Police-citizen encounters and field citations
Do encounter characteristics influence ticketing?
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Abstract
Purpose – To provide an empirical analysis of what influences police use of field citations (tickets) against citizens in nontraffic and traffic encounters.
Design/methodology/approach – The research was conducted using systematic social observations of police-citizen encounters in Cincinnati, Ohio, from April 1997 to 1998. Multiple logistic regression models were used to examine the effects of legal and extralegal factors on the dependant variable (receipt of a citation) versus an officer doing nothing or arresting a citizen in nontraffic and traffic encounters.
Findings – Officers appear to be more likely to issue citations, as opposed to doing nothing formal or making an arrest, in traffic encounters. The extant literature’s focus on citation issuance being more relevant to police behavior in traffic encounters as opposed to other routine encounters may be appropriate. When the decision rests between issuing a citation or making a full-custody arrest in traffic encounters, white officers are more likely to arrest than their black counterparts, and black suspects were significantly more likely than Caucasians to be arrested than cited. Race of the officer or the suspect exhibited no significant effect in any of the other models estimated.
Research limitations/implications – The study utilized data collected on police-citizen interactions from one police agency in one jurisdiction, and the data do not come from a study designed primarily to examine citation outcomes or traffic encounters.
Practical implications – This study would be useful to researchers examining police use of citations, officer behavior in traffic and nontraffic encounters, quantifying law in police-citizen encounters, and race-based policing.
Originality/value – This study provides a comprehensive review of the literature, and an empirical analysis, regarding officer decision making as it pertains to the issuing of tickets relative to other police actions (i.e. arrest) in traffic and nontraffic situations.
Keywords Police, Policing, Traffic control, Penalty costs, Social dynamics

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Introduction
It is well-known that the police are the gatekeepers to the criminal justice system and that they generally have a great deal of discretion in determining whether a citizen's behavior warrants formal processing. Furthermore, this decision-making power is largely in the hands of the individual officer in the field (Davis, 1975; Lipsky, 1980; Lundman, 1979). Outcomes from police-citizen contacts that result in arrest facilitate criminal justice processing and represent more social control than when officers' issue warnings or take no formal action at all to address citizen conduct (Black, 1976; Klinger, 1995). Law enforcement officers do, however, invoke the law and criminal justice processing in ways other than arrest. Specifically, police officers frequently issue citations to address citizen conduct and process law breakers (Berger, 1972).

Research on officer decision making has only examined the issuance of citations in limited fashions. Examinations of the use of citations have focused on the impact of the practice on pretrial release (e.g. “failure to appear” rates) (Hirschel and Dean, 1995; Welsh, 1993). Others have focused on ticketing behavior as a measure of police aggressiveness and whether citation issuance impacts crime- and disorder-levels (Campbell and Ross, 1968; Novak et al., 1999; Wilson and Boland, 1978). Research examining police behavior in traffic encounters has generated the bulk of our knowledge on citation outcomes (Lundman, 1979; Worden, 1989). Moreover, the issue of racial profiling in traffic stops has generated empirical research that suggests there are differences in police use of citations based on various organizational-, jurisdictional-, officer-, and citizen-characteristics (Engel and Calnon, 2004; Novak, 2004; Meehan and Ponder, 2002; Smith and Petrocelli, 2001).

While the existing research highlights that citation outcomes are an important sanction worthy of study, inquiries into officer use of citations rarely go outside of traffic encounters. In relation to other formal sanctions such as arrest, citation issuance has not been subjected to a comparable level of inquiry. This study adds to our knowledge of officer decision-making and citations as a sanction by examining police use of citations in nontraffic and traffic encounters with suspects.

Like a full-custody arrest, citations are a viable option available to officers to address citizen conduct. Citation issuance adds to the permutations of what can happen in police-citizen encounters and how officers exercise social control (Horney, 1980). Officers routinely make nonarrest decisions, such as writing a ticket, which can be punitive and have legal consequences (Sykes and Brent, 1983). Even when a full-custody arrest is legally appropriate a nonarrest disposition may be appropriate in an officer's judgment, particularly given the situational exigencies of the encounter (Bayley, 1986; Brown, 1981). In other words, citations give officers the ability to choose another course of action between the extremes of doing nothing or making an arrest in traffic situations and nontraffic situations.

Using data collected from systematic observations of police-citizen interactions in nontraffic and traffic situations, we explore whether several of the commonly explored correlates in studies of arrest outcomes influence citation outcomes. First, we briefly review the literature on citation issuance in police-citizen encounters. The next section discusses the data used in our analyses. Finally, we discuss the result of our multivariate analyses and our conclusions from the results.
Literature review

Citation release
Throughout the 1960s and early 1970s, the use of citations for minor nontraffic offenses grew into a common practice by police departments and court systems as a natural offshoot of the widely accepted procedure of traffic citation release (Feeney, 1972; Horney, 1980; Whitcomb et al., 1984). The utilization of citations in lieu of arrests for minor offenses is the outgrowth of efforts to better ensure court appearances in a more cost-effective manner than jail or bail. Receipt of a citation from a police officer, traffic or otherwise, may not be thought of by most to be an arrest. This may be because when a citation is issued the citizen is detained only long enough to gather the necessary information to issue the citation and the citation recipient does not experience a significant deprivation of liberty (Kalmanoff, 1976). Nevertheless, a citation is a form of arrest (Berger, 1972; Feeney, 1982; Horney, 1980).

Citations establish the recipient as a suspect in a criminal matter and like a full-custody arrest it involves charging someone with a crime. If the citizen is found guilty the individual may be subjected to more law in the form of a fine and/or incarceration (Black, 1976). Regardless of the fact that the individual is not immediately taken off to jail or court the issuance of a citation is the initiation of potentially serious legal proceedings (Berger, 1972).

