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THE INFLUENCE OF WORKGROUPS ON OCCUPATIONAL  
ATTITUDES OF THE POLICE: A MULTILEVEL EXAMINATION

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of the requirements for the

Ph.D. degree in Criminal Justice

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THE INFLUENCE OF WORKGROUPS ON OCCUPATIONAL ATTITUDES OF THE  
POLICE: A MULTILEVEL EXAMINATION

By

Jason Robert Ingram

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## **ABSTRACT**

### **THE INFLUENCE OF WORKGROUPS ON OCCUPATIONAL ATTITUDES OF THE POLICE: A MULTILEVEL EXAMINATION**

By

Jason Robert Ingram

The study of officers' occupational attitudes has been a cornerstone of police research for almost fifty years. Traditionally, this line of research has been rooted within individual level approaches in which individual characteristics are expected to explain attitudes and individual attitudes are expected to explain behaviors. Such approaches, however, often neglect the fact that officers work in organizational contexts that shape and influence their attitudes. Relying on a multilevel theoretical framework and using data from five departments, the proposed study takes a multilevel approach that examines the influence of officers' assigned workgroups on occupational attitudes. Workgroups are important contexts within the formal organization of policing because they represent structural boundaries by which both police work and officer interactions are patterned. As such, the study argues that workgroups serve as the most proximal influence on officer attitudes.

The current work empirically tests three research objectives: 1) To determine if workgroups influence officer attitudes; 2) To examine the effect of workgroup characteristics on attitudinal differences across workgroups; and 3) To determine whether workgroup level attitudes impact officer behaviors. Both research and practical implications are discussed based upon the results of these three objectives.

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## **CHAPTER ONE: INTRODUCTION**

A considerable amount of research has been devoted to police occupational attitudes, especially those that reflect officers' responses to the challenges they face in their work environments. Such attitudes include views toward citizens (Manning, 1997; Skolnick, 1967; Rubinstein, 1973; Westley, 1970), policing tactics (Bittner, 1970; Van Maanen, 1974; Worden, 1995), role orientations (Bittner, 1970; Manning, 1997), supervision (Van Maanen, 1974; Reuss-Ianni, 1983; Worden, 1995), and job satisfaction (Worden, 1995). Collectively, these attitudes have been conceptualized as occupational outlooks and have become "central constructs" in empirical studies of the police (Worden, 1995: 49).

One line of empirical research has focused on identifying factors that explain attitudinal differences among officers. This research area has emphasized the importance of individual officer demographic characteristics (i.e., gender, race, age, and education) or officer length of service on attitudinal variation (Paoline, Worden, & Myers, 2000). Results, however, indicate that demographic characteristics are rather weak predictors of officer attitudes. As such, the utility for examining the effect of officer characteristics on officer attitudes has come into question (Carlan, 2007; Lord & Friday, 2008; Paoline et al., 2000).

A second body of empirical research has examined officer attitudes as explanations of street-level behaviors (e.g., use of force, decision to arrest, or pro-activity behaviors). Initially, it was believed that officer attitudes would explain a substantial amount of variation in officer behaviors (Smith & Klein, 1984; see also Engel & Worden, 2003). Within the policing literature, however, research has shown that this is not the

case. Over the past twenty-five years, comprehensive reviews of the factors expected to impact police officers' behaviors have concluded that officer attitudes have little impact on their actions (National Research Council [NRC], 2004; Riksheim & Chermak, 1993; Sherman, 1980; Worden, 1989, 1995).

The lack of evidence has had a profound effect on research in this area. For example, it has been estimated that studies on the police attitude-behavior relationship have decreased by over twenty percent from 2000 to 2004 (Varriale, Gibbs, Ahlin, Gugino, & Na, 2007). Research has been even less prevalent recently, as only a handful of studies have been published since 2004 (e.g., McCluskey, Terrill, & Paoline, 2005; Paoline & Terrill, 2005; Smith, Novak, Frank, & Lowenkamp, 2005).<sup>1</sup> The reduction in such studies may be related to the lack of results stemming from prior research. As Engel and Worden (2003: 156) conclude, "it appears that variation in how officers do their jobs is not congruent with their occupational attitudes."

