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Jacinta M. Gau,¹ Clayton Mosher,²
and Travis C. Pratt³

Abstract

The academic literature has yet to fully examine one of the newer implements in police officers' repertoire of less-than-lethal weapons: The Taser. There is a lack of information regarding the circumstances under which police are more or less likely to use this device and, in particular, there is limited information as to potential racial discrepancies. The present study tests for a relationship between suspects' race and police officers' use of Tasers. The findings suggest the presence of a moderate relationship, with Hispanic suspects being twice as likely as Whites to have Tasers used against them. Hispanic ethnicity, although not the primary determinant of Taser use, proved to increase the likelihood that a suspect would be subdued with a Taser. This finding has implications for police policy and for future research.

Keywords

Taser, police, force, race, profiling, Hispanic, Latino

Introduction

Police use of force captures the interest of scholars and the public alike. The legal authority to inflict verbal or physical violence on citizens is a pivotal characteristic of the institution of policing; it is, as the now-classic argument goes, the defining characteristic of police that sets them apart from private citizens and from other agents of the state (Bittner, 1970; Klockars, 1985). Scholars have devoted considerable attention to both deadly (e.g., Sparger & Giacomassi, 1992) and less-than-lethal police force (e.g., Klinger, 1995), yet they have been slow to take on one of the issues that is currently at the forefront of police use of force: Tasers.¹ The carrying and use of Tasers and other conductive energy devices (CEDs) have proliferated over the past few decades,

¹California State University, San Bernardino

²Washington State University, Vancouver

³Arizona State University, Phoenix

and CEDs are now commonplace in many police departments and have been incorporated into existing use-of-force policies (White & Ready, 2007, in press).

There is simultaneously both a plethora and a paucity of research on CEDs. On the plethora side are the numerous medical studies and descriptive reports that have been released concerning the prevalence of officers' use of CEDs and the potential dangers these devices pose to suspects' health and lives. On the paucity side are scholarly research articles that embed CEDs within current theoretical and empirical knowledge about police use of force. The existing academic literature is largely descriptive in nature and includes topics such as how the rise of CEDs has affected officer and suspect injury rates (e.g., Smith, Kaminski, Rojek, Alpert, & Mathis, 2007), the physiological effects these electromuscular devices have on suspects (see Downs, 2007; Vilke & Chan, 2007, for reviews), and the possible implications of CEDs for police officers' civil liability (Smith, Petrocelli, & Scheer, 2007). These studies have contributed much to the understanding of CEDs, but work remains to be done.

What is missing from the literature are analyses that go beyond simple descriptions to instead probe for patterns and apply theory and prior research to add depth to the study of electromuscular technologies' use in the field. As the scholarly literature advances, both academics' and practitioners' understanding of the social and political implications of CEDs will be enhanced. One of the most pressing inquiries in this respect is whether the prevalence of CED usage is spread equally across all races or whether it is concentrated among persons of particular racial groups. This question is important for understanding police behavior and use of force and for informing the literature on police–minority relations.

The development of policing in the United States has been heavily influenced by the historical tensions between police and minorities (Williams & Murphy, 1990). Black and Latino citizens consistently express more negative attitudes about police than White citizens do (Cheurprakobkit, 2000; MacDonald, Stokes, Ridgeway, & Riley, 2007; Mastrofski, Reisig, & McCluskey, 2002; Reisig & Parks, 2000; Rosenbaum, Schuck, Costello, Hawkins, & Ring, 2005; Sampson & Bartusch, 1998; Tyler & Wakslak, 2004; Weitzer & Tuch, 1999, 2002, 2005a, 2005b). Minorities face disproportionately high odds of being the subjects of pedestrian and vehicle stops (Fagan & Davies, 2000; Meehan & Ponder, 2002), and many Black citizens express resentment at what they perceive to be unwarranted police scrutiny (Weitzer, 1999, 2000; see also Gau & Brunson, in press). People who feel they were subjected to particular treatment on the basis of their race can be left feeling victimized (Weitzer & Tuch, 2005a). Resentment spurred by negative police encounters is, moreover, not limited to the individual who feels personally affronted by unfair treatment—That person may share his or her experiences with friends and family, which leads to vicarious victimization among those who were not personally involved but who feel the emotional effects of the negative experience (Brunson, 2007; Rosenbaum et al., 2005). With regard to Tasers specifically, media publicity surrounding Taser-related incidents (Ready, White, & Fisher, 2008) could spark animosity or distrust among other members of the public whose opinions about police may be shaped or altered by these reports (see Weitzer, 2002), thereby dramatically widening the scope of vicarious victimization.

The academic research on race and policing has been hampered by the traditional practice of focusing on the differences either between Whites and Blacks or between Whites and so-called ‘non-Whites’, a catchall category that lumps Blacks, Latinos, and persons of other races into a single group (see, e.g., Alpert, Dunham, & MacDonald, 2004; see also Mastrofski et al., 2002). Much literature has examined contacts, including but not limited to contacts involving physical force, between police and African Americans, but there is as yet relatively little information about police–Latino encounters (Weitzer & Tuch, 2005b). The studies that have deliberately gone beyond the traditional Black–White differences to include Latinos (Cheurprakobkit, 2000; Rosenbaum et al., 2005; Skogan, 2005) have concentrated on racial variation in citizens’ satisfaction with police and their perceptions of the quality of the treatment they receive from officers—They have not addressed use of force. Combining Blacks and Latinos in a single category may obscure important differences between the two groups. Meyer (1980) analyzed police use of deadly force against Blacks, Whites, and Hispanics and found that only Black suspects stood out in terms of prevalence and surrounding circumstances; no noteworthy differences emerged between Whites and Hispanics. If Blacks and Latinos face differential odds of being the recipients of police use of force, then pooling them is problematic.