In their present form citations have become a formal method of on-the-spot justice by police officers with formal legal consequences (Welsh, 1993; Wilson, 1968). Officers may sanction citizens with tickets for minor offenses, minor offenses that otherwise would not have resulted in arrest (Hirschel and Dean, 1995). If citizens feel the tickets they received are unjust they can take the matter to court, which would bring the citizens before other social control agents (i.e. courts and judges) and possibly further into the criminal justice system. Otherwise, the fine associated with the ticket is presumably paid and the lives of citizens go on with little interruption. Noncompliance with the citation (i.e. failure to appear and/or failure to pay the fine) eventually results in a warrant for arrest and further involvement with the system (Kalmanoff, 1976). Taking all of this into account, the issuance of a citation is the exercise of a high degree of formal authority that is close, but not equal, to a full-custody arrest.

Officer decision making and citations
When it comes to the exercise of social control by the police, Black (1980) and Klinger (1996a) have noted that it is important to focus on degrees of formal authority that are less-than arrest, but involve actions that go beyond ignoring a citizen’s conduct or giving some type of verbal response (i.e. request, suggestion, command, or threat) (Smith, 1987). Focusing on arrest behavior to the exclusion of other formal actions like citation issuance (and informal actions as well) limits our understanding of police as representatives of government-sponsored social control (Black, 1976, 1980; Worden, 1989). Somewhere along the continuum of police authority allowing an officer to do nothing versus making an arrest lays the individual officer’s ability to issue a field citation.

Citation issuance is a police action that is clearly doing something, yet it is somewhat different than carrying out a full-custody arrest. Similar to an arrest the issuance of a citation represents formal police action that subjects the citizen to further processing by the criminal justice system. Furthermore, it represents a more
substantial intrusion into the life of the citation recipient than informal actions where other components of the system are not invoked to resolve the encounter (Black, 1980; Klinger, 1996a). Unlike arrests the person is not detained for a substantial period of time and is not taken into custody. Both, however, are examples of police use of formal social control options at their disposal.

For a 12-month period between 1970 and 1971, the city of New Haven, Connecticut, experimented with the use of field citations in lieu of full-custody arrests for misdemeanor offences (Berger, 1972). During the study period a total of 1,192 citations were issued for 42 different offences which Berger (1972) collapsed into four categories (breach of the peace; motor vehicle offenses; regulatory offenses; and, other criminal offenses). Approximately 74 percent of the misdemeanor citations for nontraffic conduct fell within the breach of the peace and other criminal offenses categories (Berger, 1972), indicating that officers were willing to use citations in lieu of full-custody arrest for some nontraffic criminal conduct.

Examination of official records on citation rates in comparison to arrest rates revealed that women were proportionately cited more than men in New Haven, a phenomenon which Berger (1972) contends is the result of officer discretion not to arrest female citizens (particularly those with children) in order to avoid the collateral consequences of full-custody arrests. Males over the age of 35 were cited the least and the race of the citizen encountered in New Haven appeared to have no effect on officer issuance of citations. Unfortunately, Berger’s (1972) findings were based on simple comparisons of descriptive statistics (official reports) and not on multivariate analyses which would instill more confidence in the results related to the influence of citizen characteristics on receiving a citation.

Using observational data on police-citizen encounters in 1970, Lundman (1979) examined how organizational norms toward ticketing affected individual officer’s decisions to issue traffic citations. According to Lundman (1979), the issuance of citations to citizens has the potential to be a significant area of police misuse of power (Worden, 1989). Furthermore, officer discretion may be a function of the relationship between officers concerns with autonomy and organizational norms, which in the context of Lundman’s (1979) study involved the norm of meeting a monthly ticket quota in watch-legalistic style of police department (Wilson, 1968).

Data from a 15-month observation period of one police department indicated that organizational emphasis on meeting ticket quotas increases the proportion of citations given to males, blacks, lower-class citizens, and citizens who are verbally resistant to officers (Lundman, 1979). Organizational norms and practices played a significant role in who was stopped and issued citations for traffic offences. Like Berger’s (1972) research, however, Lundman’s (1979) study did not use rigorous statistical techniques to examine the relationship between citation issuance and citizen characteristics.

Analyses of traffic encounters in the late 1970s suggest that legal and extralegal factors do influence officer behavior in citation decisions. Engel et al. (2000) examined data from the Police Services Study (PSS) conducted in 1977 to primarily explore the direct- and interaction-effects of citizen demeanor on officer decisions to issue citations. Engel and her colleagues found that officers were less likely to cite a citizen when signs of citizen alcohol or drug use were present, when other officers were present, or when citizen bystanders were present. The interaction effect of demeanor on other characteristics of the encounter was only significant in encounters where other officers
were present – police were less likely to issue citations to disrespectful suspects when other officers were present (Engel et al., 2000). In short, citation issuance does not appear to be significantly influenced by poor citizen demeanor, at least in traffic encounters.

Research utilizing the Police-Public Contact Survey (PPCS), a nationwide survey of citizens conducted in 1999, suggests that even when legal factors like a citizen’s offence conduct is taken into account extralegal factors such as citizen’s gender, their age, their race, and ethnicity increase the likelihood of receiving a citation (Engel and Calnon, 2004). The odds that black or Hispanic drivers would be issued a citation are 47 and 82 percent higher than for whites, respectively. The intersection of certain characteristics also increases the likelihood of receiving a citation during traffic encounters. Young black males were 1.3 times more likely to be issued a citation than young white males, and similarly situated Hispanics were 1.4 times more likely than whites to receive a citation (Engel and Calnon, 2004). Lundman’s (1979) finding that organizational norms in 1970 influenced how officers used citations against minority citizens may be congruent with Engel and Calnon’s (2004) findings related to citation issuance and racial profiling in the late 1990s. Biases against minority citizens related to general social norms about race and the effects of the war on drugs may have institutionalized policing strategies used in agencies which among other things may result in differences in citation dispositions.

Limitations of extant research on officer decision making and citations
Empirical studies related to both traffic encounters and racial profiling have made substantial contributions to our understanding of citation issuance (Engel and Calnon, 2004; Engel et al., 2002; Meehan and Ponder, 2002; Novak, 2004; Smith and Petrocelli, 2001). Research in this area is generally limited, however, in three important ways. First, while a handful of rigorous racial profiling studies have utilized multivariate modeling to examine police decisions to issue citations while controlling for officer-, citizen-, and other situational-characteristics of the encounter (Engel and Calnon, 2004; Novak, 2004; Smith and Petrocelli, 2001), they have all focused on citation issuance through traffic stops. This focus on traffic encounters is consistent with the bulk of the research conducted prior to contemporary interest in the racial profiling phenomenon. Nevertheless, research focusing on officer decision-making in traffic stops is of limited value to our knowledge of citation issuance in nontraffic encounters.

