

**Traditional Police Culture, Use of Force, and Procedural Justice:
Investigating Individual, Organizational, and Contextual Factors**

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ABSTRACT

Traditional police culture (TPC) is a set of attitudes and values, developed as coping mechanisms for police work's unique and inherent strains, that fosters distrust toward, and isolation from, citizens. An online survey of 781 American police officers from 48 U.S. states is used to assess: first, the individual, organizational, and contextual correlates of endorsement of TPC, and second, whether endorsement of TPC relates to support for the use of force and support for procedurally just tactics. Results indicate that, apart from supervisor status and supervisor race, individual-level officer characteristics are not related to endorsement of TPC. By contrast, organizational factors—agency size and type—relate to endorsement of TPC among line officers, but not supervisors. Results also indicate that support for use of force and support for procedural justice are strongly linked to TPC endorsement among both line officers and managers.

KEYWORDS

Police; Law Enforcement; Attitudes; Use of force; Procedural justice

In recent years, police-citizen relations have become increasingly visible to the public (Brown, 2016; Goldsmith, 2010), and have taken on renewed significance to researchers and practitioners (e.g., Paoline, Gau, & Terrill, 2016). In 2011, police use of force at the “Occupy” protests was the subject of extensive public scrutiny and media attention (Calhoun, 2013). In 2013, debate about New York City’s stop-and-frisk policy became widespread (see e.g., *Floyd v. City of New York*, 2013). And beginning in 2014, a string of police incidents involving the use of deadly physical force on Black citizens ignited considerable controversy and protest, and contributed to the growth of the influential Black Lives Matter movement (Izadi, 2016). Crucially, recent survey research suggests that most police officers believe that fatal police-Black encounters are isolated incidents, while a majority of the public believes they are indicative of broader problems in policing and society (Pew Research Center, 2017, p. 75). Thus, the exercise of police authority is one of the most salient and polarizing topics in the United States today (Weitzer, 2015). Two aspects of police-citizen interaction may be especially important: (1) the use of force, and (2) the use of procedurally just tactics (i.e., the fairness and politeness with which officers treat citizens).

While a considerable amount of research has been devoted to understanding the correlates of police-citizen interactions (e.g., Alpert, MacDonald, & Dunham, 2005; Lawton, 2007; Paoline, Gau, & Terrill, 2016), one factor that deserves more attention is traditional police culture (TPC). Scholars have described TPC as a set of attitudes and values that assist officers in coping with the strains inherent to police work, and which provide officers a lens (or a worldview) for interpreting the world in which they work (e.g., Crank, 2014; Kappeler, Sluder, & Alpert, 1998; Paoline, 2003; Paoline et al., 2000). In general, TPC tends to incorporate distrust toward and isolation from citizens, a desire to “maintain the edge” in encounters with citizens, a

crime-fighting orientation, a desire to avoid supervisor scrutiny, loyalty to fellow police officers, concerns about danger and bravery, and permissiveness toward misconduct (e.g., Crank, 2014; Kappeler et al., 1998; Paoline, 2003). Yet while TPC is often considered emblematic of police attitudes and actions, individual officers endorse TPC to varying degrees (Paoline, 2003; Paoline, Meyers, & Worden, 2000; Terrill, Paoline, & Manning, 2003; Worden, 1995).

Importantly, TPC (and the social and moral identities it promotes) provides officers with “common sense” guidelines for how to comport themselves as police officers (Crank, 2014). Indeed, research suggests TPC affects officers’ attitudes and behavior toward citizens (Paoline & Terrill, 2005; Terrill et al., 2003; Terrill & Paoline, 2015; Van Maanen, 1974). Adherence to TPC may be associated with greater use of force (Terrill et al., 2003), and there is some evidence TPC may be associated with less use of procedural justice as well (Terrill & Paoline, 2015). Indeed, in 2015, the President’s Task Force on 21st Century Policing identified TPC as an important consideration in understanding and addressing police behavior.

Understanding what drives officers’ adherence to TPC may therefore have important implications for understanding and improving police-citizen interactions. Nevertheless, relatively few studies have considered the correlates of officers’ adherence to TPC. The research examining this phenomenon has, with a few notable exceptions, tended to focus on individual officers’ personal characteristics, and has been situated in a small number of departments. We theorize adherence to TPC is shaped by officer characteristics, but also by organizational characteristics and the social context in which police operate.

We use data from a sample of 781 American law enforcement officials from 48 U.S. states to examine (1) whether individual, organizational, and contextual characteristics are

related to TPC endorsement, and (2) whether TPC endorsement shapes officers' views about exercising authority in citizen encounters, particularly use of force and procedurally just tactics.

TRADITIONAL POLICE CULTURE

Researchers have long suggested that organizational and occupational policing environments exert unique and exceptional strains on officers. Traditional police culture (TPC) describes a set of attitudes, values, and norms that officers may develop organically in response to those strains (Paoline, 2003; Paoline & Gau, 2017; see also Brown, 1988; Crank, 2014; Kappeler et al., 2004; Muir, 1977; Reiner, 2010; Reuss-Ianni, 1983; Skolnick, 1994; Van Maanen, 1974; Westley, 1970; Wilson, 1968). In the hierarchical, paramilitary organizational environment of the traditional police department, line officers face considerable scrutiny from supervisors, and are far more likely to be reprimanded for mistakes than recognized for good work (Brown, 1988; Paoline, 2003; Skolnick, 1994). These strains are exacerbated by the ambiguous roles that officers must fulfill in practice, making it difficult to define “good work” (Paoline, 2003). The occupational environment for police is similarly fraught with risk – police must regularly contend with unpredictable and sometimes violent situations involving citizens (Paoline, 2003; Skolnick, 1994; Westley, 1970). Police must also be prepared to use force against citizens, up to and including lethal measures. This unique responsibility distinguishes police work from virtually all other occupations (Bittner, 1970; Crank, 2014; Paoline, 2003; Skolnick, 1994; Westley, 1970).

The attitudes and values associated with TPC are thought to develop from these strains, which are experienced as part of the day-to-day work of police (Crank, 2014; Paoline, 2003, 2004). Organizational strains may lead officers to develop an “avoidance” or CYA (“cover your ass”) orientation to avoid reprimands or other repercussions (Muir, 1977; Paoline, 2003; Van

Maanen, 1974). To reduce strains from having ambiguous roles and situations, officers may adopt a crime-fighter orientation, focusing their efforts solely on stopping crime and apprehending the “bad guys” rather than pursuing order maintenance or service activities (Paoline, 2003; Reuss-Ianni, 1983). In response to potential unforeseen dangers, and to cope emotionally with the regular use of force against citizens, officers may become suspicious and distrustful of citizens and view them as either potential assailants or inconvenient bystanders (Sparrow, Moore, & Kennedy, 1990). Officers may also feel a desire to “maintain the edge” against citizens by refusing to back down, even in response to verbal resistance, by demonstrating their authority whenever possible (Paoline, 2003; Reiner, 2010; Skolnick, 1994; Sparrow et al., 1990; Van Maanen, 1974; Westley, 1970). Officers who endorse TPC tend to see themselves as separate and distinct from civilians, a view reinforced by shift work that may keep officers physically separated from civilian life (Drummond, 1976; Fielding, 1988; Reiner, 2010). Line officers may also develop strong loyalties to one another and an “us versus them” orientation toward both management and citizens (Kappeler et al., 1996; Paoline, 2003; Reuss-Ianni, 1983; Skolnick, 1994).

Although initial accounts of TPC described it as relatively monolithic (e.g., Skolnick, 1994; Van Maanen, 1974), subsequent research has shown that officers vary considerably in the extent to which they endorse its attitudes and values (Paoline & Gau, 2017). Early typology studies, including Wilson’s (1968) seminal work on policing styles, identified groups of officers whose attitudes conformed to TPC and groups whose attitudes did not (for overviews, see Paoline, 2004; Worden, 1995). More recently, research has applied cluster analysis to survey data asking about officers’ adherence to the values and beliefs associated with TPC. For example, Jermier et al. (1991) identified several clusters of officer outlooks and concluded that

police organizations were home to several subcultures. More recent research has also found that groups of officers endorse TPC to varying degrees (Paoline, 2004; Paoline et al., 2000; Paoline & Terrill, 2005; Terrill et al., 2003). Research also suggests that TPC conforms to organizational boundaries, such that the attitudes and values associated with TPC are those of the rank and file rather than managers (Crank, 2014; Crank, Regoli, Hewitt, & Culbertson, 1993, 1995; Manning, 1977; Paoline & Terrill, 2014; Reuss-Ianni, 1983). Indeed, research has gone so far as to describe two subcultures arising from the different strains faced by line officers and managers: a “street cop culture,” which includes the values and attitudes of TPC, and “management cop culture,” which focuses on broad concerns faced by the department and city (Reuss-Ianni, 1983). TPC endorsement may also vary across workgroups within a department (Ingram, Paoline, & Terrill, 2013), as well as by officer race and gender (Haarr, 1997).