Officer attitudes continue to play a critical role in the efforts of police administrators to shape and control the discretionary behaviors of officers despite the lack of empirical support from research studies (NRC, 2004; Mastrofski, 2004). Recently, the National Research Council (2004) identified a number of policies implemented by police administrators in an attempt to manage officers' behaviors, such as selection and hiring, performance review, disciplinary procedures, personnel assignment, and training policies. The council contended that the above policies should influence officers' street-level behaviors due to two "intervening mechanisms: officer attitudes and beliefs" (NRC,

---

<sup>1</sup> Surprisingly, a few of these more recent studies have begun to uncover an attitude-behavior relationship (see Paoline & Terrill, 2005; Terrill, Paoline, & Manning, 2003). Even though there has been a lack of support historically, the results of recent research illustrate the importance of continuing and extending this line of research.

2004: 129). In addition, officer attitudes have been identified as reasons why police reforms fail (Skogan, 2008) and why the move towards community policing is often met with resistance (Skogan & Hartnett, 1997). While research has faced challenges establishing an empirical link between attitudes and behaviors, officer attitudes remain at the forefront of police reforms.

### **Limitations of Prior Research**

Although many studies on officers' occupational attitudes have been conducted, certain limitations exist. The most notable is the reliance on individual approaches and assumptions. Studies that aim to explain attitudinal differences among officers have focused primarily on individual officer characteristics. Additionally, research on the police attitude-behavior relationship has historically been rooted within individual explanations for officer behaviors that emphasize the autonomy that officers have in making discretionary decisions (Brown, 1988). These studies assume officers develop their own policing styles shaped by their attitudes and that these styles influence their actions (Worden, 1989).

A key limitation of individual approaches is that they imply that officer attitudes exist in a social vacuum, uninfluenced by the broader environment or other officers (Drummond, 1976; Frank & Brandl, 1991; Klinger, 1997). However, two aspects of the policing environment limit the utility of individual approaches: the organizational context and police culture. Scholars have noted that officers' organizational contexts likely exert a direct effect on officer attitudes (Frank & Brandl, 1991). Additionally, research on police culture indicates that officers share occupational attitudes (Paoline, 2003). These

two aspects point out the need to move beyond individual level approaches and toward approaches that can incorporate the organizational and cultural contexts of policing.

### **Current Study**

The purpose of the current study is to incorporate a multilevel approach to the study of officer attitudes. Relying on a multilevel theoretical paradigm from organizational psychology as a framework (Klein, Dansereau, & Hall, 1994; Kozlowski & Klein, 2000), the current study identifies workgroups as important organizational contexts that influence officer attitudes. Workgroups, defined as officers' assigned shifts within precincts, are important boundaries of the formal organization of policing because they provide the most immediate environment in which police work is carried out. Officers within workgroups are exposed to common environmental features, supervisors, and workgroup compositional characteristics (e.g., racial composition, gender composition, educational composition, and experience levels) which may shape their attitudes. Additionally, workgroup boundaries structure officers' interaction patterns. Collectively, it is argued that officers' exposure to common features of the environment as well as each other within the workgroup context serve to produce shared understandings of these environments, which thereby produce shared, collective attitudes. These collective attitudes likely influence officer behaviors.

Take for example officers' attitudes toward citizens. Traditionally, officers have been described as being distrustful and suspicious of the citizens (Skolnick, 1967; Westley, 1970). With recent demographic changes that have created greater diversity and civilianization into the policing occupation along with the adoption of more community oriented policing approaches, it has also been argued that officers may no longer hold

such distrustful attitudes (Paoline, 2001). However, the fact that officers work in different environments, are exposed to different community characteristics, and are exposed to supervisors who have their own views toward citizens likely impacts levels of distrust. As a result, organizational characteristics are important factors that should explain differences in officers' views toward citizens. This is particularly salient at the workgroup level as this is the most immediate level where officers come into contact with citizens. Also, because officers within workgroups work together routinely, they are more likely to develop common or shared views toward citizens. If officers within workgroups share similar views toward citizens, then officers' attitudes may best represent contextual measures of the workgroup environment rather than being treated as individual attributes. Such contextual measures should serve as important explanations for officers' street level behaviors.

Using survey and official police data from five police departments, this study examines workgroup effects on officers' occupational attitudes and addresses the following three research objectives and associated research questions:

*Research Objective #1:* First, the study explores the viability of workgroups as important contexts that shape officer attitudes by posing three research questions.

Question 1: Are there significant differences in officer attitudes between workgroups?

Question 2: How do these differences compare to other formal organizational levels of policing, such as precinct and department levels?

Question 3: Do officers within workgroups share attitudes?