The present study offers two primary contributions to the literature. First, it analyzes police use of Tasers, which is a topic that has yet to be fully elucidated in academic literature. Second, it broadens the Taser inquiry to examine potential differences between Black, White, and Hispanic suspects. The present study employs use-of-force data from a state patrol agency in a Pacific Northwest state to examine whether and to what extent there appear to be racial disparities in Taser use. The results have implications for police policy and for future research.

Police Use of Force

Police use of force encompasses an array of behaviors ranging from simple verbal commands to the actual taking of a suspect’s life. The precise rate of the use of verbal and/or physical force is unknown and difficult to estimate (Garner, Maxwell, & Heraux, 2002), due in no small part to a lack of data-collection efforts among police departments (Alpert & MacDonald, 2001; Alpert & Smith, 1994), the rather unscientific nature of most of the efforts that have been undertaken (Alpert & Smith, 2000), or problems involving researchers’ measurement of police behavior (Mastrofski & Parks, 1990). What is clear is that relatively few police–citizen encounters result in the use of force and an even smaller portion result in the use of physical—as opposed to verbal—force (Klinger, 1995), though the precise rate of use of force does vary depending on how force is measured (see Garner et al., 2002; see also Hoffman & Hickey, 2005). A multitude of police–citizen interactions take place every day, however, so even a low rate can translate into a substantial absolute number. The study of police use of deadly force has a lengthy history in academia (Fyfe, 1981; Garner et al., 2002; Klinger, 1995, 2001; Langworthy, 1986; MacDonald, Kaminski, Alpert, & Tannenbaum, 2001; Meyer, 1980; Reiss, 1980; Robin, 1963; Smith, 2004; Sparger & Giacomassi, 1992)

and less-than-lethal force has also taken its place in academic and policy studies. Examinations of less-than-lethal physical force, which surfaces more frequently in the day-to-day interactions between police and citizens, are more informative from a practical standpoint (Garner et al., 2002).

A fair amount of attention has been devoted to identifying the particular characteristics of suspects, officers, and situations that make the occurrence of force more or less likely. One of the most obvious suspect characteristics that may influence use of force is race. Theories such as Black's (1976) proposition regarding social asymmetry between officers and suspects would offer reason to predict that non-White suspects will receive harsher treatment by police due to the former's lower social status. In empirical studies, however, suspect race has actually borne an inconsistent relationship with the likelihood of police use of force. Some studies do suggest that police are more likely to apply force against non-White suspects as compared to Whites (Alpert et al., 2004; Sparger & Giacopassi, 1992), whereas others have reported no such effect (McCluskey, Terrill, & Paoline, 2005) or even the opposite result (Ho, 1993; see Garner et al., 2002, for a review of mixed findings). Still others indicate that race effects are confounded with neighborhood context. High crime rates and area levels of concentrated disadvantage can impact officers' decision making and can help determine what actions they take, under what circumstances they take those actions, and how serious their response to a given incident will be (Kane, 2002; Klinger, 1997; Smith, 1986; Terrill & Reisig, 2003). The issue of suspect race and police use of force, then, is still cloudy and merits continued attention.

CEDs and Use of Force

Police agencies are under social and legal pressures to enforce the law effectively but without inflicting undue violence. The prevalence of CEDs today is emblematic of the growing demand over the past few decades for police to reduce reliance on lethal and otherwise severe weapons (see Vilke & Chan, 2007). In the 1960s, heavy-handed crowd-control techniques earned the police condemnation from the public and sparked the search for effective but less dangerous weapons (Johnston, 1981; White & Ready, 2007, in press). The need for less-than-lethal substitutes for deadly force was codified into law in 1985, when the fatal shooting of an unarmed juvenile fleeing a burglary scene prompted the U.S. Supreme Court to interpret the Fourth Amendment as permitting deadly force only against suspects who pose clear and immediate public safety threats (*Tennessee v. Garner*, 1985). Four years after the *Garner* decision, the court added more detail to the law surrounding the Fourth Amendment's restrictions on all forms of force—deadly and otherwise—and held that any amount of force that surpasses what is necessary to subdue a combative suspect is by definition 'excessive' and a violation of the Fourth Amendment's reasonableness requirement (*Graham v. Connor*, 1989). The definition of 'reasonable' and 'unreasonable' force has been the subject of much debate (Alpert & Smith, 1994), and methods for guiding and assessing the proportionality between the intensity of suspect resistance and officers'

responding force—such as use-of-force continua—have been produced to help clarify this ambiguity (Terrill, Alpert, Dunham, & Smith, 2003).

Many less-than-lethal alternatives have sprung up over the past few decades in response to social, political, and legal pressures to balance effectiveness and even-handedness. They ranged from weapons still common today (e.g., chemical sprays) to some odd creations such as the super banana peel, a slippery goo police smeared on sidewalks to make rioters fall down (unfortunately, it also made police fall down; this idea was abandoned quickly) to large nets that were thrown over suspects to ensnare and immobilize them (Johnston, 1981). CEDs—including but not limited to Tasers—appeared on the market in the 1970s (Government Accountability Office [GAO], 2005). Early reports claimed that CEDs were highly effective, posed minimal risk to suspects beyond the pain caused by the device itself, and minimized officer injuries by making physical combat with suspects unnecessary (Meyer, 1992). Electromuscular devices also sidestep the dangers of impact munitions weapons (such as rubber bullets and bean-bag rounds) that although generally not dangerous to those on the receiving end, have been linked to some serious injuries and deaths (Klinger, 2007). Nearly half of the law enforcement agencies in the United States now issue CEDs to some or all of their officers, and there have been more than 70,000 estimated deployments of these devices (GAO, 2005).