UNDERSTANDING ADHERENCE TO TRADITIONAL POLICE CULTURE

We aim to expand the literature on TPC by examining factors associated with officers’ adherence to TPC. Although a large body of research has demonstrated that variation in TPC endorsement *exists*, far less work has been able to explain *why* individual officers endorse TPC to a greater or lesser extent (Ingram & Terrill, 2014). We identify three sets of correlates that may help to explain TPC endorsement: (1) individual officer characteristics, (2) organizational characteristics, (3) social contextual characteristics.

INDIVIDUAL CHARACTERISTICS

Few samples of police officers feature substantial variation in agency type or social context. Thus, most research has focused on individual characteristics as correlates of TPC endorsement. Researchers have hypothesized female and minority officers may be less likely to adhere to TPC because they were historically excluded from the policing profession (Hassell,

Archbold, & Stichman, 2011; Paoline et al., 2000; White et al., 2010). Female officers may be less rule-oriented and confrontational toward citizens (Paoline et al., 2000; Rabe-Hemp, 2008, 2009; Pew Research Center, 2017), and may experience additional strains as a result of negative workplace experiences (Burke & Mikkelsen, 2005; Hassell & Brandl, 2009). Similarly, minority officers may be more sensitive to the needs of minority communities, more alert to negative consequences associated with aggressive policing tactics, and more open to community partnerships (Lasley, Larson, Kelso, & Brown, 2011; Paoline et al., 2000; Pew Research Center, 2017). Extant research, however, provides only modest evidence that female or minority officers differ in their endorsement of TPC. In a review of articles examining gender and police officers' attitudes, Poteyeva and Sun (2009, p. 516) conclude, "officer gender has a very modest effect on attitudinal patterns of police officers" (see also Worden, 1993). Race and ethnicity are also associated only modestly with differences in the adoption of police culture and other occupational attitudes (Britz, 1997; Ingram & Terrill, 2014; Paoline et al., 2000; Sun, 2003).

Officers' level of education may also affect adherence to TPC. It has been hypothesized more educated officers may be more cognizant of their multifaceted role in society, and less concerned about supervisor scrutiny because of other employment options (Paoline, 2003; Paoline et al., 2000; Reuss-Ianni, 1983). Additionally, officers with more education may be more able to appreciate the social and economic conditions that can produce crime and disorder, allowing them to hold more positive attitudes toward the citizens they police (Paoline et al., 2000). The bulk of research on the effects of education, conducted during the 1970s, suggested that education improved officer behaviors and attitudes toward citizens (see Paoline, Terrill, & Rossler, 2015, for a review). However, contemporary research on the relationship between education and TCP endorsement has provided modest and inconsistent results. Whereas some

studies find that higher education reduces TPC endorsement or related orientations (e.g., negativity toward citizens), effect sizes tend to be small, and many studies find no education effects (e.g., Johnson, 2012; Paoline et al., 2000; Paoline et al., 2015; Rydberg and Terrill, 2010; Telep, 2011; Worden, 1990).

Lastly, officers' length of service and age may also be associated with TPC endorsement. Older or more veteran officers, who tend to be less active (e.g., Garner, Maxwell, & Heraux, 2002), may be less willing to take the risks associated with aggressive policing or "maintaining the edge." Relatedly, more experienced officers may feel less pressure to dramatically *perform*, or to assume a legalistic or aggressive orientation, in front of their peers or the public (Brown, 1988; Manning, 1977; Paoline et al., 2000). On the other hand, longer tenure may be associated with greater perceptions of strain (Deschamps et al., 2003). Once again, research is mixed. Length of service has been linked to some aspects of TPC (e.g., negative views of management), but not others (e.g., distrust of citizens) (e.g., Ingram & Terrill, 2014; Lee et al., 2013; Paoline et al., 2000; Porter & Prenzler, 2016; Sobol, 2010).

ORGANIZATIONAL CHARACTERISTICS

A second set of explanations for TPC variation, dating back to Wilson's (1968) examination of policing styles in different types of departments, centers on organizational characteristics. Research indicates agencies' adoption of community policing programs can broaden officers' views of their roles and improve their views of citizens (Chan, 1996; Paoline, 2003; Paoline et al., 2000). Organizational justice — procedural justice as applied to line officers by their supervisors — may attenuate officers' TPC endorsement (Bradford & Quinton, 2014; Myhill & Bradford, 2013). Greater diversity within law enforcement agencies may mitigate TPC

endorsement by shifting socialization patterns and reduce the homogeneity of values and norms in the organization (Haarr 1997; Paoline, 2003, 2004; Paoline et al., 2000).

The structural characteristics of police agencies may also affect officers' endorsement of TPC. For example, larger police departments are inherently more complex, bureaucratic, and hierarchical than smaller departments (Brooks, 2010; Maguire, 2003). As a result, larger departments foster fewer informal relationships between officers and supervisors (Brooks & Piquero, 1993; Mastrofski, Ritti, & Hoffmaster, 1987; Regoli, Crank, & Culberston, 1989), and discipline is more likely to be formal rather than informal (Brown, 1988), both of which may contribute to organizational strain. Indeed, research has shown levels of stress, cynicism, and burnout tend to be lower (Brooks & Piquero, 1993; McCarty & Skogan, 2013), and levels of job satisfaction tend to be higher (Dantzker, 1997) in smaller departments than in larger ones. Officers in smaller departments may also have less formal relationships with the citizens they police (Mastrofski, 1981; Weisheit, Wells, & Falcone, 1994), since they tend to serve smaller populations, potentially reducing officers' perceptions of danger and improving their attitudes toward citizens. Additionally, officers in smaller departments exhibit less solidarity and tend to have more positive views of disciplinary processes (McDevitt et al., 2011). Also, consistent with the notion that TPC endorsement is reduced in small departments, officers in larger departments are more likely to engage in misconduct and use force against citizens (Eitle, D'Alessio & Stolzenberg, 2014; Nowacki, 2015; Willits & Nowacki, 2014), but are less likely to find merit in citizens' complaints (Hickman & Piquero, 2009).

The type of law enforcement agency in which officers serve is another organizational characteristic that may influence TPC endorsement. Just as agencies of differences sizes have different hierarchical and relational structures, different types of law enforcement agencies (e.g.,

municipal police, state police, sheriffs' offices, tribal agencies, etc.) may produce different forms of strain (Maguire, Kuhns, Uchida, & Cox, 1997). Differences exist, for example, in how different types of agencies adopt and encourage community policing practices (Maguire et al., 1997), how they rate public safety concerns (Kuhns, Maguire, & Cox, 2007), and the support (e.g., pay incentives, tuition reimbursement) they provide officers (Breci, 1997). Thus, we might expect variation to exist in officers' endorsement of TPC across different agencies. Although research has yet to indicate any clear patterns in TPC endorsement across agencies, studies show that members of different agency types exhibit differences in permissiveness toward misconduct, a component of TPC (Lim & Sloan, 2016; Stinson, Leiderbach, & Freiberger, 2010). Additionally, organizational commitment differs across municipal police departments and sheriff's offices (Rosenbaum & McCarty, 2017).

SOCIAL CONTEXTUAL CHARACTERISTICS

A third set of hypotheses regarding officers' adherence to TPC deal with the social context in which officers and agencies operate. In addition to emphasizing organizational characteristics, Wilson (1968) also suggested that local political environments shaped departmental cultures. Other contextual factors may be important as well. For example, officers in rural and urban areas face different organizational and occupational environments, which result in officers emphasizing different concerns and values (e.g., Christensen & Crank, 2001; Weisheit, Falcone, & Wells, 2005). The relative affluence or disadvantage of an area may also influence the strains that officers face (Smith, 1986; Terrill & Reisig, 2003).

Although social context is likely comprised of a complex set of factors, we focus in this study on geographic region—specifically, residence in the South, a contextual factor that has so far received little attention in the police culture literature. Research in other areas of policing,

however, suggests that regional differences play important roles in shaping police department structure and operations (e.g., Hassell, Zhao, & Maguire, 2003; Maguire & Katz, 2002; Zhao & Hassell, 1995). Notably, the southern United States has long differed from other regions of the country on issues of law, crime, and criminal justice (Clarke, 1998; Nisbett & Cohen, 1996). A few characteristics of the South may be especially relevant to TPC. First, higher violent crime rates, and greater rates of violent assault on officers in the South may create an overall more dangerous occupational environment than exists in other regions of the nation (Wilson & Zhao, 2008). A second factor that may be important to understanding police-citizen relations (Wilson & Zhao, 2008) is a dominant “culture of honor” in the South, whereby personal affronts are likely to be “met with violent retribution” (Cohen et al., 1996, p. 945; see also Vold, Bernard, & Snipes, 2002). Officers who are operating in this social context may be predisposed to adopt certain elements of TPC, such as “maintaining the edge” against citizens by responding harshly to insults or provocation. The culture of honor may further isolate police from citizens by discouraging citizens from invoking formal social control (Ellison, 1991). Although no research has specifically examined regional variation in TPC endorsement, research suggests that officers in Southern departments are more law-enforcement oriented (Zhao & Hassell, 2005) and may use force at higher rates (Alpert & McDonald, 2001; Willits & Nowacki, 2014), although some research finds no differences in police activity (e.g., Holmes, 2000).