*Research Objective #2:* To the extent that workgroups serve as important contexts for attitudes, the second research objective further tests the framework by examining

workgroup compositional characteristics (e.g., racial composition, gender composition, educational composition, and experience levels) as explanations for attitudinal differences among officers.

Question 4: Do workgroup compositional characteristics explain attitudinal differences across workgroups?

*Research Objective #3:* To the extent that officers within workgroups share attitudes, the third research objective tests whether collective, workgroup level attitudes explain variation in officers' behaviors. To better illustrate this aspect of the theoretical framework, this objective focuses on the impact of shared attitudes on one type of behavior (i.e., use of force).

Question 5: Do workgroup level attitudinal measures predict officers' use of force behavior?

## **Organization of Dissertation**

Chapter Two reviews the literature on officers' occupational attitudes. Specific attention is given to the conceptual development of occupational attitudes and the results of empirical research. Limitations of the individual approach emphasized in this literature are also discussed, and the chapter concludes with the rationale for a multilevel approach to the study of officer attitudes. Chapter Three presents the multilevel theoretical framework used in the study. This chapter provides the rationale for why workgroups serve as important contexts for officers' attitudes and also discusses how officers come to share attitudes within workgroups. Chapter Four discusses the data and methodologies used to test the proposed research questions. Chapters Five through Seven report the results for each of the three study objectives. Finally, Chapter Eight discusses the research and practical implications that arise from the findings.

## **CHAPTER TWO: REVIEW OF THE LITERATURE**

This chapter reviews the literature on police officers' occupational attitudes and is divided into four sections. First, the chapter begins by discussing two bodies of literature that have been important to the conceptual development of attitudinal research on the police: the occupational perspective and officer typology studies. The second section of this chapter reviews empirical research on police officer attitudes. Studies that have sought to explain attitudinal differences among officers are reviewed first. Next, studies that have tested the police attitude-behavior relationship are reviewed. The third section identifies the conceptual and methodological limitations associated with empirical research studies. Finally, a summary of the extant literature and the need for alternative approaches to the study of officers' attitudes is provided.

### **Conceptual Development of Officers' Occupational Attitudes**

Two bodies of literature have been important to the conceptual development of attitudinal research on the police: the occupational perspective and officer typology studies. Research within the occupational perspective has served to identify a set of occupationally relevant attitudes developed as ways for officers to successfully cope with the challenges and problems they face in their work environments. This line of research has assumed that officers hold similar attitudinal outlooks. In contrast, officer typology studies question the occupational perspective. These studies have highlighted variation in officers' attitudes and have noted that understanding these differences is important. As a result, officer attitudes have become "central constructs" in police research focused on explaining attitudinal differences among officers and whether these differences impact officer behaviors (Worden, 1995: 49).

### *The Occupational Perspective*

The conceptual underpinnings for the study of officers' occupational attitudes arose out of a set of early observational studies of the police (i.e., Bittner, 1970; Manning, 1997 [1977]; Rubinstein, 1973; Skolnick, 1967; Van Maanen, 1974; Westley, 1970). Collectively, these studies provided some of the first accounts of what police work was like based on observations of officers in their work environments. Before, writings on the police were largely descriptions of police departments that focused on their organization and administration (Rubinstein, 1973). The above scholars were some of the first to move beyond such descriptions and, as a result, have had a profound impact on police research as they have provided the foundation for the systematic study of policing in general and police officer attitudes more specifically (Manning, 1997 [1977]; Westley, 1970).

Many of these studies focused on providing insight into the unique features of officers' work environments and the ways in which officers responded to them. In doing so, these early observational studies took an occupational approach to the study of policing. For example, Skolnick's (1967: 42) research portrayed officers as having "distinctive cognitive tendencies...as an occupational grouping" which comprised a working personality among officers. This working personality developed as a result of the challenges officers faced in their work environment and the manners by which officers responded to these challenges (Rubinstein, 1973; Skolnick, 1967). Others also made similar occupational characterizations, as Van Maanen (1974: 87) described officers' responses to their work environment as an "occupational ideology," and Westley (1970: 49) referred to officers' responses as "occupational directives." Thus, as a result of working in the same occupation, officers were believed to respond similarly to their



work-related challenges. By focusing on policing as an occupation, this body of research made two key contributions to the study of officer attitudes.