Second, and related, we are arguably in an “era of racial profiling”. Since the late 1990s concerns over racially-biased police practices have influenced the behavior of law enforcement agencies at all levels across the country (Engel et al., 2002; Fridell et al., 2001). Routine police actions that result in documentation like the issuance of a citation may take on new meaning for citizens and officers. Law enforcement agencies have reactively and proactively engaged in unprecedented data collection efforts to facilitate research addressing allegations that officers use their powers (such as the issuance of citations) in a discriminatory fashion against minority citizens (Engel et al., 2002; Fridell et al., 2001; Ramirez et al., 2000). When it comes to stops, traffic or otherwise, officers are increasingly aware that their actions may be subjected to some form of official scrutiny (Meehan and Ponder, 2002; Smith and Petrocelli, 2001).

Citizens, particularly minority citizens, may be more likely to believe and make allegations that formal processing in the form of a citation is the result of police bias;
indeed, the politicized nature of racial profiling has empowered citizens and allegations of such conduct are acted upon more so than in the past (Fridell et al., 2001). Officers may be reluctant to take actions against citizens that might suggest biased behavior regardless of the nature of the encounter (traffic or nontraffic). This may result in officers’ selecting nonformal actions in lieu of citation or full-custody arrest, such as verbal warnings, to deal with citizen conduct, particularly the conduct of minority citizens (Novak, 2004; Smith and Petrocelli, 2001). Conversely, when possible officers’ may choose to take some type of formal action against citizens they encounter to avoid the appearance that there was no legal basis for the initial stop (traffic or otherwise). Citation issuance may also be the sanction that is appropriate to address citizen conduct, and they may be a useful tool to officers that is formal yet less coercive than arrest. For the aforementioned reasons, interpretations of findings from research using data gathered on police-citizen contacts and the issuance of citations since the late 1990s may be viewed by some with greater skepticism, at least as they pertain to traffic encounters.

Third, while it is recognized that research in the area of racial profiling should be rigorous and subjected to peer-review by academic researchers (Smith and Petrocelli, 2001), these advancements will not necessarily improve our understanding of citation issuance if researchers do not separate citations from other exercises of formal authority (like arrest) in their analyses. Some research has examined citations in the context of police use of formal authority. Through the creation of scales that attempt to measure coercive actions taken by the officers researchers have included citations as a formal act that is approximate, if not equivalent, to a full-custody arrest (Klinger, 1996a; Sykes and Brent, 1983; Worden, 1989). One approach has been to focus on citation issuance or arrest as the invocation of law and actions like warnings as noninvocation of law (Novak, 2004; Smith and Petrocelli, 2001). Citation issuance becomes part of a continuum of formal authority and is not the sole outcome being studied. Unfortunately, citation outcomes and the factors that influence receipt of a citation cannot be distinguished from other police actions being measured, such as arrest (for examples of this limitation see Worden (1989), Novak (2004) and Smith and Petrocelli (2001)).

Although the empirical literature on citation issuance has been grounded largely in traffic encounters and in research focusing on racial profiling, collectively this body of research can be used to guide general inquiries into citation outcomes. Accordingly, we proceed with a description of the data used to analyze police use of citations in nontraffic and traffic encounters, followed by the presentation of our multivariate models predicting citation outcomes.

**Methodology**

**Data**

Data for this study were collected through systematic social observations of street level officers employed by the Cincinnati Police Division (CPD) between April 1997 and 1998. The data come from a project designed to document and compare the activities of community policing officers and officers assigned to traditional police duties (“beat officers”) (for more information see Frank et al. (2001) and Novak et al. (2002)). Only persons considered to be a suspect by the observed police officer at some point during an encounter who did not have a warrant for their arrest are included in this analysis;
thus, the present study is conducted at the suspect level of analysis \((N = 617)\). Encounters were operationalized as face-to-face verbal or physical communications between officers and members of the public that involved three verbal exchanges of information (Mastrofski et al., 1998).

Detailed data were collected on the demographic characteristics of the officers (such as their race or ethnicity, gender, length of service with CPD) and citizens (such as their gender, race, age, and whether they were under the influence of drugs or alcohol). The observational data also contained contextual information on where the encounter took place (i.e. whether it was a traffic-related encounter) and other characteristics of the encounter (e.g. the severity of the alleged citizen behavior that prompted the encounter and the presence of bystanders) (Novak et al., 2002). Information on the actions taken by the officer and the citizen while in the presence of one another (such as whether either party was hostile or antagonistic to the other) and the outcome of the encounter (e.g. citation, arrest, etc.) were also recorded.

For the purposes of this paper we are interested in those citizen encounters which resulted in no law being invoked versus those which ended with a citizen being given a citation. The differences in the decision to invoke the law in the form of a citation versus the decision to make a full-custody arrest are also examined. We focus on three possible outcomes to those cases included in our suspect subsample:

1. no formal action was taken;
2. a citation was issued; or
3. a person was arrested (or arrested and cited).

Since a full-custody arrest is the more severe outcome, when a citizen was both cited and arrested the incident is categorized as an arrest.

**Variables**

In developing our models we included variables prior research on police behavior found to be related to officer decision-making or relevant controls, particularly as they may relate to citation issuance. The descriptive statistics for the variables used in this analysis are presented in Table I[3]. We estimate several models in this study. First, using the full sample we estimate a model predicting citation \((1)\) versus an officer taking no formal action \((0)\). Second, we estimate a model predicting citation \((0)\) versus full-custody arrest \((1)\). We then repeat this same process estimating equations using only a sample of traffic cases followed by models with nontraffic cases. Officers took no formal action against 362 suspects, issued a citation to 149 different suspects, and arrested 106 suspects. Officers also cited 49 (46 percent) of the suspects they arrested[4].