TRADITIONAL POLICE CULTURE AND POLICE-CITIZEN INTERACTIONS

In addition to examining the sources of TPC, we also aim to understand potential outcomes of TPC. Specifically, TPC adherence may shape how police approach their interactions with citizens (Paoline & Terrill, 2005; Terrill et al., 2003). We focus here on two aspects of how police may exercise authority over citizens: the use of force and the use of procedural justice.

Although the use of force and procedural justice are not mutually exclusive—officers can use force in procedurally just ways, and officers can be procedurally unjust without using force—these two types of interactions are both important in characterizing police-citizen encounters.

Use of force refers, generally, to officers' engagement in the physical or verbal coercion of citizens; excessive force refers to the use of coercion beyond what a reasonable person would consider necessary to resolve a situation (Klockars, 1996). The use of excessive force during police-citizen encounters may negatively influence individuals' perceptions of the police (Rosenbaum et al., 2005) and when publicized, the use of excessive force can impact public attitudes toward police more broadly (Brown, 2016; Goldsmith, 2010; Weitzer, 2002).

Procedural justice refers to a set of strategies by which officers may exercise authority over citizens in ways that promote satisfaction with the outcomes of encounters (Sunshine & Tyler, 2003). Procedural justice has four main components (Tyler, 2004): (1) how *respectfully* officers treat citizens; (2) the extent to which citizens are invited to *participate* in the interactions; (3) the *neutrality* with which officers make decisions; and (4) the extent to which officers demonstrate their motives are *trustworthy*. Officers' use of procedural justice has been linked to citizens' satisfaction, cooperation, and compliance with the police, and compliance with the law (e.g., Jackson et al., 2012; Sunshine & Tyler, 2003; Tyler, 1990).

There are several ways that officers' TPC endorsement may influence their use of both force and procedurally just tactics. TPC promotes distrust of citizens and the necessity of "maintaining the edge" in encounters. As a result, officers may use force beyond what is reasonably necessary to resolve a conflict (Terrill et al., 2003). Such an orientation may also be incompatible with procedural justice, which requires that officers treat citizens politely and respectfully, and solicit their participation in encounters, regardless of the respect that citizens

afford officers. To the extent TPC also promotes a preference to “lay low” by avoiding service and order maintenance functions, TPC-endorsing officers may also be less likely to demonstrate their trustworthy motives, which is an important component of procedural justice, by helping citizens in ways that go above and beyond their official duties. Relatedly, TPC’s emphasis on crime-fighting may also have important implications for police-citizen interactions: officers may be more inclined to use more force if their operational style is more aligned with catching criminals than promoting due process (Paoline, 2004), and they may use fewer procedurally just tactics if they view suspects and offenders as “bad guys” to be apprehended (see Herbert, 1998).

A small literature links TPC endorsement to the manner in which officers approach interactions with citizens (Paoline & Terrill, 2005; Terrill & Paoline, 2015; Terrill et al., 2003). One study found officers who endorsed beliefs associated with TPC were more likely to use force than were police officers who endorsed only some or few of those beliefs (Terrill et al., 2003). Relatedly, some elements of TPC (e.g., a law enforcement orientation, greater perceptions of danger, and negative views of top management), predicted citizen complaints of overuse of force (Terrill & Paoline, 2015). Regarding procedural justice, the same study found that aspects of police culture were associated with a greater number of complaints about officers’ discourtesy (Terrill & Paoline, 2015). While behavioral outcomes are important, these studies are limited in their ability to elucidate the underlying mechanisms that connect TPC endorsement with behavior. By assessing the relationship between TPC endorsement and attitudes regarding use of force and use of procedurally just practices, we potentially shed light on these mechanisms.

As well, despite providing important evidence regarding the influence of TPC on how officers approach interactions with citizens, extant research has relied largely on samples drawn from a small number of large police departments. Meanwhile, nearly three-quarters of all police

departments in the United States employ less than twenty-five sworn police officers (Reaves, 2015, p. 3). Thus, the current paper aims to expand the literature by examining how officers' TPC endorsement is associated with views about both force and procedural justice, and by using a sample representing a diverse variety of agency types and locations.

THE CURRENT STUDY

The current study has two main goals aimed at better understanding TPC and police-citizen interactions. First, we examine the factors that potentially influence officers' endorsement of TPC. Second, we consider how officers' adherence to TPC influences their views on use of force and procedural justice. Because rank is an important dividing line in TPC endorsement (e.g., Reuss-Ianni, 1983), we examine these phenomena among both line officers and managers. Based on the foregoing discussion, we test several specific hypotheses. Hypotheses 1, 2, and 3 concern the relationships between individual, organizational, and contextual characteristics and TPC endorsement:

Hypothesis 1: TPC will be most endorsed by officers who are a) male, b) white, c) less educated, and d) who have fewer years of service.

Hypothesis 2: a) TPC will be most endorsed by officers who work in large police departments, and b) the endorsement of TPC will vary by agency type.

Hypothesis 3: Officers who live in the South will endorse TPC more than officers who live in other regions of the country.

Hypotheses 4 and 5 examine the relationships between TPC endorsement and officers' approaches to police-citizen interactions:

Hypothesis 4: TPC endorsement will be associated with greater support for use of force.

Hypothesis 5: TPC endorsement will be associated with reduced support for the use of procedural justice.

METHODS

DATA COLLECTION

Surveying American police officers is difficult for several reasons, but principally because a national sampling frame for the population in the United States is nonexistent. Thus, researchers often rely on convenience samples, sometimes recruited from a single organization, in order to examine police attitudes (e.g., Bradford & Quinton, 2014; Nix & Wolfe, 2017; Tyler, Callahan, & Frost, 2007). By contrast, we employed convenience and snowball sampling strategies to reach active police officers from across the United States via online surveys (see e.g., Pickett & Bontrager Ryon, 2017). In theory, the heterogeneity of our sample will help ensure that any relationships we do find are stronger than those found in more homogenous samples, and those relationships are therefore more generalizable to all American police officers (Shadish, Cook, & Campbell, 2002, p. 377).

First, we cooperated with three organizations that maintain extensive email lists of active police officers: the New York State Association of Chiefs of Police (NYSACOP); the National Criminal Justice Training Center (NCJTC); and *Officer.com*.¹ NYSACOP's list includes 650 law enforcement executives and upper level supervisors from agencies across the entirety of New York State, while the NCJTC and *Officer.com* mailing lists have tens of thousands of police officers' email addresses from across the United States. The data were collected from August to December 2015.

The NYSACOP is a not for profit organization made up of police chiefs, commissioners, superintendents, executives, and administrators from a diverse array of New York State's law

¹ The National Criminal Justice Training Center, located at Fox Valley Technical College in Wisconsin. *Officer.com*, owned by Cygnus Law Enforcement Group, is one the Internet's most popular law enforcement community groups. Further information about these organizations and our cooperative agreements with them is available upon request.

enforcement agencies, including village, town, county, city, state and federal agencies, as well as railroad police. The survey was emailed to the full NYSACOP email directory, which includes over 650 law enforcement executives and upper level supervisors from agencies across the entirety of New York State. The initial email blast was conducted on September 30, 2015, and at that time respondents were also urged to forward the survey on to other police officers in their respective organizations. A reminder email was sent to the full email list on October 14, 2015.

The NCJTC coordinates various training programs for a large number of local, state and national criminal justice agencies. The training programs are arranged by participants' hosting agencies, and the training participants are a mix of line-level officers and supervisors. Over the past twenty years, law enforcement officials from every U.S. state and territory have participated in NCJTC training on applied topics, such as investigative techniques and defensive tactics. The NCJTC maintains a large directory containing the email addresses of individuals who have taken part in its programs. Survey data from this directory, collected separately from the current study, has recently been utilized in academic scholarship (Pickett & Bontrager Ryon, 2017). The NCJTC emailed the survey invitation for this study on October 19, 2015; a reminder email was sent on December 13, 2015.

For the *Officer.com* email blast, we were provided with 10,000 randomly selected email addresses from visitors to the website that had personally affirmed their identity as law enforcement personnel, and had agreed to receive mailings of special offers, promotions and opportunities from *Officer.com* partners and sponsors. These email addresses were drawn exclusively from the pool of website visitors that identified their personal occupation as: Chief, Sheriff, or Marshal; Deputy Sheriff/Chief/Commander; Captain, Major, Lieutenant, Sergeant, Corporal or Head Supervisor; Head Supervisor of Specialized Line or Staff; Member of

Specialized Line or Staff Unit; Patrolman, Officer, Trooper, 911 or SWAT Tactical personnel; Training Officer; Investigator, Inspector, or Detective. In addition, these email addresses were drawn exclusively from the pool of website visitors that identified their employer as a: municipal police or school district police department; county sheriff office or department; state police department; federal agency; or police attached to another government unit. For the present survey, *Officer.com* emailed an invitation to the survey on August 5, 2015, and sent a reminder email on September 11, 2015.