First, early observational studies highlighted the major challenges that officers faced in their work environments. Specifically, research emphasized danger, authority, uncertainty, and ambiguity issues that were associated with police work. Danger and authority issues stemmed from officers' contacts with citizens in their occupational environment, while uncertainty and ambiguity issues stemmed primarily from officers' contacts with supervisors and administrators in their organizational environment (see Paoline, 2003). The challenges inherent in police work described by this body of research are important because they gave rise to a second key contribution: the identification of a set of attitudinal responses developed by officers to assist them in facing these challenges.

These responses have come to be conceptualized as an interrelated set of attitudes that comprise officers' occupational outlooks (Worden, 1995). The most prevalent attitudes included: suspiciousness or distrust of the citizenry (Manning, 1997; Skolnick, 1967; Rubinstein, 1973; Westley, 1970), a strong orientation to the law enforcement role (Bittner, 1970; Manning, 1997); subscription to aggressive policing tactics (Bittner, 1970; Van Maanen, 1974; Worden, 1995); negative attitudes toward supervision (Van Maanen, 1974; Reuss-Ianni, 1983; Worden, 1995); and job satisfaction (Worden, 1995). The following provides a description of these attitudes as well as their relation to the challenges associated with police work.

### Views toward Citizens

As a result of the dangers and uncertainties associated with police work, officers have been described as being distrustful or suspicious of citizens with whom they come into contact with on the street. Such a view has been attributed to the fact that encounters with citizens often occur with those in violation of the law, a dynamic which fosters hostility and resentment towards officers (Rubinstein, 1973). This hostility and resentment has a twofold effect on officers. First, officers develop a view that characterizes citizens as derogative and uncooperative. For example, Westley (1970: 93) reported that officers believed that the citizens they served were against them. The majority of officers described the public's view of them in negative terms with the strongest conceptions stating that the public was "antipolice." Thus, as a result of their work, the police believe that the public is not supportive of their efforts.

Second, officer contacts with citizens have the unpredictable potential to lead to violence. Westley (1970: 105) noted that the "major types of occupational experiences" of police officers involve traffic violations, family disputes, criminal investigations, fights, and juvenile delinquency. Many of these experiences have been characterized as the most dangerous and uncertain types of situations that officers must face (Bayley & Bittner, 1984). Because of the potential threat of danger inherent in police contacts with citizens, officers use their suspicions and distrust as a way to protect themselves from threats or signs of potential violence (Manning, 1997; Skolnick, 1967). In short, officers' distrust of citizens serves as a way for officers to cope with the dangers and uncertainties associated with their encounters with citizens in their occupational environment, a major component of police work.

## Views toward Policing Tactics

Another challenge officers' face in their occupational environments concerns issues of authority. Here, aspects of police work interact to create potential problems for officers during citizen encounters. For example, one of the core components of policing is the power granted to officers to use the amount of force necessary to carry out their primary role of enforcing laws (e.g., Bittner, 1970). As Skolnick (1967: 44) noted however, in enforcement situations "the policeman directs the citizenry, whose typical response denies recognition of his authority," often through resistant or violent means. Thus, the potential for citizens to deny and rebel against officers' authority creates problems for officers because it serves to reinforce the threat of danger in citizen encounters (Bittner, 1970; Skolnick, 1967; Van Maanen, 1974; Westley, 1970).

In response to these potential threats of violence and challenges to authority, officers hold strong views toward aggressive displays of authority in order to minimize such threats. For example, Van Maanen (1974) noted officers strived to "maintain the edge" or sought to be decisive at all times in all situations. Furthermore, officers often seek to establish a dominant position in citizen encounters. As Bittner (1970: 26-7) noted, "officers believe that by overwhelming those with whom they deal at the outset, they nip in the bud any potential resistance or opposition." Thus, establishing authority has been deemed a "principal concern" of officers (Manning, 1997: 198). In essence by developing an aggressive orientation towards displays of their authority, officers believed they could further reduce the potential threat of violence and danger in their contacts with citizens.

## Role Orientations

Another occupational attitude identified by early observational studies of the police concerns officers' narrow attitudes toward the police role, which arise out of ambiguous role definitions that officers often experience. Although policing the street requires officers to perform a wide variety of activities, they are generally encompassed within three primary roles: enforcing laws, maintaining order, and providing services to citizens (Bittner, 1970). However, evaluating officers' performance in these areas is rather difficult and as a result, the law enforcement role often takes precedent over order maintenance and service roles (Van Maanen, 1974; see also Paoline, 2001). In part, this is due to the fact that the law enforcement role is the one in which both the general public and the police organization use to judge the effectiveness of the police (Manning, 1997).