Offence seriousness pertains to the criminal act in which the suspect was allegedly involved during the encounter. Offences were coded by severity and measured on a three-point ordinal scale, ranging from 0 = no offence, 1 = misdemeanors, and 2 = felonies. The evidence variable measures the quantity of evidence available to the officer indicating that the suspect had committed a criminal offence. It is an additive scale involving different types of evidence:

1. whether the officer observed the suspect engage in an illegal act or viewed circumstantial evidence of an illegal act;
(2) whether the officer observed physical evidence that implicated the suspect to an offence;

(3) whether the officer heard claims from others which implicated the suspect in an offence; and

(4) whether the officer heard the suspect confess to the offence.

A point is calculated for each of the four criteria present in the encounter[5]. Therefore, evidence is measured on a scale from 0 to 4, with higher values indicating higher quantities of evidence (Novak et al., 2002)[6]. Both the seriousness of the offence conduct and the quantity of evidence against a suspect are predicted to have a positive effect on citation and arrest.

The probable cause variable measures whether the officers believed they had probable cause to arrest suspects. If no probable cause to arrest exists during a police-citizen encounter it is reasonable to infer that doing something formal like issuing a citation or making a full-custody arrest was not a viable option to the officer. In other words, the exercise of formal authority through actions like arrest or citation is more likely when probable cause that an offence has occurred exists (Berger, 1972; Novak et al., 2002). Probable cause was measured as a dummy variable where 0 = no and 1 = yes (probable cause).

Given the fact that many encounters originate through routine traffic stops, and the possibility that routine traffic stops may be the pretext for investigating nontraffic related behavior, which could lead to citation or arrest, a measure of the nature of the encounter was included. Whether the encounter was due to traffic-related conduct was included as a control variable (0 = no, 1 = yes). Officers may be less likely to take formal action when they are not dispatched to the encounter or summoned by a citizen, but they may also be more likely to formally process suspects when they proactively
intervene in a situation. Officer entry into the encounter was measured as being proactive (officer initiated) (0) or reactive (dispatch or citizen initiated) (1).

Suspect characteristics were all measured as dichotomous variables: race (0 = white and 1 = black), gender (0 = male and 1 = female), and age (0 = adult, 1 = juvenile)[7]. Based on the premise that race and age affect social status (Black, 1976), juveniles and blacks may be more likely to be formally processed (cited) than adults or whites. Officer may be less inclined to arrest female suspects (Smith, 1986); but given the lack of incarceration associated with citations, suspect gender may have no effect on citation issuance (Visher, 1983).

A suspect’s criminal status is a measure of respectability that might influence the quantity of law officers’ exercise (Black, 1976). Individuals with a prior record of criminal conduct (which is usually ascertained through official records or an officer’s personal knowledge) may experience higher degrees of law than someone with no such record (Black, 1976; Myers, 1980; Avakame et al., 1999). Officers may be more punitive toward known offenders and more likely to cite or arrest them. Accordingly, as a control variable, a measure of citizen respectability was included where 0 = no prior criminal record was discovered by the officer and 1 = suspect had a prior criminal record. Whether there were visible signs of suspect intoxication by either alcohol or drugs was coded as (0) for no signs of intoxication and (1) for any signs of intoxication on the part of the suspect.

Suspect demeanor was measured as whether citizens were civil or deferential to officers (0) or if they were moderately or highly disrespectful to the police during the encounter (1) (Novak et al., 2002)[8]. In addition to suspect demeanor, it was important to control for criminal behavior committed in the presence of the officer (Klinger, 1994, 1996a, b; Worden and Shepard, 1996; Engel et al., 2000). Assaulting an officer or resisting arrest during the encounter should not be confused with acting disrespectfully as the former conduct is criminal behavior. In accordance with this research, a control variable (Interaction-Phase Crime) was included (0 = no crime, 1 = a criminal act committed by the suspect in the presence of the observed officer). The number of citizen bystanders to the encounter was measured on an interval scale ranging from 0 to 10 with an overall mean of 2.12 citizen bystanders. The presence of others witnessing the interaction may make officers more inclined to take some formal action in order to legitimate the encounter and clarify their authority to others (Smith and Visher, 1981; Sykes and Brent, 1983).

Officer race was measured as a dichotomous variable where 0 = white officer and 1 = black officer. In addition to officer race, at the individual-level we included officer length of service which was measured on an interval scale in number of years. The range of length of service was 1-27 years with an overall mean tenure of 7.27 years with the CPD[9]. Research has suggested that younger officers, as measured through years of experience, may be less coercive than veteran officers to formally process suspects by issuing tickets or making arrests, at least in traffic encounters (Novak, 2004).

The extant research on arrest decision making suggests several hypotheses that seem applicable to both citation issuance and decisions to arrest since both involve the formal invocation of law (Black, 1976). At the same time, due to the limited research focused on decisions involving the use of citations, and the exploratory nature of this study, hypotheses concerning citations versus arrests are less specific. First, legal factors (seriousness of the offence, quantity of evidence, officer belief in probable cause,
and in-presence crime) will be positively related to both the decision to issue a citation and make an arrest. Second, being male, black and a juvenile will also be positively related to both formal decisions. Third, formal actions are more likely to be taken against less respectable citizens and those who exhibit a disrespectful demeanor. Fourth, for each dependent variable (nothing versus citation and citation versus arrest), the aforementioned factors will significantly influence the most severe outcome. Finally, these relationships will hold regardless of the nature of the encounter examined (traffic versus nontraffic).

Multivariate analyses
The independent variables used in the following analyses were collected at two levels: individual (officer characteristics) and situational (citizens and encounter-related characteristics). Multicollinearity was not an issue with any of the variables in the analyses[10]. Based on the multilevel nature of the data, hierarchical linear models (HLM) were initially estimated. The small number of suspect encounters for each officer make it difficult to meet the assumptions of HLM. Because of the large number of officers with few suspect encounters multilevel analyses would likely yield unstable estimates (Bryk and Raudenbush, 1992; Mastrofski et al., 2000)[11]. Therefore, we proceeded to estimate a series of logistical regression models.