Concurrent with the large-scale email blast strategy, and similar to previous studies of police (Tyler et al., 2007), we used a snowball sampling methodology. One of our co-authors, an active duty police officer in a large metropolitan police department, distributed the survey to his contacts in law enforcement and urged them to forward on the survey². He also posted links to the survey on the police-only forums of *PoliceOne.com*, a popular law enforcement community website. We also secured the cooperation of a university police department in the State University of New York (SUNY) system. The survey was distributed to their personnel (41 total, with 25 line officers) on August 27, 2015, and we also urged them to forward the survey on to other police officers.

Online survey administration has a number of beneficial properties when compared to in-person, mail, or telephone surveys. It is both more convenient, and provides both perceived and actual anonymity from interviewers and peers. Prior research suggests online surveys yield more truthful responses due to less social desirability bias (Chang & Krosnick, 2009; Goldenbeld & De Craen, 2013; Kreuter, Presser, & Tourangeau, 2008), and, perhaps most importantly,

² To ensure that contact with one of the co-authors did not bias our results, we also ran all models with respondents from this portion of the snowball sample (N=34) excluded. The results are substantively similar.

nonprobability Internet samples very often provide valid correlational inferences (Ansolabehere & Schaffner, 2014; Bhutta, 2012).

In the final sample, 426 respondents came from both rounds of the NCJTC email blast, 390 came from both rounds of the *Officer.com* email blast, 102 came from both rounds of the NYSACOP email blast, and 67 came from our snowball sampling methods. Because the sample is in part a convenience sample and is not drawn from a known sampling frame, we are unable to compute a traditional response rate. Instead, the completion rate for the data collection is 81%. Importantly, our sample is similar in terms of both race/ethnicity (85% White non-Hispanic versus 73% nationally), and gender (14% female versus 12% nationally) to the 2013 Law Enforcement Management and Administrative Statistics (LEMAS) survey, the most recent federally sponsored attempt to assess the demographic characteristics of American police agencies (Reaves, 2015). Additionally, we conduct supplemental analyses using our two largest subsamples—the NCJTC email blast and the *Officer.com* email blast—to assess for potential selection bias (see Appendix A). We find no substantial evidence that selection into either sample influenced the results.

MEASURES

Officers' adherence to *Traditional Police Culture* (TPC) was measured using five items (adapted from Terrill et al. 2003) addressing various aspects of TPC. Specifically, respondents rated their agreement (1 = Strongly disagree, 5 = Strongly agree) with the following items: (1) "Police officers have reason to be distrustful of most citizens"; (2) "A good police officer patrols aggressively by stopping cars, checking out people, running license checks, and so forth"; (3) "In order to prevent crime and maintain order, police officers must sometimes violate procedural safeguards, such as search and seizure laws"; (4) "An officer who reports another officer's

misconduct should be given the cold shoulder by his or her fellow officers”; and (5) “Police officers should turn a blind eye to improper conduct by other officers.” The items were summed to form a scale in which higher scores indicate greater TPC endorsement ($\alpha = .571$).

Because the reliability of the scale was low, we conducted exploratory factor analysis (reported in Appendix B) to determine whether the items loaded on separate factors. Specifically, we used principal axis factoring with promax rotation, constrained to return factors meeting the Kaiser criterion. The results indicated that four of the items loaded on one factor with an eigenvalue greater than one: three items concerning misconduct loaded strongly ($\lambda > .5$)³, one item (“Police officers have reason...”) loaded acceptably ($\lambda > .3$). The remaining item (“A good officer...”), which we also found to reduce the reliability of the scale, loaded poorly ($\lambda < .3$). We retain the item because a crime control orientation is a theoretically important aspect of police culture⁴. Because the scale is otherwise unidimensional, the low reliability may result in part from measurement error related to question wording or the relatively small number of items in the scale (Cortina, 1993; Schmitt, 1996). As Schmitt (1996) points out, however, regarding alpha values below the traditional .7 cutoff, “[w]hen a measure has other desirable properties, such as meaningful content coverage of some domain and reasonable unidimensionality, this low reliability may not be an impediment to its use” (pp. 351-352).

Because TPC is typically attributed to line officers, but not to law enforcement management (Reuss-Ianni, 1983), we also asked officers whether they held a supervisory or management position within their agencies. This item is dichotomous (1 = *Manager*, and 0 = non-manager).

³ Given that the three misconduct-related items loaded strongly on the factor, we also conducted ancillary analysis using a *Permissiveness toward Misconduct* subscale ($\alpha = .726$) based on these three items. The results are substantively similar to the main findings.

⁴ We also run the analyses with the item excluded. Again, the results are substantively similar to the main findings.

We measured a variety of individual, organizational, and contextual factors that may be associated with officers' TPC endorsement. Note that because the survey is anonymous, nationwide, and does not link officers back to their departments, all variables are measured at the individual level only. Individual factors include officers' sex, race/ethnicity, length of service, and education. Sex is coded 1 = *Female* and 0 = Male. Officers' race is measured using dummy variables for *White* (excluded from the models as the reference category), *Black*, and *Other Race*. Ethnicity is coded 1 = *Hispanic* and 0 = Non-Hispanic. Officers' *Age* and *Length of Service* are coded continuously in years. *Education* is coded 1 = High school or less, 2 = Some college but no degree, 3 = Associate's degree, 4 = Bachelor's degree, and 5 = Graduate degree.

For organizational factors, we consider organization size and organization type. *Department Size* refers to the number of officers employed by the respondent's agency, and is coded 1 = 1 to 24 officers; 2 = 25 to 74 officers; 3 = 75 to 299 officers; and 4 = 300 or more officers. Organization type is measured using dummy variables corresponding to the following agency categories: *Municipal Police* (excluded as the reference category), *County Police*, *State Police*, *Sheriff's Office*, and *Other Agency* (including federal police, campus police, transit police, housing police, alcoholic beverage control, park police, etc.). Next, we measure a single contextual factor — officers' residence in the *South*. To construct this variable, we asked officers to report their state of residence. All officers who resided in a state designated by the Census Bureau as Southern⁵ are coded "1," while all others are coded "0."

Finally, consistent with prior research (e.g., Weisburd, Greenspan, Hamilton, Williams, & Bryant, 2000), we measured officers' *attitudes* about use of force and procedural justice. This approach allowed us to gain an understanding of how officers approach their interactions with

⁵ Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

citizens while also maximizing response rates and encouraging honest reporting; as Paoline and Terrill (2011, p. 180) note, “While the majority of police use of force inquiries have concentrated on the behavioral side, the attitudinal component, while receiving less empirical attention, is equally important.”

To measure *Support for Use of Force*, we asked respondents to rate their agreement with two items: “Police should be permitted to use more force against suspects” and “To control someone who physically assaults an officer, it is sometimes acceptable to use more force than is legally allowable.” The items were measured on a five-point scale and coded so that higher scores correspond to greater agreement (1 = Strongly disagree, 5 = Strongly agree), then summed to form a scale where higher scores are associated with greater support for use of force ($r = .464$).

To measure *Support for Procedural Justice*, we asked officers to indicate how important they thought the following things are for police work: 1) Listening carefully to what citizens say, even if it isn't directly relevant to what you need to do; 2) Explaining to citizens the reasoning and/or legal basis behind decisions; 3) Treating citizens respectfully at all times, even if you are personally frustrated with them; 4) Listening to all sides of a story before making a decision; and 5) Helping citizens in ways that go above and beyond what is necessary to resolve a situation. All items were adapted from the battery of procedural justice items typically asked of citizens to evaluate the procedural justice with which they have been treated (Reisig, Bratton, & Gertz, 2007), and are intended to capture the four major components of procedural justice (i.e., dignity/respect, neutrality, trustworthy motives, and participation). The responses were measured on a five-point scale (1 = Very unimportant to 5 = Very important), then summed to form a scale where higher scores correspond to greater support for procedural justice ($\alpha = .795$).

ANALYSIS

The analysis proceeds in two parts. The first part assesses the individual, organizational, and contextual predictors of adherence to police culture. Here, we estimate a series of regression models predicting TPC. The second part of the analysis considers the relationship between TPC endorsement and officers' support for use of force and use of procedural justice. We estimate a regression model predicting support for use of force and support for procedural justice from the individual, departmental, and contextual factors, then introduce the measure of police culture into separate models. To facilitate comparisons between variables with different scales, we present standardized coefficients in all regression models.

Where it appears that culture mediates the effects of any of these factors on support for use of force or procedural justice, we test for statistically significant indirect effects using bias-corrected bootstrap confidence intervals (Hayes, 2013; Preacher & Hayes, 2004; Zhao, Lynch, and Chen, 2010). This method is superior to the standard "causal steps approach" because it provides specific indirect effects (i.e., the effects of each mediator controlling for the effects of other mediators), does not require multiple tests of significance or the normality assumption of the Sobel test, and provides estimates that are comparable to those obtained by structural equation modeling (Hayes, 2013).

