizens are about two and a half times more likely to receive a ticket compared to non-black citizens. None of the other variables in the model were significant.

Further exploring the impact of demeanor and race, we found that the effect of the citizen's attitude on the outcome of the interaction (warning vs ticket) varied by citizen race. In all, 74 percent of white citizens who displayed a courteous demeanor received a warning while 26 percent received a ticket. However, only 55 percent of black citizens who displayed a courteous demeanor received a warning while 38 percent were ticketed. These differences by race are statistically significant ($\chi^2 = 6.236$, $df = 1$; $p < 0.05$). This suggests that having a positive attitude is more likely to result in a warning for both groups, but that this effect is stronger for white citizens.

Overall, very few citizens displayed negative attitudes with police. However, white citizens who displayed negative attitudes (were demeaning, rude, irritated, or contemptuous) were only slightly more likely to receive a ticket (53.3 percent) compared to a warning (46.7 percent). In contrast, of the eight black citizens who displayed a negative attitude, all but one received a ticket. With one exception, these cases occurred in the suburb of Shaker Heights. In examining the descriptions of the interactions between the officers and citizens, two factors seemed to be important in determining the outcome. The first concerned the timing of the negative attitude. In particular, if the citizen displays a negative attitude from the outset of the interaction and does not change it during the course of the interaction, the outcome is frequently a ticket. The other factor was the nature of the offense. Citizens who were rude toward the officer but were committing minor types of offenses (e.g. jaywalking, public urination) frequently received warnings.

Discussion and conclusion

Our analysis of data collected through the systematic observation of patrol officers revealed that the majority of citizens stopped by patrol officers were white males between the ages of 20 and 49 years old. However, a higher percentage of black citizens were stopped in Shaker Heights and more white citizens were stopped in Westlake, Brook Park, and Cleveland's first district.

Overall, we found that officers typically initiated contact with citizens based on the actions of the driver or pedestrian. The majority of the time, the officer's attention was drawn to the person or vehicle because of their behavior. Consequently, it is unlikely that officers are relying significantly on stereotypes of citizens based on appearance only when making decisions to initiate a stop. That the majority of stops occurred during the evening or nighttime hours also makes it unlikely that the appearance of the citizen was a factor in the initiation of the stop given the greater difficulty of obtaining a clear view inside of a dark automobile.

Most officer-citizen interactions resulted in a warning. Arrests occurred very infrequently. Individual officer characteristics and the presence of bystanders had little to no effect on the decision to initiate contact with a citizen or the outcome of interactions. There were no significant variations in these discretionary decisions based on officers' genders, ages, years on the force, or educational level. In contrast to studies that found that white officers are more likely to report drivers as disrespectful (Engel *et al.*, 2012) or more likely to search drivers (Rojek *et al.*, 2012), our multivariate

analyses revealed that minority officers were significantly more likely to give tickets compared to warnings. Given the relatively small number of minority officers who participated in the study, we view this finding as very tentative. As a general rule, polite and/or remorseful citizens were more likely to get warnings while impolite citizens were more likely to receive tickets.

With respect to race, we found that black citizens were more likely to be ticketed than white citizens. We also found that some racial variation existed with respect to the situations leading to tickets being issued. White citizens were most likely to be ticketed after speeding or running a red light or stop sign. The most common circumstance involved a speeding driver exceeding a preset cutoff point used by the officer above which they would issue a ticket. In contrast, black citizens were most likely to be ticketed after being stopped for an illegal turn or headlight violation. While these infractions were the initial cause of the stop, the most common circumstance ultimately leading to a ticket was the driver having a suspended license. We return to this finding shortly.

Citizen demeanor also had a significant impact on the likelihood of receiving a ticket vs a warning. While having a positive attitude was more likely to result in a warning for both groups, we found this effect to be stronger for white citizens. Similarly, displaying a negative attitude worked against black citizens more so than whites, more often leading to a ticket. To some extent this may be a function of the timing of the negative attitude, with black citizens more likely to display a negative attitude from the outset of the interaction. This, in turn, may be related to the lower trust of police among blacks more generally and perhaps a feeling of being unfairly targeted for offenses such as headlight violations, which are based on appearance rather than behavior.