Human rights groups have not been as enthusiastic about CEDs as law enforcement agencies have been. The intense pain caused by these instruments, combined with reports of possible CED-related deaths among suspects with physical or mental vulnerabilities, have led Amnesty International to twice plead for a moratorium on CED use (Amnesty International, 2006). The International Association of Chiefs of Police (IACP) has also noted the potential risks and liabilities associated with CEDs and has admonished police departments to develop guidelines to regulate their use (IACP, 1999; see also the Commission for Public Complaints Against the Royal Canadian Mounted Police, 2008; Welch, 2008). There is marked variation in the location of CEDs on police agencies' use-of-force continua (Adams & Jennison, 2007), though available evidence suggests that the device is often placed toward the lower end (Amnesty International, 2006; see also GAO, 2005).

Current Focus: Race and Tasers

Criminal justice decision makers often use heuristic devices when faced with suspects or defendants about whom they have limited background information (Fearn, 2005). Racial stereotypes can play a prominent role, as Blacks and Hispanics (particularly young males belonging to these groups) are, all else being equal, considered more dangerous than their White counterparts (Steffensmeier, Ulmer, & Kramer, 1998). Police officers who encounter a suspect on the street generally possess precious little knowledge about that person (Piliavin & Briar, 1969) and they must make consequential decisions—including decisions regarding the use of force (Hontz, 1999)—quickly and on the basis of this sparse information. Symbolic cues such as the neighborhood

in which the encounter takes place (Brunson, 2007; Gau & Brunson, in press; Jones-Brown, 2007) and the personal characteristics of the suspect (Piliavin & Briar, 1969; Skolnick, 1966) act as heuristic cues to help officers form snap judgments about the nature of and appropriate response to suspects' actions. Racial minorities have been paired with crime for so long that the assumption of criminality may be entirely unconscious (Harris, 2007; Jones-Brown, 2007). Race also functions as a proxy for social and economic status (Bonilla-Silva, 1996), so although officers on-scene may not have information concerning a suspect's status, they may infer it from his or her race (see Piliavin & Briar, 1969). Race and socioeconomic status factor into a general social standing consideration, wherein police are more likely to use force against those persons they perceive as relatively powerless (Black, 1976; see also Kane, 2002; Skolnick, 1966; Terrill & Reisig, 2003). The present study, therefore, focused on the potential relationship between suspect race and police officers' use of Tasers. The research question under examination was as follows: Are police more likely to use Tasers against Black and/or Hispanic suspects than against White suspects?

The research question was addressed in two different ways using two separate but similar models. First, a model was constructed with a dependent variable measuring whether officers used Tasers at all or whether they opted for some other type of force. This model assessed whether racial differences emerged in the use of Tasers. In the second model, the sample was restricted to the first use of force and excluded any subsequent attempts. This model measured the use of Tasers as a first resort in that they were the first weapon employed to subdue the suspect. To the extent that racial biases and stereotypes lurk subconsciously and manifest as automatic responses that people may not even recognize as being discriminatory (see Harris, 2007; Jones-Brown, 2007), a race effect in the second model could be interpreted as evidence of biases at work.

Method

Data

The two hypotheses described above were tested with use-of-force data gathered from a state patrol agency in a single state between the years 2005 and 2007. Troopers who were involved in any use-of-force incident were required to document the event in a case file. Relevant data were then culled from these records and recorded electronically. The result was a data set containing 1,209 uses of force. Toward the end of the data-collection period, one of the researchers on the project drew a random sample of the original case files to cross-check the accuracy of the data set; the records matched and the accuracy was thus confirmed. It is worth emphasizing that these data include use-of-force incidents only; it is not a data set of all trooper-suspect encounters, and it is not, therefore, necessarily representative of more routine incidents that do not involve force. In all the incidents included in the present analysis, something happened during the encounter that prompted the officer to use force against the suspect. The question is not whether there was force but, rather, what type of force was used.

Using state patrol data departs from the custom among prior use-of-force studies of employing data from municipal and county agencies (e.g., Alpert et al., 2004; Alpert, Kenney, & Dunham, 1997; Alpert & MacDonald, 2001; Klinger, 1995; Terrill & Reisig, 2003). The form and function of state patrol agencies differs in many respects from those of municipal or county agencies; however, descriptive statistics from the present data showed that the Taser was the weapon of first choice in 19.2% of force-involved encounters and that it was used at some point in time (either immediately or after unsuccessful application of a different method) in 48.8% of encounters for which data were available. There was, then, sufficient prevalence of Taser use among state patrol troopers to permit a meaningful analysis. To the extent that state patrol agencies differ from municipal agencies, the results of the present study should be interpreted accordingly and generalized with caution.

State patrol data have the advantage of helping to avoid context effects that can confound race–force analyses. As noted above, the location of a police–suspect encounter and the characteristics of the neighborhood or community wherein an encounter transpires can impact the way that an officer and a suspect approach one another and the ultimate outcome of the incident (Klinger, 1997; Terrill & Reisig, 2003; see also Kane, 2002). State patrol agencies, in contrast to municipal police, do not patrol specific neighborhoods. This reduces the threat that differential exposure could bias the results. Stops, moreover, take place on highways rather than in suspects' neighborhoods of residence, which minimizes the possibility of officers utilizing contextual cues and enhances the probability that the outcome of a trooper–suspect encounter is truly the product of the interaction between those two people and not an artifact of the social or structural environment.²

Table 1 contains the study agency's force continuum, which ranks the different types of force from the least to the most severe. Officers are required by federal and state law, as well as agency regulation, to use only as much force as is necessary to take control of the situation and subdue the suspect.