For example, in the eyes of the general public, the role of law enforcement serves as the "core of the police mandate and the principal justification for the existence of the police establishment" (Bittner, 1990: 20). Furthermore, in the eyes of the police organization, the enforcement of laws is the role that gets officially recognized by the department; thus fighting crime is the role that gets characterized as real police work (Bittner, 1990; Manning, 1997). In a review of the occupational perspective, Paoline (2001) noted that the emphasis on law enforcement creates role ambiguities for officers. Officers are expected to perform a broad array of duties, but are evaluated mostly on their abilities to control crime. As a result, officers are said to hold narrow attitudes toward the police role that emphasize crime fighting and law enforcement, as opposed to holding role orientations that encompass the broader range of job related activities required of officers.

### Views toward Supervision

In addition to ambiguous role definitions, officers also face uncertainty in their organizational environment in terms of how their efforts are viewed by both immediate supervisors and top management. In conducting their duties, officers must follow legal as well as departmental guidelines, which sometimes are at odds with the roles they are expected to perform. As Paoline (2001: 14) noted, “officers are constrained, working within an organization that demands that all problems be handled on the street...yet held to excessive scrutiny by ‘watchful administrators’ at a later date.” The demand to handle all types of problems increases officers’ contacts with citizens, which also increases their opportunity to violate legal and departmental guidelines.

Furthermore, police organizations focus more on sanctioning and disciplining officers for their mistakes rather than for rewarding officers who are recognized for good performance (Van Maanen, 1974). As a result, officers were often found to hold negative attitudes toward supervision at both the immediate and upper administrative levels. A lack of trust in supervision develops where officers feel that supervisors fail to support them in times of need and that top management fails to recognize good police work yet heavily scrutinizes officers when mistakes are made (Paoline, 2001; Reuss-Ianni, 1983; Van Maanen, 1974).

### Job Satisfaction

A final occupational attitude concerns officers’ satisfaction with their jobs. Research has emphasized that job satisfaction is key for understanding the police occupation. As Reiss (1967: 1-2) noted, job satisfaction concerns a “major feature of police work as an occupation” as well as being important to understanding “how officers

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orient themselves to their work..." Much of the early research has found officers to be satisfied with their occupation. Studies from the 1970s and early 1980s reported that only one in ten officers were dissatisfied with their jobs and most officers had a high level of commitment toward their work (Worden, 1995; Sharp, 1982, Van Maanen, 1975). This led to the conclusion that "[m]ost police officers, it appears, like their jobs and the organizations in which they work" (Worden, 1995: 68). Thus, even though officers were often described as having to be distrustful of citizens and supervisors, as well as having to cope with the uncertainties, dangers, and ambiguities of their work environments, the occupational perspective traditionally characterized officers as being highly satisfied with their occupation.<sup>2</sup>

#### Summary of the Occupational Perspective

Results from early observational studies on the police described officers' work environments as being characterized by issues of danger, authority, uncertainty, and ambiguity (Bittner, 1970; Manning, 1997 [1977], Rubinstein, 1973; Skolnick, 1967; Van Maanen, 1974; Westley, 1970). In providing such descriptions, the studies took an occupational perspective that depicted officers "as a homogenous occupational group...having in common particular psychological attributes that distinguish them from the rest of the population" (Worden, 1995: 49). Such common psychological attributes took the form of a set of occupational attitudes developed by officers in response to the

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<sup>2</sup> It should be noted that the inclusion of job satisfaction as an occupational attitude of officers departs somewhat from traditional accounts of the occupational attitudes of the police. Most of these accounts have not explicitly included job satisfaction as a part of their discussion. Additionally, as will be seen in the next section that reviews empirical research on officer attitudes, job satisfaction is examined independently of other officer attitudes. However, Worden (1995) characterized officer job satisfaction as part of officers' occupational outlooks in his synthesis of the police occupational attitude literature and so in this study it is included as part of the set of attitudes examined.

issues of their work environments. This set of attitudes included views towards citizens, policing tactics, the police role, supervision, and overall job satisfaction. The identification of these attitudes within this occupational framework has been an important contribution to policing research.

### *Officer Typology Studies*

Officer typology studies have also provided important insight into officers' occupational attitudes. Much like the early observational studies associated with the occupational perspective, typology studies were also based on observations of officers in their work environments (Broderick, 1977; Brown, 1988; Muir, 1977; White, 1972). While the occupational perspective essentially assumed officers' held similar attitudinal outlooks as a result of working in the same occupation, the results from typology studies have questioned this assumption. Unlike the occupational perspective, typology studies argue that officers responded differently to these challenges, which lead to attitudinal differences (Brown, 1988).