The first model we estimate predicts the likelihood that an officer will issue a citation versus taking no formal action against a suspect \((N = 511)\). Our second model estimates the likelihood that an officer will make a full-custody arrest in lieu of issuing a citation \((N = 255)\). Table II reports the unstandardized regression coefficients, standard errors, and the odds ratio from these models.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1 Nothing versus citation ((n = 511))</th>
<th>Model 2 Citation versus arrest ((n = 255))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>Coefficient (-4.48^{***}) (SE = 0.61) (Odds ratio = 0.01)</td>
<td>Coefficient (-2.44^{**}) (SE = 1.02) (Odds ratio = 0.09)</td>
</tr>
<tr>
<td>Offence seriousness</td>
<td>1.18^{***} (SE = 0.23) (Odds ratio = 3.26)</td>
<td>0.57 (SE = 0.33) (Odds ratio = 1.76)</td>
</tr>
<tr>
<td>Quantity of evidence</td>
<td>0.30^{*} (SE = 0.13) (Odds ratio = 1.35)</td>
<td>-0.11 (SE = 0.18) (Odds ratio = 0.89)</td>
</tr>
<tr>
<td>Probable cause</td>
<td>0.42 (SE = 0.32) (Odds ratio = 1.52)</td>
<td>2.54^{***} (SE = 0.71) (Odds ratio = 12.70)</td>
</tr>
<tr>
<td>Reactive entry</td>
<td>-0.11 (SE = 0.27) (Odds ratio = 0.90)</td>
<td>1.26^{**} (SE = 0.47) (Odds ratio = 3.51)</td>
</tr>
<tr>
<td>Traffic encounter</td>
<td>2.58^{***} (SE = 0.34) (Odds ratio = 13.25)</td>
<td>-2.26^{***} (SE = 0.45) (Odds ratio = 0.10)</td>
</tr>
<tr>
<td>Citizen respectability</td>
<td>1.18^{***} (SE = 0.32) (Odds ratio = 3.26)</td>
<td>-1.14^{**} (SE = 0.47) (Odds ratio = 0.32)</td>
</tr>
<tr>
<td>Intoxicated suspect</td>
<td>0.84 (SE = 0.46) (Odds ratio = 2.32)</td>
<td>1.61^{***} (SE = 0.48) (Odds ratio = 5.02)</td>
</tr>
<tr>
<td>Disrespectful suspect</td>
<td>-0.29 (SE = 0.42) (Odds ratio = 0.75)</td>
<td>0.93 (SE = 0.60) (Odds ratio = 2.55)</td>
</tr>
<tr>
<td>Interaction-phase crime</td>
<td>1.22 (SE = 0.79) (Odds ratio = 3.39)</td>
<td>1.16 (SE = 0.66) (Odds ratio = 3.20)</td>
</tr>
<tr>
<td>Black officer</td>
<td>-0.18 (SE = 0.27) (Odds ratio = 0.84)</td>
<td>-0.81 (SE = 0.46) (Odds ratio = 0.45)</td>
</tr>
<tr>
<td>Officer length of service</td>
<td>0.02 (SE = 0.02) (Odds ratio = 1.02)</td>
<td>-0.05 (SE = 0.03) (Odds ratio = 0.95)</td>
</tr>
<tr>
<td>Juvenile suspect</td>
<td>-0.62 (SE = 0.37) (Odds ratio = 0.54)</td>
<td>1.49^{**} (SE = 0.54) (Odds ratio = 4.44)</td>
</tr>
<tr>
<td>Black suspect</td>
<td>-0.16 (SE = 0.27) (Odds ratio = 0.85)</td>
<td>0.60 (SE = 0.44) (Odds ratio = 1.83)</td>
</tr>
<tr>
<td>Female suspect</td>
<td>0.39 (SE = 0.29) (Odds ratio = 1.48)</td>
<td>-1.62^{**} (SE = 0.55) (Odds ratio = 0.20)</td>
</tr>
<tr>
<td>Citizen bystanders</td>
<td>0.21^{**} (SE = 0.08) (Odds ratio = 1.24)</td>
<td>0.04 (SE = 0.13) (Odds ratio = 1.04)</td>
</tr>
</tbody>
</table>

Table II. Logistic regression models predicting nothing versus citation and citation versus arrest (all encounters)

Notes: * \(p < 0.05\), ** \(p < 0.01\); *** \(p < 0.001\)
**All encounters**

As indicated in Model 1, both the seriousness of a suspect’s conduct and the quantity of evidence against them are positively related to citation issuance. As the number of factors indicating suspect guilt increase, or the legal severity of a suspect’s conduct increases, the likelihood of receiving a citation also increases. Officers are three times more likely to issue citations to less respectable citizens than those with no criminal record, and the likelihood of a citation being issued increases as the number of citizens witnessing the encounter increases. The nature of the encounter also significantly influences officer decision-making when it comes to citations. Suspects are 13 times more likely to receive a citation when the encounter is traffic-related than in nontraffic encounters (Table II).

When it comes to making a choice between issuing a citation and making an arrest there are differences in the factors predicting citation versus no formal action. Specifically, while the quantity of evidence against suspects and the seriousness of their offence conduct both have a positive relationship on receipt of a citation (versus taking no formal action), these legal factors exhibit no significant effect on citation in lieu of arrest decisions (Model 2). When officers believe they have probable cause to arrest, however, suspects are approximately 12 times more likely to be arrested rather than cited, all else being equal.

Encounters are three times more likely to end in a full-custody arrest when the officer is involved in a citizen-initiated or dispatched encounter. Intoxicated suspects are five times more likely to be arrested than sober suspects and, rather than issue citations to less respectable citizens, officers are more likely to arrest suspects who have prior criminal records. Juveniles are 4.4 times more likely than adults to be arrested in lieu of being cited (Model 2). In regards to officer decision making and suspect gender, officers are significantly less likely to move from the sanction of a citation to an arrest when the encounter involved a female suspect; male suspects are more likely to be arrested than cited. Furthermore, officers are less likely to cite and more than likely to arrest when the encounter is not traffic-related.