As Table 1 shows, this agency places the Taser just below the middle of its continuum, indicating that the Taser is not treated lightly, but neither is it considered a particularly severe form of force. Suspects would need to show a moderate, though not too serious, amount of resistive or combative behavior in order for officers to justify a Taser response. This use-of-force continuum is not necessarily representative of that used in other police organizations, but it is included here to give context to the study of troopers' use of force in this agency. Based on reports of other police departments (Amnesty International, 2006; GAO, 2005), it is likely that the present agency's classification of the Taser is not atypical.

Dependent Variables

As described above, two models were estimated that differed from one another only in the dependent variable used in each analysis. The first dependent variable was Taser use on any force application and was a dichotomous measure indicating whether an

Table 1. State Patrol Agency's Use-of-Force Continuum

Force level	Force description
1	Physical takedowns, leg sweeps, or any technique that forcibly requires the subject to end up on the ground from means other than his/her own
2	Use of maximum restraints
3	Use of OC-10
4	Use of the Taser
5	Striking with hand/fist or foot
6	Any use of an impact tool, whether designed for that function or not
7	Neck restraint hold
8	Any action that results in a complaint of injury and/or any form of visible injury to a suspect
9	Use of the Pursuit Immobilization Technique at 40 miles per hour or higher
10	Use of a vehicle in an act of intentional intervention
11	Use of any firearm (including accidental discharge), except as outlined in the Animal Destruction policy

officer responded to a suspect's resistive behaviors by using a Taser (coded as 1) or by using some other type of force, such as chemical spray or a physical takedown (coded as 0) during any force application. The second dependent variable was Taser use on the first force application (1 = *Taser on first*; 0 = *some other type on first*) and measured officers' propensity to reach for the Taser as a weapon of first resort when encountering a difficult suspect. The dichotomous nature of the dependent variables' coding scheme allowed for an estimation of the likelihood of a suspect being Tased relative to the likelihood of that suspect having a different type of weapon/tactic used against him or her. Binary logistic regression was employed for both models.

Independent Variables

The same set of independent variables was used in both models. Suspect race was the primary predictor. Race was coded as a series of dummy variables indicating whether a suspect was White, Hispanic, Black, or Other (e.g., Asian, American Indian), with Whites left out as the reference category. This allowed for the generation of odds ratios and the computation of probabilities to assess whether minority suspects were more likely than White suspects to have Tasers used against them.

Situational controls were also included. The first control was suspect resistance type and was coded as dummy variables indicating whether resistance was active, assaultive, or other noncompliant, with passive resistance left out as the reference category. Officers were permitted to place suspects into multiple resistance categories, so for the analyses, the most serious category was selected and the suspect placed in that classification (e.g., a suspect who displayed passive resistance that escalated into active resistance would be considered an active resistor to avoid double-counting

that person). Suspect resistance or combativeness is an obvious factor in the use of force by police (Bazley, Lersch, & Mieczkowski, 2007; Klinger, 2001). Police are empowered and required to use physical force when necessary (Bittner, 1970; see also Klockars, 1985), yet they are bound by *Garner, Connor*, and various departmental policies to use only that force that is commensurate with the level of resistance displayed by a suspect. Minorities tend to express more negative attitudes about police (Rosenbaum et al., 2005), which could lead to racially-systematic differences in suspect resistance. Controlling for resistance type was therefore necessary to guard against spuriousness in any race–Taser relationship that surfaced in the analyses.³

Other situational controls included whether the incident was a traffic stop (1 = *traffic stop*; 0 = *other encounter*), whether it was light outside (1 = *light*; 0 = *dark*) during the encounter, and a continuous scale measuring the ratio of officer-to-suspect height and weight. We controlled for the encounter type because prior researchers have argued that there are qualitative differences between traffic stops and other types of encounters. The action taken to address this is sometimes to exclude traffic stops altogether (e.g., Klinger, 1994), but we find the systematic exclusion of a given type of encounter problematic both conceptually (differences should be explored, not ignored) and statistically (more than 40% of encounters involving Taser use and more than 60% of all force-involved encounters originated as traffic stops). Controlling for encounter type served as an acknowledgement that traffic stops present unique circumstances and dilemmas to officers. The light variable measured whether officers had the benefit of daylight to assist them or whether they were operating with limited visibility. The height and weight ratio scale accounted for any potential propensity for officers who are at a physical disadvantage to suspects to resort to Tasers faster than officers who may be able to subdue suspects without using weapons.⁴ Officers' age (years), sex (1 = *female*; 0 = *male*), and race (1 = *White*; 0 = *non-White*) were also entered into the model. Officers' years of service was substituted for age in both models and was non-significant; therefore, only age was included in the models so as to avoid collinearity. Suspect controls were age (years) and sex (1 = *female*; 0 = *male*).

Results

Table 2 contains the characteristics of officers, suspects, and situations in the entire sample of use-of-force incidents and in the subsample of uses of force that involved Tasers. Officers and suspects in the whole sample had a similar mean age of mid-30s. Most officers (96%) were men, as were most suspects (80.34%).