Because research suggests that line officers and managers share different occupational cultures (e.g., Reuss-Ianni, 1983), we conduct each stage of the analysis using the full analytic sample as well as subsamples of line officers (i.e., all respondents who reported they did not hold a supervisory or management position) and managers (i.e., respondents who reported holding such a position). Where appropriate, we compare effect sizes across the samples using the z test of the equality of regression coefficients (Paternoster, Brame, Mazerolle, & Piquero, 1998).

Listwise deletion resulted in a full analytic sample of 781 responses. Subsamples of line officers and management consist of 324 and 457 completed responses, respectively. The descriptive statistics each analytic sample are presented in Table 1.

[Table 1 about here]

RESULTS

ADHERENCE TO TRADITIONAL POLICE CULTURE

We first examine the individual, organizational, and contextual variables that may be associated with TPC endorsement. Table 2 presents the results of regression models predicting adherence to TPC among the full sample (model 1), among line officers only (model 2), and among management only (model 3). As expected, supervisory status is a strong predictor in the full sample, with managers endorsing TPC to a lesser extent than line officers ($\beta = -.195$, $p < .001$).

[Table 2 about here]

Consistent with prior literature (e.g., Paoline et al., 2000), we find that individual-level officer characteristics are generally unrelated to TPC endorsement. Sex, race, ethnicity, age, length of service, and education are unrelated to TPC endorsement in any of the samples, with one exception: Black managers are less likely to endorse TPC than their White counterparts ($b = -.564$, $p = .030$). The difference in coefficient size between managers and line officers is not, however, statistically significant.

Organizational factors, by contrast, appear to influence the endorsement of TPC among line officers, but not among managers. Specifically, greater department size is associated with

increased adherence to TPC within the line officer sample ($\beta = .143$, $p = .016$). Compared to municipal police officers, adherence to TPC is greater among officers employed by county police ($\beta = .135$, $p = .020$). Statistical tests for the equality of regression coefficients (Paternoster et al., 1998) show that the difference in coefficients between the line officer and management samples is statistically significant for officers employed in county police departments ($z = 2.19$, $p = .028$). Residence in the South—a contextual factor—is not significantly associated with TPC endorsement in any sample.

SUPPORT FOR USE OF FORCE

Table 3 presents the results of regression models predicting officers' support for use of force in the full sample (models 1 and 2), among line officers only (models 3 and 4), and among management only (models 5 and 6). For each analytic sample, we predict support for the use of force from individual, organizational, and contextual factors (model 1, model 3, and model 5), then introduce the measure of TPC endorsement (model 2, model 4, and model 6).

[Table 3 about here]

The first set of models (1, 3, and 5) shows that support for the use of force is associated with a variety of factors. As in the model predicting TPC endorsement, there is a negative association between holding a management position and attitudes regarding the use of force, such that managers are less supportive of force than line officers ($\beta = -.176$, $p < .001$). The results also indicate that different factors influence support for the use of force among line officers and management. Among line officers, none of the individual-level factors are significantly related to support for the use of force. Among managers, by contrast, age, length of service, and education are all significantly associated with support for the use of force; specifically, support is greater among older managers ($\beta = .216$, $p = .007$), less experienced managers ($\beta = -.254$, $p = .002$), and

less educated managers ($\beta = -.128, p = .008$). The coefficient for age only is significantly greater for managers than for line officers ($z = -2.94, p = .003$).

Organizational and contextual factors, by contrast, appear to be more strongly associated with support for the use of force among line officers. Compared to municipal police officers, line officers in “other” agency types are more supportive of the use of force ($\beta = .124, p = .030$). Additionally, Southern residence is significantly associated with support for the use of force ($\beta = -.127, p = .025$), although the effect is in the opposite direction than what was hypothesized—Southern officers are *less* supportive of force use than are officers from other regions. The difference in the effect size for Southern residence among line officers and managers is statistically significant ($z = 2.05, p = .040$).

The next set of models in Table 3 introduces TPC endorsement into the models for the full sample (model 2), the line officer sample (model 4), and the management sample (model 6). Notably, adherence to TPC is strongly associated with support for the use of force in each sample ($\beta = .464$ in the full sample; $\beta = .496$ in the line officer sample; and $\beta = .423$ in the management sample; $p < .001$ for each). Indeed, TPC is by far the strongest predictor of support for use of force in each sample. Moreover, adherence to TPC explains a substantial proportion of the variance in each model (20.2% in the full sample, 23.0% in the line officer sample, and 17.4% in the management sample). Thus, the results suggest that officers’ attitudes about the use of force are strongly linked to their endorsement of TPC.

We used bias-corrected bootstrap ($k = 5,000$) confidence intervals (95%) to test whether TPC mediates the effects of officer, department, and contextual characteristics on support for the use of force (Hayes, 2013; Preacher and Hayes, 2004; Zhao, Lynch, and Chen, 2010). Our results

indicate TPC endorsement has a significant indirect effect for management status in the full sample only ($\beta = -.090$, $CI = [-.129, -.053]$).

SUPPORT FOR PROCEDURAL JUSTICE

Table 4 presents models predicting support for procedural justice in the full sample (models 1 and 2), the line officer sample (models 3 and 4), and the management sample (models 5 and 6). As in the previous section, we first present models predicting support for procedural justice from the individual, organizational, and contextual factors for each sample (models 1, 3, and 5). Then, we present models that introduce TPC endorsement (models 2, 4, and 6).

[Table 4 about here]

Unlike the models predicting TPC endorsement and support for use of force, model 1 shows that management status is *not* a significant predictor of support for procedural justice. Nor are any other individual-level factors associated with support for procedural justice in models 1, 3, and 5. Thus, support for procedural justice appears to be unrelated to officer characteristics.

By contrast, organizational and contextual factors are both associated with support for procedural justice. Among line officers, organizational factors are once again salient: employment by a county police department ($\beta = -.129$, $p = .025$) or “other” agency type ($\beta = -.200$, $p < .001$) are both associated with reduced support for procedural justice. The differences in coefficient size for line officers and managers are both statistically significant (respectively, $z = -2.70$, $p = .007$; $z = 3.23$, $p = .001$). In contrast to the findings regarding support for the use of force, however, Southern residence is associated with support for procedural justice among *managers* ($\beta = .116$, $p = .020$), as well as in the full sample ($\beta = .080$, $p = .032$). As in the previous models, however, the effect for Southern residence is again in the opposite direction than what was expected; Southern managers exhibit *greater* support for procedural justice. The

difference in coefficients for Southern residence is not, however, significant across the line officer and manager samples.

We turn next to the models that introduce the TPC endorsement measure into the models for the full, line officer, and management samples (respectively, Models 2, 4, and 6). In each model, adherence to TPC is strongly and negatively related to support for procedural justice ($\beta = -.265$ in the full sample; $\beta = -.271$ in the line officer sample; $\beta = -.240$ in the management sample; $p < .001$ in each). As in the models predicting support for use of force, the effects of TPC endorsement are stronger than those of any other variables. The amount of variance in support for procedural justice explained by TPC endorsement, however, is smaller than the amount explained for use of force attitudes (6.6% in the full sample; 6.9% in the line officer sample; and 5.6% in the management sample).

Finally, bias-corrected bootstrap ($k = 5000$) confidence intervals (95%) indicate that TPC endorsement significantly mediates the effects of agency type among line officers ($\beta = -.037$ for county police). This is consistent with the earlier finding that TPC endorsement mediates the relationship between agency type and the use of force among line officers.

DISCUSSION AND CONCLUSION

This study aimed to explore (1) if individual, organizational, and contextual factors are associated with police officers' endorsement of traditional police culture (TPC), and (2) the relationship between TPC endorsement and attitudes about the use of force and procedural justice. This study expands on prior research by providing evidence regarding correlates of TPC endorsement among officers in a broad variety of agencies and contexts, and by considering ways TPC may influence the use of force and the use of procedurally just tactics.

Our findings suggest TPC endorsement is strongly associated with attitudes regarding the use of force and procedural justice. As expected, stronger endorsement of TPC was associated with greater support for the use of force, and less support for procedural justice. Notably, these effects were greater than any of the other individual, organizational, or contextual factors included in the model. Thus, we find—consistent with extant research (Paoline & Terrill, 2005; Terrill & Paoline, 2015; Terrill et al., 2003)—that TPC endorsement may be an important factor in shaping police-citizen relations. It is also worth noting, however, that TPC explained considerably more variation in attitudes about use of force than in attitudes about procedural justice. Yet, this finding is consistent with extant literature, which emphasizes the importance of force use in forming and maintaining identities that are consistent with TPC (e.g., Crank, 2014; Van Maanen, 1974). Indeed, Crank (2014) argues that support for use of force is a component of police culture rather than an outcome of it. Procedural justice, by contrast, may be less integral to TPC. Our results suggest, then, that although TPC may be a barrier to police reform (Skogan, 2008), it may exert less of an influence on officers' willingness to use procedurally just tactics than on their willingness to curb their use of force.