While the police have the ability to issue citations to citizens for criminal conduct in traffic and nontraffic interactions, receiving a citation appears to be a sanction that occurs more often in traffic encounters. Based on the results of the previous models we estimated four additional models. Model 3 (\(N = 287\)) focuses on the same predictors and outcomes used in Model 1 (nothing versus citation) and Model 4 (\(N = 106\)) mirrors Model 2, but they both only involve nontraffic encounters (Table III). Likewise, Model 5 (\(N = 224\)) and Model 6 (\(N = 149\)) examine the same outcomes and predictors explored in Models 1 and 2, respectively, except that the samples have been limited to traffic-related encounters (Table IV).

**Nontraffic encounters**

Officers are more likely to invoke the law by issuing a citation in nontraffic encounters when the legal severity of a suspect’s conduct increases, and they are more likely to cite suspects when they believe they have probable cause to make an arrest (Model 3). The odds of being cited increase by a factor of 7.9 for those suspects who committed criminal acts in the presence of the police (Table III). Suspects in nontraffic encounters are almost 9.7 times more likely to be cited when an officer has probable cause to make a full-custody arrest. When officers proactively initiate contact with a suspect in
### Table III.
Logistic regression models predicting nothing versus citation and citation versus arrest (nontraffic-only encounters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 3 Nothing versus citation</th>
<th>Model 4 Citation versus arrest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( N = 287 )</td>
<td>( N = 106 )</td>
</tr>
<tr>
<td>Coefficient</td>
<td>SE</td>
<td>Odds ratio</td>
</tr>
<tr>
<td>Constant</td>
<td>(-4.55^{***})</td>
<td>0.01</td>
</tr>
<tr>
<td>Offence seriousness</td>
<td>1.03*</td>
<td>2.80</td>
</tr>
<tr>
<td>Quantity of evidence</td>
<td>(-0.16)</td>
<td>0.85</td>
</tr>
<tr>
<td>Probable cause</td>
<td>2.27**</td>
<td>9.71</td>
</tr>
<tr>
<td>Reactive entry</td>
<td>(-1.45^{**})</td>
<td>0.24</td>
</tr>
<tr>
<td>Citizen respectability</td>
<td>1.77**</td>
<td>5.89</td>
</tr>
<tr>
<td>Intoxicated suspect</td>
<td>1.81**</td>
<td>6.12</td>
</tr>
<tr>
<td>Disrespectful suspect</td>
<td>(-1.12)</td>
<td>0.33</td>
</tr>
<tr>
<td>Interaction-phase crime</td>
<td>2.07*</td>
<td>7.90</td>
</tr>
<tr>
<td>Black officer</td>
<td>(-0.31)</td>
<td>0.73</td>
</tr>
<tr>
<td>Officer length of service</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Juvenile suspect</td>
<td>(-0.33)</td>
<td>0.72</td>
</tr>
<tr>
<td>Black suspect</td>
<td>0.32</td>
<td>1.37</td>
</tr>
<tr>
<td>Female suspect</td>
<td>0.41</td>
<td>1.50</td>
</tr>
<tr>
<td>Citizen bystanders</td>
<td>0.07</td>
<td>1.07</td>
</tr>
<tr>
<td>Model Chi-square</td>
<td>65.651***</td>
<td></td>
</tr>
<tr>
<td>Pseudo ( R^2 )</td>
<td>0.20</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** * \( p < 0.05 \); ** \( p < 0.01 \); *** \( p < 0.001 \)

### Table IV.
Logistic regression models predicting nothing versus citation and citation versus arrest (traffic-only encounters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 5 Nothing versus citation</th>
<th>Model 6 Citation versus arrest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( N = 224 )</td>
<td>( N = 149 )</td>
</tr>
<tr>
<td>Coefficient</td>
<td>SE</td>
<td>Odds ratio</td>
</tr>
<tr>
<td>Constant</td>
<td>(-2.37^{***})</td>
<td>0.09</td>
</tr>
<tr>
<td>Offence seriousness</td>
<td>1.29***</td>
<td>3.62</td>
</tr>
<tr>
<td>Quantity of evidence</td>
<td>0.38*</td>
<td>1.46</td>
</tr>
<tr>
<td>Probable cause</td>
<td>(-0.01)</td>
<td>0.99</td>
</tr>
<tr>
<td>Reactive entry</td>
<td>0.45</td>
<td>1.57</td>
</tr>
<tr>
<td>Citizen respectability</td>
<td>0.97**</td>
<td>2.65</td>
</tr>
<tr>
<td>Intoxicated suspect</td>
<td>1.41</td>
<td>4.10</td>
</tr>
<tr>
<td>Disrespectful suspect</td>
<td>0.62</td>
<td>1.86</td>
</tr>
<tr>
<td>Interaction-phase crime</td>
<td>(-0.56)</td>
<td>0.57</td>
</tr>
<tr>
<td>Black officer</td>
<td>0.01</td>
<td>1.01</td>
</tr>
<tr>
<td>Officer length of service</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Juvenile suspect</td>
<td>(-1.70^{**})</td>
<td>0.18</td>
</tr>
<tr>
<td>Black suspect</td>
<td>(-0.55)</td>
<td>0.58</td>
</tr>
<tr>
<td>Female suspect</td>
<td>0.63</td>
<td>1.87</td>
</tr>
<tr>
<td>Citizen bystanders</td>
<td>0.56**</td>
<td>1.79</td>
</tr>
<tr>
<td>Model Chi-square</td>
<td>80.877***</td>
<td></td>
</tr>
<tr>
<td>Pseudo ( R^2 )</td>
<td>0.30</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** * \( p < 0.05 \); ** \( p < 0.01 \); *** \( p < 0.001 \)
nontraffic encounters they are significantly more likely to issue a citation as opposed to taking no formal action. Intoxicated suspects are six times more likely to receive a citation than suspects who appear to be sober, and when officers know that a suspect has a prior criminal record they are almost six times more likely to issue a citation than they are to suspects without criminal records (Table III).