Only 10.2% of the officers were non-White, whereas approximately 11% of suspects were Hispanic and just under 10% were Black. Nearly two thirds of the encounters were traffic stops. Active resistance was the most common type of misbehavior displayed by suspects (47.02%), trailed by just over one quarter of suspects who displayed assaultive behavior and approximately 11% who resisted passively. Tasers were used in nearly half (48.75%) of all use-of-force incidents and were the first-used type of force in 19.15%. The mean of the height and weight ratio summed scale was 2.22,

Table 2. Descriptive Statistics for the Entire Sample ($N = 1,209$) and Subsample Taser on Any Force Application ($n = 596$)

	Whole sample		Taser subsample	
	M (SD)	Valid percent	M (SD)	Valid percent
Officers				
Age	34.52 (6.35)		34.19 (6.36)	
Female		4.00		5.03
White		89.80		89.43
Suspects				
Age	33.79 (11.66)		33.95 (11.89)	
Female		19.66		14.86
White		71.90		72.32
Hispanic		11.36		11.74
Black		9.34		8.89
Other		7.41		7.05
Situational				
Traffic stop		61.69		66.61
Passive resistance		11.23		13.26
Active resistance		47.02		50.36
Assaultive behavior		27.58		28.52
Other noncompliant		14.17		7.89
Taser use on any application		48.75		—
Taser use on first application		19.15		—
Light outside		37.00		36.00
Height/weight ratio scale	2.22 (0.53)		2.21 (0.60)	

indicating that on average officers and suspects were of similar physical stature (a 1 on each of the height and weight ratios meant that there was no difference between officer and suspect height or weight).

Prior to the logistic regression analyses, the independent and dependent variables were entered into ordinary least squares regression models to obtain collinearity diagnostics. All variance inflation factors (VIFs) were below 2.5, indicating the absence of harmful collinearity. The tolerances were high, but the condition indices both slightly exceeded 20. The variables that appeared potentially problematic were the resistance-type measures (active, assaultive, and other). These variables had low VIFs but their tolerances were borderline (.419, .441, and .667, respectively). To ensure that collinearity did not present a threat to the analyses, both of the models presented below were rerun using a dichotomous measure of resistance (1 = *passive resistance*; 0 = *any other type of resistance*). This reduced all VIFs, tolerances, and condition indices to

Table 3. Logistic Regression Results for Taser Use on Any Application of Force

	Taser use on any force application		
	<i>b</i>	SE	Exp(<i>b</i>)
Officer age	0.000	.014	1.000
Officer female	0.592	.405	1.808
Officer White	-0.567**	.280	0.567
Suspect age	-0.005	.007	0.995
Suspect female	-0.644***	.239	0.525
Suspect Hispanic	0.197	.273	1.218
Suspect Black	0.416	.305	1.516
Suspect Other	0.091	.364	1.095
Traffic stop	-0.181	.183	0.834
Active resistance	-1.093***	.277	0.335
Assaultive behavior	-1.154***	.298	0.315
Other noncompliant	-1.108***	.398	0.330
Light outside	0.020	.186	1.020
Height/weight ratio scale	-0.086	.176	0.918
Constant	1.618**	.680	5.044

Note: $n = 596$. Nagelkerke $R^2 = .094$.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

acceptable limits. The logistic regression model results did not change when this binary variable was substituted for the ordinal resistance measure, so the original variables were retained.⁵

The results of the logistic regression models predicting Taser use on any force application are shown in Table 3. As can be seen, resistance was the strongest predictor of Taser use. Active and assaultive resistance had large effects on the likelihood of Taser use, ($\text{exp}(b) = 0.335$ and 0.315 , respectively), indicating that suspects who actively resisted or who attempted to assault police officers were less likely than passive resisters to be Tased. The most probable explanation for this is that officers used more serious forms of force against combative individuals, as these suspects may have presented an immediate threat to officers' safety or even their lives (the assaultive group contained suspects who wielded a knife or gun). It is also possible, though not directly observable in the present data set, that some troopers used the Taser against passive resisters preemptively; that is, they may have tried to defuse the situation before passive resistance escalated into physical combativeness. The fact that passive resisters were the most likely group to be Tased, though, presents a question of the propriety of current Taser practices that is worthy of further examination in future research.

Officer race was a significant predictor of Taser use, with White officers being less likely to employ the Taser relative to officers of other races, ($\text{exp}(b) = 0.567$). Female suspects were less likely, ($\text{exp}(b) = 0.525$), than male suspects to be Tased at any point during the encounter. Suspect race was not significant in this model, indicating no racial

Table 4. Logistic Regression Results for Taser Use on First Application of Force

	Taser use on first force application		
	<i>b</i>	SE	Exp(<i>b</i>)
Officer age	-0.004	.019	0.996
Officer female	-0.115	.540	0.891
Officer White	-0.889***	.332	0.411
Suspect age	0.003	.010	1.003
Suspect female	-0.576	.352	0.562
Suspect Hispanic	0.805**	.314	2.236
Suspect Black	-1.010*	.551	0.364
Suspect Other	-1.437*	.756	0.238
Traffic stop	-0.455*	.239	0.634
Active resistance	-1.021***	.300	0.360
Assaultive behavior	-1.780***	.380	0.169
Other noncompliant	-0.383	.440	0.682
Light outside	-0.050	.246	0.951
Height/weight ratio scale	0.059	.207	1.060
Constant	0.574	.875	1.776

Note: $n = 594$. Nagelkerke $R^2 = .153$.