This study also provides evidence regarding the individual, organizational, and contextual factors potentially associated with TPC. Our results suggest TPC is most strongly associated with organizational factors among line officers. Consistent with our expectations, line officers in larger departments were more likely to report adherence to TPC, and line officers in county police departments were more likely to endorse TPC than officers in municipal departments. Thus, there is some support for a conception of line officers' police culture as a response to organizational and occupational strains (e.g., Paoline & Terrill, 2014). Presumably, organizational characteristics (e.g., management structure and work routines) may influence

organizational and occupational strains more strongly than do individual characteristics, as officers' experiences are

By contrast, the only factor associated with TPC endorsement among managers was race, such that Black managers were less likely to endorse TPC than White managers. This finding is especially salient given the tense racial climate in which contemporary policing occurs. That Black managers are less supportive of TPC than White managers suggests that, as previous research has posited, racial minorities may be more aware of, and concerned about, the consequences that TPC may have for minority communities and citizens (Paoline et al., 2000; Pew Research Center, 2017). In particular, Black managers may be more cognizant of the threat that TPC—and the attitudes and behaviors it engenders—may have for police-citizen relations. Moreover, as managers, they may be more focused on concerns about the department and city than on the immediate dangers faced by line officers (Reuss-Ianni, 1983). This finding is particularly consistent with work by Lasley et al. (2011), which finds that race becomes an increasingly salient factor in officers' desire to engage with the community over the course of their careers.

More broadly, our results also support the theoretical perspective that there exist separate cultures among “street cops” and “management cops,” which are shaped by different types of strains (Crank, Regoli, Hewitt, & Culbertson, 1993, 1995; Manning, 1977; Paoline and Terrill, 2014; Reuss-Ianni, 1983). In general, we found that managers were less likely to endorse TPC than were line officers, and were also less likely to be supportive of force—an attitudinal perspective that is tightly linked to TPC (Crank, 2014). Thus, it may be that managers are more likely to subscribe to a different set of cultural attitudes. Moreover, our results regarding both TPC and force attitudes indicated that managers' attitudes were associated with individual

factors—race, age, years of service, and education—whereas line officers’ attitudes were associated with organizational and contextual factors—agency size, agency type, and Southern residence.

These findings may indicate that because they are more insulated from the organizational and occupational environments faced by line officers, TPC may not function as a coping mechanism for managers, allowing their individual preferences regarding TPC to become more salient. By contrast, line officers’ personal characteristics may be less salient in determining whether they adhere to TPC than the characteristics of their work environments. As well, newly promoted supervisors may take time to adjust to their new role, helping to explain the findings regarding years of service. Supervisors with fewer years of service are closer to front line police work, and thus, for instance, newly promoted officers (e.g., sergeants) may be more likely to defend the use of force tactics employed by subordinates. As time progresses, however, lower-level management may align their occupational attitudes with the philosophical ideals of department executives, both because of the duties of their new role and because doing so will allow them to further advance in the departmental hierarchy.

It is worth noting, however, that although various individual, organizational, and contextual factors shaped officers’ occupational attitudes, there were few strong or consistent predictors of occupational attitudes across samples or outcome variables. Thus, it appears that the factors associated with police occupational attitudes are nuanced, and should not be painted with a broad brush. More generally, our results are consistent with prior literature, which suggests that many individual, organizational, and contextual factors have, at best, small or inconsistent effects on officer occupational attitudes (e.g., Holmes, 2000; Lim and Sloan, 2016; Paoline et al., 2000; Paoline et al., 2015; Poteyeva and Sun, 2009). Given that our measures of

organizational and contextual factors were somewhat limited (as we discuss further below), it may be that unmeasured organizational or contextual factors play larger roles in shaping TPC endorsement and related occupational attitudes. For example, organizational characteristics such as organizational justice (Bradford & Quinton, 2014; Myhill & Bradford, 2013; Wolfe & Piquero, 2011) and organizational philosophy (Paoline, Myers, & Worden, 2000) have both been found to shape TPC endorsement, as have contextual factors such as rural vs. urban policing environments (Christensen & Crank, 2001). Relatedly, as noted previously, it may be that workgroups within departments play a large role in shaping officer attitudes (Ingram et al., 2013). Another possibility is that officers' occupational attitudes and concerns may be more strongly shaped by dynamic or situational factors, as some policing scholars have argued (Alpert, MacDonald, & Dunham, 2005; Manning, 1977; Smith & Visser, 1981). We urge future researchers to further explore these possibilities.

Relatedly, though not the focus of the present study, our results also highlight important differences in the predictors of force and procedural justice attitudes. Whereas similar patterns emerged in officers' TPC endorsement and support for use of force—such that managers and line officers had different views, and organizational factors were more salient for line officers and individual factors were more salient for managers—this was not the case for support for procedural justice. Rather, support for procedural justice among line officers was shaped by both individual and organizational characteristics (length of service and agency types), whereas managers' attitudes were shaped by a contextual factor only (Southern residence). Thus, our results are consistent with research showing officers' coercive and supportive behaviors are associated with different factors (Sun & Payne, 2004), indicating that efforts to understand officers' orientations toward police-citizen interactions must be similarly nuanced.

Additionally, whereas many of the relationships observed were in the hypothesized direction, one set of findings was surprising. Contrary to expectations, Southern residence was associated with less support for the use of force (among line officers), and greater support for use of procedurally just practices. These results suggest the Southern subculture of violence hypothesis does not totally explain these geographical differences in police attitudes. These results may still, however, reflect adherence to the subculture of violence. Officers may be more judicious in their use of force if they believe it will be met with “violent retribution.” Similarly, officers may be more concerned with treating citizens well if rudeness may be perceived as a slight worthy of a violent response. Relatedly, our results may also reflect strong Southern norms of *politeness* (Cohen, Vandello, Puente, & Rantilla, 1999), which may encourage officers to support procedurally just tactics. Given that Southern norms of politeness may promote violence by providing disputants fewer cues about another’s anger before a situation escalates (Cohen et al., 1999), this explanation could be also consistent with findings that actual rates of force use are highest in the South (Alpert & Dunham, 2004). Future research might explore this question further.

Because TPC has long been viewed as an impediment to change in policing (e.g., Skogan, 2008), our results may also have practical implications. First, the finding that use of force and procedural justice attitudes are linked to TPC endorsement suggest there may be serious challenges to shifting attitudes regarding the use of force or procedural justice. This concern may be highlighted by the additional finding that few of the individual, organizational, or contextual characteristics considered exerted indirect effects on force or procedural justice attitudes via TPC. However, our results are suggestive. First, we found that organizational characteristics were key in shaping line officers’ TPC endorsement. While agencies cannot

change characteristics associated with TPC such as their size, type, or location, our results suggest strategies aimed at reducing organizational strains might be effective at reducing TPC endorsement among line officers. For example, larger departments might take steps to provide a less bureaucratic work environment or to reduce distance between management and officers. Along these lines, research has shown organizational justice, by which management treats line officers with procedurally just tactics (Bradford & Quinton, 2010; Myhill & Bradford, 2013; Wolfe & Piquero, 2011), may be crucial in shaping officers' occupational attitudes. On the other hand, managers' occupational attitudes were more strongly shaped by individual characteristics. This suggests that diversity in hiring practices, as well as other strategies such as incentivizing education, may have a delayed effect in shaping officers' occupational attitudes. Moreover, given that managers' attitudes may exert an important influence on line officers' behavior (Johnson & Dai, 2016), it is possible that reduced support for TPC among managers might translate to changes in behavior among line officers as well.

Our study of course has limitations. First, because the data were collected as part of a larger project and not specifically for these purposes, several of the measures are not ideal. In particular, the TPC measure had a low reliability, suggesting that it is a potentially problematic measure of the underlying construct. As such, we urge readers to exercise caution in interpreting the results. Although the TPC endorsement scale includes multiple aspects of TPC—distrust of citizens, crime control orientation, permissiveness toward misconduct—it also omits important aspects of TPC, including attitudes about supervisors and a “CYA” orientation. Thus, it is possible that our results are specific to the components of TPC included in the measure rather than to “police culture” as a whole. Future research, then, might benefit by reproducing this

study using a more comprehensive measure. As well, the *Support for Use of Force* measure is comprised of only two items, which may contribute to measurement error.

Second, because we were concerned with encouraging high response rates and truthful responses, we asked few specific questions about the organizational or ecological characteristics of officers' workplaces. Because police officers are often skeptical and insular with researchers (Loftus, 2009; Marks, 2004), asking for greater organizational details may have alarmed respondents into thinking their department could be identified, and thus potentially constitute a threat to their own anonymity. As such, we are limited in the current study to using a small number of relatively broad measures, particularly for the organizational and contextual characteristics. However, there are many potentially important organizational and contextual factors that may influence TPC (e.g., organizational factors such as organizational justice or organizational philosophy, or contextual factors such as the urbanicity or socioeconomic status of the area where an officer serves). Still, our study represents one of the first to consider these variables across a large number of departments and contexts, and we strongly urge future researchers to conduct additional surveys of police using national samples aimed at gathering more data on a broader variety of organizational and contextual factors.