Exploring further differences by race in the situational context of the application of police discretion, our data suggest that one of the causes of the racial disparities in tickets vs warnings involves a cycle of tickets and license suspensions that occurs among some black drivers. These drivers appear to become caught up in a cycle where a compilation of prior tickets from traffic infractions, driving without insurance, or defaulting on child support payments leads to high numbers of points and subsequent license suspensions. The high reinstatement fees that accompany the suspension pose significant obstacles for many citizens to have their licenses reinstated, and some citizen will continue to drive with a suspended license. A subsequent traffic stop, either for improper driving behavior (such as an illegal turn or speeding) or the appearance of their vehicle (such as a headlight out), will uncover the suspended license. More tickets and fines result. Once this cycle is set into motion, it is very difficult to stop. It is critical that this cycle be addressed. This could be accomplished in several ways.

First, municipalities could be encouraged to adopt programs that seek to break the cycle of repeated violation of driver's license laws. The Cleveland Municipal Court's Traffic Intervention Program provides one such model. The goal of the program is to assist traffic offenders with getting their driver's license back. If they restore their driving privileges within four months time, their case is dismissed and they receive a break on their fines.

Second, given that some of this cycle is perpetuated by officers pulling over drivers based on a problem with the appearance of their vehicle (as opposed to illegal driving behavior), law enforcement agencies should consider developing standardized protocols for how to handle these types of infractions so that all drivers are subject to the same response. It is clear from this study and others that police have a great deal of discretion over how they handle non-behavioral infractions. Assuming these decisions have the

potential to produce disparities, standard procedures or department policies could be implemented to reduce their unpredictability. For example, officers could be asked to stop all vehicles with headlight infractions rather than use their discretion to decide which to investigate and which to ignore. If citizens are aware of such policies, they might be less likely to believe that they were unfairly targeted for these infractions. Given that a larger proportion of black citizens were stopped for headlight violations in our study, such a policy could reduce claims that police are acting based on extralegal characteristics such as the appearance or demeanor of the citizen.

In conducting their training of patrol officers, law enforcement agencies need to emphasize to officers the potentially significant consequences for drivers of decisions to issue tickets. In particular, when certain people are given tickets for which others receive a warning, this produces a process where some driving records become poor while others remain unblemished. And so while a citizen's past driving record and having valid license appear to be fair criteria for discretionary decisions, they may actually not be if tickets are given to some individuals rather than others initially.

This study is not without limitations. First and foremost, the study was conducted in a single metropolitan county. Thus, the extent to which the findings are generalizable to other urban areas is unknown. Second, we were only able to conduct ridealongs in one of five Cleveland police districts. Cleveland's police districts vary demographically. It is difficult to predict how the exclusion of the remaining districts may have impacted the overall findings. However, given that all of the desired ridealongs for Shaker Heights were completed and that this is where evidence of the traffic ticket cycle among black drivers was generated, their omission does not impact our finding regarding this traffic ticket cycle. If anything, we may have found that the same cycle existed in some of the more disadvantaged police districts in Cleveland for which we were unable to collect data. Third, in spite of our efforts to document changes in officers' attitudes, we cannot rule out the possibility that the presence of an observer influenced their behavior. Finally, our research design prohibited us from ensuring sufficient diversity with respect to officer gender and race.

Future research should explore the existence of such traffic ticket cycles among not only black drivers but other economically disadvantaged groups across a variety of communities. It will also be important to identify and empirically evaluate programs seeking to address this cycle and assist drivers with having their licenses reinstated without having to pay the sometimes impossibly large fees that accompany it.

Notes

1. An alternative to direct observation of police decision making would be the use of vignettes describing traffic stop incidents (see Phillips, 2009).
2. The City of Cleveland is divided into five policing districts. The city's first district is located on the west side of the city and the majority of residents in the district are white.
3. Although ideally we would have preferred to have a larger proportion of black officers participating in the study, white officers make up the majority of participants in the other investigations of traffic stops we reviewed (e.g. Alpert *et al.*, 2005; Gilliard-Matthews *et al.*, 2008; Paoline and Terrill, 2007).
4. According to data from the Northeast Ohio Areawide Coordinating Agency, blacks represent 35 percent of the driving population in Shaker Heights compared to 16 percent for Brook Park and 11 percent for Westlake. Although they represent just over 38 percent of the driving population for Cleveland, we do not know their proportion for the first district specifically, which may be lower than the average for the city as a whole.

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