When it comes to the choice between issuing a citation or making a full-custody arrest in nontraffic encounters, four of the predictors in our model are statistically significant (Model 4). All else being equal, the likelihood of arrest increases (9.4 times) when officers believe they have probable cause to arrest. Officer entry into the encounter also significantly influences the outcome, but the effect is different from decisions to cite or do nothing formal. Suspects are 13.6 times more likely to be arrested in lieu of a citation when officers are called (dispatched or citizen initiated) to nontraffic encounters. Arrest is also more likely than citation in nontraffic encounters when the suspect is male or if the contact involves someone with a criminal record.

**Traffic-related encounters**

Like in the model involving all suspects encounters the seriousness of a suspect’s conduct (Model 1), the quantity of evidence against a suspect, having a criminal record, and bystanders witnessing the encounter all significantly influence the issuance of a citation versus no formal action in the traffic-only encounters model (Model 5). Officer decisions to issue citations in lieu of doing nothing formal in nontraffic and traffic encounters seem to be influenced by similar factors. One difference, however, is that in traffic-related interactions adult suspects are less likely than juveniles to receive a citation (Table IV).

Several factors influence to arrest rather than cite in traffic encounters. As noted in Model 6, suspects in traffic encounters are almost 40 times more likely to be arrested when officers’ believe they have probable cause to arrest. Compared to sober suspects, those who show visible signs of intoxication or drug use are significantly (34.5 times) more likely to be arrested. Juveniles and males are more likely to be arrested instead of cited in traffic encounters than adult or female suspects. Indeed, the odds of arrest in lieu of citation increase by a factor of 42.5 when officers interact with juvenile suspects in traffic encounters. Race also appears to influence citation versus arrest decisions. All else being equal, suspects are more likely to be arrested rather than cited when the officer is white. In regards to citizen race, white suspects are less likely to be arrested than black suspects. Black suspects are 14.7 times more likely than whites to be arrested rather than cited in traffic encounters.

**Discussion and conclusions**

The primary purpose of this study was to examine officer use of citations as another option in the sanctions that can be imposed to address citizen behavior. When it comes to the use of citations in general, the likelihood that an officer will invoke the law via citations rather than doing nothing increases as suspects engage in more serious offence conduct and when there is evidence of wrongdoing. Even more important appears to be the officer’s belief that probable cause to arrest exists. It is beyond the scope of the data used in the present study to examine the outcomes of the citations issued or the full-custody arrests that were made. In short, it is not known if suspects were formally processed further by the criminal justice system, or if any findings of
guilt were made against a suspect that might serve to validate the officer’s judgment that there was probable cause to cite or arrest. Citizens who are less reputable, as measured by having a prior criminal record, also appear to be more likely to receive citations; however, this finding may be misleading.

While citations can be issued to sanction a suspect, officers can also use citations to re-establish court appearances for citizens. Indeed, qualitative data and anecdotal information gathered by the trained observers (including the authors) noted a few encounters where officers used citations to reconcile future court appearances for citizens, sometimes at the citizen’s own request. In such a scenario, the officer was arguably trying to help the citizen or provide a service, not punish the citizen. Unfortunately, the coding protocols for the larger study do not allow for the disentangling of these types of citation issuances from those performed to punish. Nevertheless, we believe that such incidents were rare and that officers typically used citations punitively to enforce the law.

While this study focused on officer use of citations in all encounters, the results from our multivariate analyses lend support to the way prior research has focused on citations and officer decision-making. Officers appear to be more likely to issue citations, as opposed to doing nothing formal or making an arrest, in traffic encounters. All else being equal, suspects were 13 times more likely to be cited when the encounter was traffic-related. The extant literature’s focus on citation issuance being more relevant to police behavior in traffic encounters as opposed to other routine encounters may be appropriate.

As discussed earlier in this study, much of the research that has examined citation issuance in any fashion has examined officer behavior in traffic encounters, and the phenomenon of racial profiling in traffic encounters has been under increased empirical scrutiny. When the decision rests between issuing a citation or making a full-custody arrest in traffic encounters, white officers are more likely to arrest than their black counterparts. Furthermore, black suspects are more likely than whites to be arrested in lieu of receiving a citation when the interaction with the officer is traffic-related. Black suspects were almost 15 times more likely than Caucasians to be arrested than cited, all else being equal, in our traffic-only sample, but race (of the officer or the suspect) exhibited no significant effect in any of the other models estimated. Nevertheless, the findings in this study related to race, particularly as they pertain to our traffic-only models, should be interpreted with caution.

The data used for this study do not come from a project designed to analyze racial profiling in traffic-related contacts. Indeed, the observational study of the routine activities of officers within the CPD and subsequent data were not collected for the purposes of examining whether CPD officers engage in racial profiling. By no means do our findings put to rest the complex and controversial questions surrounding racial profiling in Cincinnati or elsewhere. We believe that these findings should not be interpreted as a sign that CPD officers engaged in race-based policing in traffic encounters, and we also do not believe that our limited findings related to race support the position that profiling does not happen.

Future studies are needed to advance our knowledge of officer use of citations. The present study is limited in part because it was conducted utilizing data collected on police-citizen interactions from one police agency in one jurisdiction, and the data do not come from a study designed primarily to examine citation outcomes. The data used
here are not reflective of all officers, or all police-citizen contacts, within that agency, traffic or nontraffic. More studies based on systematic observation that examine other jurisdictions, multiple agencies, and larger numbers of police-citizen encounters are needed to advance our understanding of officer decisions to issue citations, particularly in nontraffic encounters.

Notes
1. Use of the terms “citations”, “traffic citation”, “tickets”, and “field citations” should be considered one in the same in that these terms or forms of written notification of an offence and a court date are all conducted in lieu of a full-custody arrest. While there are forms of stationhouse or jail release via citation, these occur after the citizen has been taken into full custody, and is subsequently released with a citation. The focus of this manuscript is on field citation release where the citizen is detained only long enough to gather the information necessary to issue the citation.

2. Since as early as 1903, statutes involving forms of field release have existed that facilitate the goal of a physical arrest. The goal of a citation release is the official acknowledgement of a criminal act through a procedure that enhances the likelihood that the individual will appear before a court of law without actuating a full-custody arrest (i.e. taking the person to jail). While there are forms of stationhouse or jail release via citation, these occur after the citizen has been taken into full custody and is subsequently released with a citation.