Third, and in the same vein of encouraging officers' participation and truthfulness, we limited our questions to officers' attitudes rather than their behaviors (see Paoline & Terrill, 2005; Terrill et al., 2003), as outcomes of TPC endorsement. Although it generally seems reasonable to expect behavior to conform to attitudes, this is not always the case among police (Engel & Worden, 2003). We can have some confidence in our results, since they align with research examining the relationship between TPC endorsement and use of force behaviors

(Terrill et al., 2003). However, future research could further consider behavioral outcomes related to procedural justice.

Fourth, although our sample is large, like most of the samples used in prior work on police attitudes, it is a convenience sample. Thus, it is not necessarily representative of American police officers in general. Nevertheless, since most policing research has focused on a limited number of departments, our sample covers a wider variety of law enforcement agencies than most previous work on TPC. Though costs are heavy, future surveying of American police officers should employ multistage sampling strategies. Surveying individual officers from “clusters” of police departments improves the generalizability of research findings (e.g., Pew Research Center, 2017). Moreover, multi-level modeling of a finite number of policing agencies that account for, *inter alia*, urbanicity, population density, and local crime rates offers valuable contextual insight into the socio-political milieu of policing.

Despite these limitations, this study provides important evidence regarding the outcomes and antecedents of TPC. We showed endorsement of TPC is strongly linked to officers’ attitudes about the use of force and procedural justice. In addition, we expanded upon prior literature by comparing individual, organizational, and contextual factors that influence endorsement of TPC. Our results suggest that while the factors influencing TPC endorsement may be complex, the attitudes associated with TPC may have important implications for how police approach their interactions with citizens. We hope future research will further explore these issues.

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Table 1. Descriptive Statistics

Variable	Full Sample (N = 781)			Line Officers (N = 324)			Management (N = 460)		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Traditional Police Culture	10.76	2.43	5 – 21	11.36	2.51	5 – 21	10.34	2.28	5 – 18
Support for Use of Force	4.65	1.77	2 – 10	5.12	1.78	2 – 10	4.32	1.68	2 – 10
Support for Procedural Justice	22.90	2.19	5 – 25	22.62	2.34	6 – 25	23.10	2.13	5 – 25
Manager	0.59	--	0 – 1	--	--	--	--	--	--
Female	0.14	--	0 – 1	.22	--	0 – 1	0.08	--	0 – 1
Race									
White	0.90	--	0 – 1	0.87	--	0 – 1	0.92	--	0 – 1
Black	0.06	--	0 – 1	0.08	--	0 – 1	0.04	--	0 – 1
Other	0.04	--	0 – 1	0.05	--	0 – 1	0.04	--	0 – 1
Hispanic	0.04	--	0 – 1	0.05	--	0 – 1	0.04	--	0 – 1
Age	47.02	9.66	23 – 74	42.67	9.73	23 – 73	50.11	8.33	28 – 74
Length of Service	20.88	10.04	1 – 50	15.73	9.54	1 – 48	24.53	8.70	5 – 50
Education	3.35	1.15	1 – 5	3.24	1.12	1 – 5	3.42	1.16	1 – 5
Department Size	2.49	1.11	1 – 4	2.67	1.12	1 – 4	2.36	1.09	1 – 4
Agency Type									
Municipal Police	0.61	--	0 – 1	0.61	--	0 – 1	0.61	--	0 – 1
County Police	0.04	--	0 – 1	0.05	--	0 – 1	0.04	--	0 – 1
State Police	0.07	--	0 – 1	0.08	--	0 – 1	0.07	--	0 – 1
Sheriff's Office	0.18	--	0 – 1	0.18	--	0 – 1	0.18	--	0 – 1
Other Agency	0.10	--	0 – 1	0.09	--	0 – 1	0.10	--	0 – 1
Southern Residence	0.31	--	0 – 1	0.28	--	0 – 1	0.34	--	0 – 1

NOTE: Standard deviations are omitted for dummy variables.

ABBREVIATIONS: SD = standard deviation

Table 2. Regression Models Predicting Endorsement of Traditional Police Culture

Variable	Full Sample Model 1		Line Officers Model 2		Managers Model 3	
	β	SE	β	SE	β	SE
Manager	-.195***	.040	--	--	--	--
Female	-.017	.036	-.019	.056	-.027	.048
Race						
Black	-.189	.158	-.037	.209	-.564*	.260
Other	.046	.173	-.172	.261	.213	.239
Hispanic	-.031	.035	-.038	.056	-.019	.048
Age	-.117 [†]	.064	-.136	.094	-.069	.080
Length of Service	.090	.066	.073	.094	.055	.081
Education	-.038	.036	.005	.057	-.090 [†]	.049
Department Size	.083*	.039	.143*	.059	.022	.054
Agency Type						
County Police	.046	.037	.135*	.058	-.024	.049
State Police	.039	.037	.019	.058	.068	.051
Sheriff's Office	.021	.037	.097 [†]	.058	-.036	.052
Other Agency	.037	.036	.089	.057	.001	.049
Southern Residence	-.024	.037	-.076	.057	.031	.050
N		781		324		457
R ²		.064		.065		.029

NOTE: "White" and "Municipal Police" are omitted reference categories for Race and Agency Type, respectively.

ABBREVIATIONS: β = standardized regression coefficient; SE = standard error

[†]p < .10; *p < .05; **p < .01

Table 3. Regression Models Predicting Support for Use of Force

Variable	Full Sample				Line Officers				Managers			
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
T. Police Culture	--	--	0.464***	.032	--	--	.496***	.049	--	--	0.423***	.043
Manager	-.176***	.040	-.086*	.036	--	--	--	--	--	--	--	--
Female	.003	.036	.011	.032	.019	.056	.029	.048	-.033	.047	-.021	.043
Race												
Black	.016	.158	.103	.140	.147	.209	.165	.182	-.262	.257	-.023	.234
Other	.136	.172	.115	.152	.096	.261	.181	.228	.210	.237	.120	.215
Hispanic	.029	.035	.043	.031	.004	.056	.028	.049	.060	.047	.068	.043
Age	.038	.064	.092	.057	-.144	.094	-.076	.082	.217**	.079	.245**	.072
Length of Service	-.103	.066	-.145*	.058	.058	.094	.022	.082	-.254**	.080	-.277***	.072
Education	-.067 [†]	.036	-.049	.032	.011	.057	.008	.050	-.128**	.048	-.090*	.044
Department Size	.058	.039	.019	.034	.103 [†]	.059	.032	.052	-.001	.054	-.010	.049
Agency Type												
County Police	.032	.036	.011	.032	.092	.058	.025	.051	-.021	.048	-.011	.044
State Police	.015	.037	-.003	.033	-.014	.058	-.023	.050	.047	.050	.019	.046
Sheriff's Office	.040	.037	.030	.033	.070	.058	.022	.051	.014	.051	.029	.046
Other Agency	.055	.036	.038	.032	.124*	.057	.080	.050	-.006	.049	-.006	.044
Southern Residence	-.031	.032	-.034	.032	-.127*	.055	-.090 [†]	.048	.024	.049	.011	.045
N	781		781		324		324		457		457	
R ²	.070		.272		.064		.293		.051		.224	

NOTE: "White" and "Municipal Police" are omitted reference categories for Race and Agency Type, respectively.

ABBREVIATIONS: β = standardized regression coefficient; SE = standard error; T. = Traditional

[†]p < .10; *p < .05; **p < .01

Table 4. Regression Models Predicting Support for Procedural Justice

Variable	Full Sample				Line Officers				Managers			
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
T. Police Culture	--	--	-.265***	.035	--	--	-.271***	.054	--	--	-.240***	.046
Manager	.063	.040	.012	.040	--	--	--	--	--	--	--	--
Female	-.010	.037	-.015	.036	-.005	.055	-.001	.053	-.020	.048	-.026	.046
Race												
Black	-.133	.161	-.184	.155	-.208	.207	-.218	.199	-.101	.259	-.236	.253
Other	-.170	.176	-.158	.170	-.409	.258	-.456 [†]	.249	.074	.239	.125	.233
Hispanic	.006	.036	-.003	.034	.046	.055	.036	.053	-.044	.048	-.048	.046
Age	-.042	.065	-.073	.063	-.084	.093	-.121	.089	-.034	.080	-.050	.078
Length of Service	.109	.067	.132*	.065	.175 [†]	.093	.194*	.089	.064	.081	.077	.078
Education	.020	.037	.010	.036	-.016	.056	-.015	.054	.050	.049	.029	.048
Department Size	-.032	.039	-.010	.038	-.025	.058	.014	.057	-.017	.054	-.012	.053
Agency Type												
County Police	-.014	.037	-.002	.036	-.129*	.057	-.092	.055	.074	.049	.068	.048
State Police	-.032	.038	-.022	.037	-.000	.057	.005	.055	-.061	.051	-.045	.050
Sheriff's Office	-.072 [†]	.038	-.066 [†]	.037	-.086	.057	-.060	.055	-.063	.052	-.072	.050
Other Agency	-.060	.037	-.050	.035	-.200***	.056	-.176**	.054	.040	.049	.040	.048
Southern Residence	.080*	.037	.073*	.036	.040	.056	.019	.054	.116*	.050	.124*	.048
N	781		781		324		324		457		457	
R ²	.027		.099		.087		.156		.033		.089	

NOTE: "Municipal Police" is omitted as the reference category for Agency Type.