* $p < .10$. ** $p < .05$. *** $p < .01$. **** $p < .001$.

disparities in the likelihood that Tasers would be used at any point during a use-of-force encounter. Examination of the classification tables with and without suspect race included in the model showed that the full model correctly classified 62.5% of cases, and the model with race omitted yielded 62.8% correct classification. This confirmed that suspect race was not an important predictor of Taser use on any application of force.

Table 4 contains the results for the model restricted to the first force encounter. This second model was similar to the first in that active resistance, ($\text{exp}(b) = 0.360$), and assaultive behavior, ($\text{exp}(b) = 0.169$), were the strongest predictors of Taser use, and suspects who displayed one of these types of resistance were less likely than passive resistors to be Tased. White officers were, again, significantly less likely to use Tasers relative to other forms of force, ($\text{exp}(b) = 0.411$). Traffic stops were also somewhat less likely than other types of encounters to result in the use of the Taser as the first type of force, ($\text{exp}(b) = 0.634$). The most striking result from this model was the large effect for Hispanics: Hispanic suspects faced twice the odds that Whites faced, ($\text{exp}(b) = 2.236$), of having the first force attempt be a Taser.

Resistance level was controlled for, meaning that the effect for Hispanic race/ethnicity was not an artifact of differential resistance. Black suspects, ($\text{exp}(b) = 0.364$), and those belonging to other races, ($\text{exp}(b) = 0.238$), were significantly less likely than Whites to be Tased on the first force application, which was unexpected given the increase in odds for Hispanics. The statistical significance of these two findings was marginal, though ($p < .10$), so they should be interpreted with caution.

The predicted probabilities of Taser use on the first application of force were .170 for Whites, .314 for Hispanics, .077 for Blacks, and .066 for the other category. The differences in Whites' and Hispanics' respective probabilities lends support to the conclusion that there were meaningful differences between these two groups and that, even controlling for relevant factors like resistance, Hispanics were more likely than Whites, Blacks, or other races to be Tased. Classification results showed that 84.2% of cases were predicted correctly. The percentage dropped to 82.9 when suspect race was omitted from the model. This shows that suspect race, although statistically significant, was a modest predictor of Taser use on the first application. This is likely due to the fact that only Hispanics emerged as significantly different from Whites—No other suspect racial classification achieved statistical significance at $p < .05$. Officers' use of force was likely driven primarily by suspects' behavior rather than by their personal characteristics, though Hispanic ethnicity did increase the chances of Taser use. Racial disparities, then, were apparent but temperate. This conclusion is elaborated on in the following section.

Discussion

This study's purpose was to add to academic knowledge concerning police officers' use of Tasers and to spur a dialogue regarding the possibility of racial disparities. Two logistic regression analyses were run. The first determined that there was not a statistically significant relationship between a suspect's race and the likelihood that that an officer Tased the suspect at some point during the use-of-force encounter. The second model tested the effect of suspect race on the likelihood that the Taser would be an officer's first tool of choice when dealing with a difficult suspect. The results of this model suggested that although suspect resistance type was the largest predictor of Taser use, there were racial differences as well; in particular, Hispanic/Latino suspects were twice as likely as White suspects to be Tased. This finding has implications for research and policy.

First, it must be emphasized that race—no less than any other suspect, officer, or situational characteristic—does not exist in a vacuum. Officer and citizen characteristics and each actor's behavior toward the other influence the outcome of an incident (McCluskey, Mastrofski, & Parks, 1999); however, every officer–suspect encounter is embedded in a sociostructural context that has very real potential to alter that outcome (Alpert & MacDonald, 2001; Bonilla-Silva, 1996; Jacobs & Britt, 1979; Jacobs & O'Brien, 1998; Kane, 2002; Kania & Mackey, 1977; Klinger, 1997; MacDonald et al., 2001; Meehan & Ponder, 2002; Terrill & Reisig, 2003; see also Sampson & Bartusch, 1998). Officers may bring racial stereotypes and preconceived notions to bear in a confrontation with a suspect (Harris, 2007; Jones-Brown, 2007; Skolnick, 1966), and suspects may do likewise with regard to stereotypes and assumptions about police (see Cheurprakobkit, 2000; Mastrofski et al., 2002; Sampson & Bartusch, 1998; Weitzer & Tuch, 2002).

In this mix of factors, however, suspect race is an important consideration. Prior research provides testament to the historical importance of race in officer–suspect

encounters (Meyer, 1980; Robin, 1963; Skogan, 2005; Sparger & Giacopassi, 1992; see also Williams & Murphy, 1990), even apart from ecological factors (MacDonald et al., 2007). As Tasers and other CEDs proliferate, therefore, suspect race serves as a viable avenue for pursuit of a deeper understanding of these implements' use. Findings from the present study confirmed that suspect race was, indeed, a factor influencing the likelihood that officers in this agency would use Tasers rather than other types of force. The fact that the race effect surfaced only in the model predicting Taser use on the first force application—but not in that predicting Taser use at any point during the encounter—seems to point in one of two directions. The first possibility is that there was something qualitatively different in the interactions police in this agency had with Hispanic suspects. The models presented here controlled for resistance type, and a supplementary multinomial logistic regression model predicting resistance type (not shown; available on request) confirmed that suspect race was not related to resistance type; that is, there was no systematic tendency for Hispanic suspects to engage in any particular type of resistance.⁶ No data were available to test for cultural or language barriers that may have frustrated officer–suspect communication or for the potential that Hispanics approached officers with a more hostile demeanor that, although not captured in officers' official recording of resistance type, may have caused troopers to interpret Hispanics' behavior as more dangerous than that of White suspects.