3. We estimate six regression models predicting various citation outcomes with different samples (Tables II-IV), however, we only present descriptive statistics for the entire sample of cases used in our analyses (N = 617) (Table I). Descriptive statistics on the samples used in any of the estimated models are available from the lead author.

4. Approximately 82 percent of the citations issued occurred in traffic-related encounters. The citations issued in nontraffic encounters were for a wide range of suspect conduct: gambling, nuisance (e.g. vagrancy, drunkenness, loitering), trespassing, vandalism, theft, drug offences (e.g. possession of drug paraphernalia), criminal mischief, and simple assault.

5. An example of circumstantial evidence would be if an officer observed two people standing in an area known for drug activity covertly exchange what appeared (to the officer) to be a small package and money. If the officer stops and conducts an investigation of the person who received the small package, finds that package during a search, and it turns out to be an illegal substance or contraband, it would be physical evidence used to influence the arrest decision. In such a scenario the suspect would receive at least two points on the evidence measure: one point for the officer witnessing circumstantial evidence of an illegal act, and another point for finding physical evidence of a crime.

6. This is a measure of the quantity, not the quality, of evidence. In other words, this operationalization of evidence assumes all evidence criterion are given equal explanatory value in regards to their influence on officer decisions to arrest. Because the focus of the study was on what influences an officer’s decision to arrest someone, in encounters where the suspect was arrested observers coded the presence of evidence prior to the arrest. Unfortunately, the existing data did not allow for further, rigorous analysis of evidence quality. While the quality of evidence against a suspect (and a potential defendant in court proceedings) is obviously important, this study did not explore whether the observed arrests resulted in prosecution or conviction. The threshold for the quality of evidence is not the same in street-level decision making by police officer as it is in criminal court proceedings. Officers are able to use much lower threshold than say prosecutors in the decision to move an allegation of criminal wrongdoing forward. The use of weak and/or unsubstantiated
evidence will impact subsequent criminal justice decisions like charging and ultimately conviction, but this does not always limit police arrest decisions. Research has shown that officers do not always make arrest decisions based on evidence that would substantiate court processing (i.e. formal charging), particularly when it comes to the processing of minority citizens (Hepburn, 1978; Petersilia, 1983). This may be the case in citation dispositions as well.

7. Approximately 97 percent of the nonwhite citizens encountered during the study were African American. There were very few observed encounters between police and Hispanics (1.5 percent) and Asians (0.2 percent). As such, citizens with these racial/ethnic characteristics were categorized as nonwhite, which is referred to as “black” in this study. Hispanic is an ethnicity, not a separate race. In fact, Hispanic citizens could be classified as either white or black. However, the original data collection instrument for citizens coded Hispanics as a separate race. Observers were not able to code citizens as white-Hispanic or black-Hispanic. As such, for the purposes of this research Hispanic citizens will be classified as “black”.

8. Several other operationalizations of citizen demeanor have been used in the extant research on the influence of demeanor on arrest outcomes. According to Lundman (1994, p. 637), “There is no basis for arguing that one representation is superior to another”. In the current data, different measurements of the same construct revealed high levels of intercorrelation (Novak et al., 2002). Most recent research has operationalized demeanor as a dichotomous variable, measuring citizen behavior as either polite or disrespectful as the differences in citizen demeanor appear to be a matter “of kind rather than degree” (Worden et al., 1996, p. 330). “In other words, ordinal scales may fail to capture the threshold of antagonism that would most likely affect an officer’s behavior” (Novak et al., 2002, p. 93).

9. While the empirical research to date suggests that officer-level correlates in general yield limited explanatory in explaining arrest decisions, we explored the effects of several of the correlates available in the data: officer gender (male versus female officer), various levels of educational attainment (high school versus some college, high school versus four-year college degree, some college versus four-year college degree) and patrol assignment (beat officer versus community policing officer). Consistent with the extant research, these particular variables did not improve the explanatory power of any of the models we estimated (Riksheim and Chermak, 1993; Worden, 1989, 1990), and we did not deem them necessary as control variables. Therefore, they were not included in the models presented in this study.

10. Multicollinearity was tested by examining the bivariate relationships between each of the independent variables; pairs of variables correlated at levels greater than 0.70 suggest the presence of collinearity. In addition, each of the independent variables was regressed on the other independent variables and the $R^2$ for each analysis was examined for signs of multicollinearity; $R^2$ values of 0.50 or greater suggest multicollinearity between collections of the independent variables (Berry and Feldman, 1985). None of the Pearson's correlations were over 0.70 and no $R^2$ value was greater than 0.50. Results from these tests are available from the lead author. It is worthy to note that several of the variables in our models are arguably related measures of evidence against a suspect: offence seriousness; probable cause; visible intoxication; the measure for commission of an offence in the presence of an officer; and the quantity of evidence measure. Even though tests indicate that, statistically, multicollinearity was not present, inclusion of these particular variables makes the models particularly susceptible to this problem.

11. The overall number of officer-suspect encounters considerably varies which makes it difficult to estimate stable hierarchical models with acceptable levels of bias (Terrill and Mastrofski, 2002). A small number of officers in the sample had numerous suspect contacts.
Of the 135 officers in the total sample, only 17 officers had ten or more encounters, accounting for 12.5 percent of the police-suspect encounters ($N = 617$). Approximately 96 (71 percent) of the other officers in the data had five or less suspect contacts. As Lowenkamp and his colleagues (2003) note, a consensus has not been articulated regarding the minimum number of “level 1” observations (police-suspect encounters in this case) necessary to generate stable within- and between-aggregate parameter estimates (for example compare Jang (2002), Reisig and Parks (2000), Roundtree and Clayton (2001), Roundtree and Land (2000), Roundtree et al. (1994), Sampson et al. (1997) and Wooldredge et al. (2001)). However, there must be enough observations to meet a major assumption of HLM techniques – the assumption of normally distributed error terms within and across levels of analysis – to estimate reliable hierarchical models (Bryk and Raudenbush, 1992; Kreft and de Leeuw, 1998).

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