ABBREVIATIONS: β = standardized regression coefficient; SE = standard error

[†]p < .10; *p < .05; **p < .01

APPENDIX A

Because we rely on samples for which traditional response rates cannot be calculated, we assess for potential selection bias using our two largest subsamples: the National Criminal Justice Training Center (NCJTC) subsample (N = 375), which is comprised of officers who attended trainings through the Center; and the *Officer.com* subsample (N = 299), which is comprised of officers who belong to *Officer.com*'s email blast mailing list. We focus on these subsamples because the other data sources (e.g., the NYSACOP sample) did not provide sufficient numbers of respondents for the disaggregated analysis. In what follows, we present descriptive statistics (Table A1), as well as models predicting TPC endorsement (Table A2), support for use of force (Table A3), and support for procedural justice (Table A4), for the NCJTC and *Officer.com* subsamples. Finding similar results across the subsamples would indicate that the results are robust and not influenced by selection into either sample.

Table A1 indicates that there are no significant attitudinal differences across the subsamples. A few differences emerge among the individual, organizational, and contextual factors. The most notable difference across the subsamples is in supervisory status: whereas 45% of NCJTC respondents were managers, 71% of *Officer.com* respondents were managers ($t=7.24$, $p<.001$). This is not unexpected, given that *Officer.com*'s email blast program regularly provides information about commercial products, which may be of more interest to higher-ranking officers with purchasing power. Reflecting the demographics of management, *Officer.com* respondents are also on average somewhat more male ($t=6.01$, $p<.001$), older ($t=6.71$, $p<.001$) and have served for longer ($t=6.61$, $p<.001$). Other significant differences emerged for department size ($t=3.96$, $p<.001$), department type (for municipal department membership, $t=2.10$, $p=.037$), and residence in the South ($t=1.99$, $p=.047$). These results suggest that

Officer.com provides a greater number of respondents from smaller, non-municipal, and Southern departments, which are typically underrepresented in research.

Given that demographic differences between samples are important insofar as they may affect theoretical relationships of interest, we also replicate the main analysis using each subsample, specifically predicting TPC endorsement (Table A2), support for use of force (Table A3), and support for procedural justice (Table A4). Tests for the equality of regression coefficients (Paternoster et al., 1998) reveal that, with very few exceptions, the coefficient sizes do not differ significantly across the models. Indeed, examining coefficients that were statistically significant in any of the models, the only differences in coefficient size were for TPC endorsement in predicting support for use of force (Table A3; $z = 2.12$, $p = .033$), although the effects were strong and positive in both models, and for supervisory status in predicting support for procedural justice (Table A4; $z = 2.27$, $p = .023$). Thus, the results indicate that overall, the theoretical relationships of interest are robust across the subsamples, bolstering our confidence that our results are more broadly generalizable.

Table A1. Descriptive Statistics Disaggregated by Subsample

Variable	NCJTC Sample (N = 368)		<i>Officer.com</i> Sample (N = 295)	
	Mean	SD	Mean	SD
Traditional Police Culture	11.04	2.46	10.53	2.38
Support for Force	4.61	1.73	4.68	1.80
Support for PJ	23.05	2.33	22.98	1.83
Manager	.45	--	.72	--
Female	.21	--	.05	--
Race				
White	.89	--	.91	--
Black	.05	--	.06	--
Other	.06	--	.03	--
Hispanic	.03	--	.05	--
Age	45.21	8.11	49.92	9.95
Length of Service	18.94	8.18	23.81	10.80
Education	3.31	1.11	3.28	1.21
Department Size	2.67	1.09	2.34	1.09
Agency Type				
Municipal Police	.62	--	.54	--
County Police	.07	--	.03	--
State Police	.10	--	.05	--
Sheriff's Office	.18	--	.23	--
Other Agency	.03	--	.15	--
Southern Residence	.33	--	.40	--

NOTE: Standard deviations are omitted for dummy variables.

ABBREVIATIONS: SD = standard deviation; PJ = procedural justice.

†p < .10; *p < .05; **p < .01

Table A2. Regression Models Predicting TPC Endorsement among Subsamples

Variable	NCJTC Sample (Model 1)		<i>Officer.com</i> Sample (Model 2)	
	β	SE	β	SE
Manager	-.130*	.057	-.217***	.063
Female	-.053	.053	.023	.058
Race				
Black	-.393 [†]	.236	-.023	.257
Other	-.278	.228	.491	.327
Hispanic	-.036	.052	-.001	.059
Age	-.215*	.082	-.007	.110
Length of Service	.207*	.084	.042	.112
Education	.027	.055	-.086	.059
Department Size	.121*	.058	.038	.064
Agency Type				
County Police	.058	.054	-.020	.060
State Police	.034	.056	-.020	.062
Sheriff's Office	.004	.054	.011	.064
Other Agency	.099 [†]	.052	.067	.061
Southern Residence	-.006	.054	-.061	.060
N		368		295
R ²		.080		.078

NOTE: "Municipal Police" is omitted as the reference category for Agency Type.
ABBREVIATIONS: β = standardized regression coefficient; SE = standard error
[†]p < .10; *p < .05; **p < .01

Table A3. Regression Models Predicting Support for Use of Force among Subsamples

Variable	NCJTC Sample (Model 1)		<i>Officer.com</i> Sample (Model 2)	
	β	SE	β	SE
TPC Endorsement	.545***	.046	.394***	.054
Manager	-.055	.049	-.122*	.059
Female	.040	.045	-.014	.053
Race				
Black	-.061	.203	-.008	.234
Other	.250	.195	-.382	.299
Hispanic	.039	.044	.017	.053
Age	.081	.071	.148	.100
Length of Service	-.048	.073	-.256*	.102
Education	-.117*	.047	-.013	.054
Department Size	.028	.050	.044	.058
Agency Type				
County Police	.028	.047	.009	.055
State Police	-.022	.048	.022	.056
Sheriff's Office	.015	.047	.011	.058
Other Agency	.042	.045	.023	.055
Southern Residence	-.061	.046	.031	.054
N		368		295
R ²		.326		.241

NOTE: "Municipal Police" is omitted as the reference category for Agency Type.
ABBREVIATIONS: β = standardized regression coefficient; SE = standard error
†p < .10; *p < .05; **p < .01

Table A4. Regression Models Predicting Support for Procedural Justice among Subsamples

Variable	NCJTC Sample (Model 1)		<i>Officer.com</i> Sample (Model 2)	
	β	SE	β	SE
TPC Endorsement	-.271***	.053	-.262***	.055
Manager	-.022	.058	.166**	.059
Female	-.076	.053	-.011	.053
Race				
Black	-.273	.237	.171	.235
Other	-.018	.228	-.798**	.300
Hispanic	-.006	.052	.007	.054
Age	-.071	.083	.157	.100
Length of Service	-.001	.085	-.001	.103
Education	.022	.055	.013	.054
Department Size	.026	.058	-.070	.058
Agency Type				
County Police	-.052	.054	.082	.055
State Police	-.023	.056	-.035	.056
Sheriff's Office	-.047	.055	-.097 [†]	.058
Other Agency	.019	.053	-.075	.055
Southern Residence	.013	.054	.056	.055
N		368		295
R ²		.082		.235

NOTE: "Municipal Police" is omitted as the reference category for Agency Type.
ABBREVIATIONS: β = standardized regression coefficient; SE = standard error
[†]p < .10; *p < .05; **p < .01

APPENDIX B: FACTOR ANALYSIS OF POLICE CULTURE MEASURE

We conducted a factor analysis of the five items comprising the traditional police culture measure. Specifically, we used principal axis factoring with promax rotation, constrained to produce factors with eigenvalues greater than one. The results, presented in Table B1 below, show that the factor analysis retained one factor with an eigenvalue greater than one. Four of the items loaded acceptably or better on the factor (bolded).

Table B1. Factor Analysis of TPC Endorsement

Item	Factor Loading
Police officers have reason to be distrustful of most citizens	.317
A good police officer patrols aggressively by stopping cars, checking out people, running license checks, and so forth	.067
In order to prevent crime and maintain order, police officers must sometimes violate procedural safeguards, such as search and seizure laws	.527
An officer who reports another officer's misconduct should be given the cold shoulder by his or her fellow officers	.781
Police officers should turn a blind eye to improper conduct by other officers	.781