The possible existence of hidden systematic differences between Hispanic suspects and suspects of other races was explored using a series of bivariate analyses (see the appendix). The results of these tests suggested no marked differences between Hispanics and others in terms of officers' demographic characteristics, suspect sex, or situational factors. The only potentially influential difference between the groups was in age: Hispanic suspects were significantly younger ($M = 28.69$) than White suspects ($M = 34.89$; $F = 9.423$, $p < .001$). Younger suspects may be more impulsive or aggressive during police encounters, and prior research has shown that age and race interact (Steffensmeier et al., 1998). To ensure that age differences did not confound the race effect, the sample was split into four age groups based on the distribution of the age variable (minimum = 15; maximum = 82; $M = 33.79$): 15-24, 25-34, 35-44, and 45 and older. The Taser on first application model was run individually for each of the four age groups, and predicted probabilities for Whites and Hispanics were obtained. The pattern of results across the age groups mirrored that for the entire sample,⁷ suggesting that Hispanics' younger mean age was not the driving force behind this group's disproportionately high likelihood of being Tased. All of the supplementary analyses, then, indicated that suspect race was not confounded with any other predictor in this study.

The potential for there to be racial differences in officers' interpretations of suspects' behavior segues into the second possibility, which is that officers' differential interpretation of Hispanics' and Whites' behaviors was racially based rather than premised on actual variations in behavior. Stereotypes can lead criminal justice actors of all sorts to interpret the behavior of racial minorities as being more dangerous than identical behavior engaged in by Whites (see, e.g., Jones-Brown, 2007; see also the

extensive body of literature concerning race and sentencing). The pattern of results found here—that Hispanics suffered no greater likelihood of Taser use in the any-application model but twice the odds of Whites in the first-application model—is consistent with stereotype-driven behavior. The unconscious, automatic nature of bias (Skolnick, 1966) is perhaps most apparent in split-second decisions, as opposed to perceptions that form and decisions that are made more gradually and with the benefit of time. To that end, it could be that race does not affect officers' decision making when they respond to suspect resistance by graduating progressively up the force continuum but that it does leak into decisions that are made rapidly on the basis of limited information. This proposed explanation for the present results is, of course, tentative and not directly falsifiable or confirmable here. We urge researchers to continue this line of investigation and put the current findings to the test using data from other police agencies.

The results of this study have policy implications. The first and most important is that police officers in the agency studied here did seem to use suspect behavior, as opposed to race, as the primary determinate of their use of Tasers. This is, of course, appropriate. The question of where Tasers should be placed on use-of-force continua or what standards of training and supervision should be in place to govern Taser use (Adams & Jennison, 2007) is a legitimate debate but is beyond the scope of this article. Without speaking to that controversy, we can offer the preliminary conclusion that Taser use in this particular agency did not appear overtly problematic within current bounds of acceptable Taser deployment.

The second policy implication turns on the apparent discrepancies in Taser use on the first application. The race effect was small but extant, with Hispanic suspects being twice as likely as Whites to be Tased when the Taser was the force type of first resort. This finding warrants further investigation both by academic researchers and by police departments seeking to root out discriminatory practices. The enhanced use of Tasers against Hispanic suspects can be interpreted as akin to racial profiling in the sense that it involves disparate treatment of suspects on the basis of race, and to that extent, it raises the same questions concerning the accuracy of officers' judgments about the dangerousness of individual suspects (Harris, 2002) and the damage that can be done to police–citizen relationships on a grand scale (Spitzer, 1999; Stoutland, 2001; see also Alpert, Dunham, & Smith, 2007). Beyond the numbers issue is the equally powerful perception issue—Policing practices do not always have to be outrageously discriminatory for them to be perceived as such by the public. Many minorities already view the police with skepticism (Brunson, 2007; Cheurprakobkit, 2000; MacDonald et al., 2007; Mastrofski et al., 2002; Reisig & Parks, 2000; Rosenbaum et al., 2005; Sampson & Bartusch, 1998; Weitzer & Tuch, 1999, 2002, 2005a, 2005b), and even trace amounts of racial differences in Taser use could lend support to public perceptions that police act more harshly toward non-White citizens. An officer–citizen encounter is rarely an isolated event, particularly if it yields a negative outcome for the citizen: That person will tell friends and family, who may themselves experience vicarious feelings of victimization (Brunson, 2007; Rosenbaum et al., 2005). It is of

paramount importance, then, for officers to be mindful when they encounter an individual citizen that their actions in this single, seemingly-isolated instance have the potential to resonate throughout the community.

A third policy implication from this study mirrors some prior calls for further research into the circumstances under which Taser use is (in)appropriate. Supplementary frequency analyses on the data used here showed that 25.6% of suspects who resisted passively were Tased on the first application of force. That percentage dwindled among the active and aggressive resisters, as more serious forms of combativeness probably elicited more severe reactions from officers. The fact that a full fourth of passive resisters' efforts were met with the Taser raises the concern that police are substituting this weapon for verbal de-escalation and other skilled ways of calming suspects down without hurting them. This is a possibility worthy of examination so that any trend that may be developing can be squelched immediately.

More research on Tasers' effects and patterns of use is warranted to fully understand this device and its use. As noted in the opening section of this article, calls have gone out in the United States and in other countries for heightened restrictions on Taser use pending full investigation into the medical consequences of the weapon (Amnesty International, 2006; Commission for Public Complaints Against the Royal Canadian Mounted Police, 2008; Welch, 2008). We would put in an additional call for more social scientific examination of the aggregate trends in Taser use among police officers and agencies. Research should determine whether the findings in the present study generalize to other areas of the country with a variety of racial compositions. Studies should include all types of police organizations, including city, county, and state agencies.

The finding here that Black and Hispanic suspects differed notably in their odds of being Tased also underscores the need for researchers to stop analyzing simple White/non-White differences in tests designed to identify possible racial disparities in police behavior. A growing stock of evidence (Cheurprakobkit, 2000; Meyer, 1980; Rosenbaum et al., 2005; Skogan, 2005; Weitzer & Tuch, 2005b), to which the present study adds, suggests that there are very real differences between Blacks and Hispanics (and probably between other races, too) in perceptions of police and in the behavior manifested by officers during encounters. Patterns in Taser use might also change over time, which raises the need for trend monitoring. CEDs are relatively novel and officers' employment of them could shift longitudinally. The more academics and practitioners learn about Taser and other CED use, the better equipped they will be to ensure that utilization is appropriate and that the Taser is an advance in, rather than a setback to, the professionalism and effectiveness of the police.

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Appendix

Demographic and Situational Characteristics Across Racial Groups

	Hispanic mean	Black mean	Other mean	White mean	Difference
Officer characteristics					
Age	34.20	34.71	34.48	34.56	$F = 0.144, ns$
Female	0.02	0.05	0.06	0.04	$\chi^2 = 3.979, ns$
White	0.89	0.87	0.84	0.92	$\chi^2 = 12.691, ***V = .10, \lambda = .00$
Suspect characteristics					
Age	28.69	32.90	32.57	34.89	$F = 9.423****a$
Female	0.08	0.12	0.26	0.22	$\chi^2 = 19.385, ****V = .14, \lambda = .00$
Situational factors					
Traffic stop	0.72	0.62	0.45	0.65	$\chi^2 = 36.382, ****V = .18, \lambda = .05$
Light outside	0.26	0.27	0.43	0.37	$\chi^2 = 11.512, ***V = .11, \lambda = .00$
Height/weight ratio scale	2.29	2.19	2.19	2.21	$F = 0.780, ns$

Note:Analyses of variance were used for continuous variables (officer age, suspect age, and height/weight ratio scale) and chi-square analyses were used for all other variables. Measures of association for chi-square analyses are Cramer's V and lambda. Both measures range from 0 to 1.0, with 0 indicating no association and 1.0 indicating a strong association (see Bachman & Paternoster, 2009).All Vs and λ s in this table are low and suggest extremely weak substantive relationships despite the statistical significance of the χ^2 values, the latter of which could be attributable to the fact that the chi-square statistic is very sensitive to sample size.

a. Significant difference between Hispanics and Whites.

*** $p < .01$. **** $p < .001$.

Notes

1. *Taser* is TASER International's brand-name of a specific type of *conductive energy device* (CED), and there are other types of CEDs that are not manufactured by this company. We use the word *Taser* in this article because the agency being studied here uses Tasers. The term *conductive energy device* is used throughout the literature review when this class of energy-based devices is being discussed generically.
2. We thank one of the anonymous reviewers for pointing out this advantage in the use of state patrol data.
3. The potential for interaction effects was also investigated; however, partitioning the data set by race, resistance level, and *Taser* use resulted in samples that were too small to be of use statistically.

4. We initially included as a control variable the number of officers present during the incident to account for any observer (Spano, 2006) or peer-group (McCluskey et al., 2005) effects that the presence of other officers might create. This variable, though, was not retained in the models reported here because it was nonsignificant and had missing data that caused a marked reduction in the number of Taser-related incidents included in the regression analysis. Exclusion was further justified by the fact that although multiple officers were present, in roughly 48% of use-of-force encounters, only 1.6% of the incidents involved actual use of force by more than one officer. Omitting this variable did not alter the results of the model in any way other than to increase confidence in the validity of the results.
5. The odds ratio for this variable was 3.214 ($p = .000$) in the Taser on any application model and 3.266 ($p = .000$) in the Taser on first application model, which was consistent with the results presented and discussed in the text.
6. All race coefficients in this model were nonsignificant. The Nagelkerke R^2 was .052, indicating that the model was very poor. Suspect race was not related to resistance type.
7. The predicted probabilities for Whites and Hispanics in each age category were as follows: 15-24 (White = .166, Hispanic = .323), 25-34 (White = .157, Hispanic = .300), 35-44 (White = .200, Hispanic = .357), and 45 and older (White = .158, Hispanic = .200).

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Bios

Jacinta M. Gau is an assistant professor in the Department of Criminal Justice at California State University, San Bernardino. The focus of her research is policing, with an emphasis on police–community relationships, racial profiling, and order maintenance. Her work has appeared in *Criminology & Public Policy* and *Policing: An International Journal of Police Strategies and Management*.

Clayton Mosher is an associate professor in the Department of Sociology at Washington State University, Vancouver. His research focuses on criminal justice policies with specific interests in racial profiling, inequality in criminal justice system processing, and drugs. His most recent book (with Scott Akins) is *Drugs and Drug Policy—The Control of Consciousness Alteration* (SAGE).

Travis C. Pratt is an associate professor in the School of Criminology and Criminal Justice at Arizona State University. His research focuses on criminological theory and crime control policy, and he is the author of more than 40 peer-reviewed articles that have appeared in journals, such as *Criminology*, *Justice Quarterly*, *Crime & Delinquency*, and the *Journal of Research in Crime and Delinquency*. He is also the author of *Addicted to Incarceration: Corrections Policy and the Politics of Misinformation in the United States* (2009, SAGE).