The typology studies offered four primary explanations for why such differences may exist among officers as well as the attitudes associated with these differences. For example, Broderick's (1977) typology focused on differences in officers' working personalities. Similar to Skolnick's (1967) occupational characterization of officers' working personality, Broderick (1977) found evidence of multiple working personalities based on officers' attitudes associated with the police role and policing tactics. Personality differences, then, in officers' views toward their work environment have been offered as one explanation for attitudinal variation.



A second explanation focuses on differences in the ability of officers to cope with the coercive authority granted to them. This explanation focuses on officers' moral qualities and their views toward authority. For example, Muir (1977) found differences in officers' abilities to morally reconcile the use of coercion as well as their ability to empathize with the citizens they serve. Officers were grouped in different types based on the differences in these views (Muir, 1977). While the above two reasons focus on individual differences of officers, the final two explanations focus on changes in the policing occupation as well as the nature of police work.

A third explanation concerns the move to professionalize policing. White (1972) argued that the move to professionalize the police served to change officers' perceptions of the police role to encompass broader role orientations other than those solely related to crime fighting. For example, White (1972: 64) noted that "several different sets of role perceptions can develop within the context of professionalization," and these sets vary by officer. Thus, professionalization affects officers in different ways and allows for variation in their views toward the police role.

A final explanation is based on the vast amount of autonomy afforded to officers. Officers working the street have largely been described as individualistic and their decisions about how to conduct their work are made primarily on their own. A result of this autonomy is that officers develop distinctive policing styles (Brown, 1988; Goldstein, 1977). As Brown (1988: 87) highlighted, "the significance of...individualism for police discretion is that [it serves] to decentralize decision-making," and such decentralization allows "patrolmen the freedom to fashion distinctive approaches to police work and to handle their job as they see fit." The autonomy afforded to officers

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leads them to develop distinctive policing styles and that these styles are shaped by their occupational attitudes (Brown, 1988).

While the occupational perspective focused on the attitudinal similarities among officers, typology studies focused on attitudinal differences and classified officers based upon the attitudinal dimensions under study. Officers with similar attitudinal dispositions were grouped together into a common type (Worden, 1995). In a synthesis of this typology research, Worden (1995) identified the attitudinal components that served as the basis for officer types. The most common attitudes included many identified by the early observational studies of the police (e.g. views toward the police role, citizens, policing tactics, supervision, coercion, and job satisfaction). In conducting such a synthesis, Worden (1995) found evidence for five common types of officers based on attitudinal differences (e.g., professionals, tough cops, clean-beat crime-fighters, problem solvers, and avoiders).

Similar to the occupational perspective, officer typology studies have also made two important contributions to the study of the occupational attitudes of police. First, typology studies further refined the attitudes relevant to officers. The most notable contribution was made by the work of Brown (1988). Based on his observations, Brown (1988) offered additional insight into officers' views toward the police role by introducing attitudes associated with aggressiveness and selectivity.

For example, Brown (1988: 223) noted that officer aggressiveness was comprised of two characteristics, "taking the initiative on the street to control crime and a preoccupation with order that legitimizes the use of illegal tactics." As a result, officer aggressiveness and views toward legal restrictions were introduced as additional attitudes

of officers. Selectivity on the other hand relates to how officers view their priorities in controlling crime. Brown (1988) found that not every officer believed that all laws should be enforced. Some officers preferred focusing on more serious felony offenses while ignoring less serious misdemeanors. Selectivity as an attitudinal measure came to be defined as “the conscious and systematic use of the law to control a particular crime problem” (Brown, 1988: 157).

Second, the findings from officer typology studies indicated that variation existed in officers’ occupational attitudes. As Worden (1995: 49) concluded, this research has generally indicated that “police officers are not psychologically homogenous.” While the occupational perspective placed an emphasis on the homogeneity of officers, typology studies emphasized the variance (NRC, 2004; Paoline et al., 2000). Thus, typology studies are useful for showing variation in officers’ attitudes and in demonstrating why such variation is theoretically important. Police scholars, however, have criticized the ability of officer typology studies to test explicit hypotheses regarding the impact of these differences (Hassell, 2006; Herbert, 1998; Hochstedler, 1981; Worden, 1995). As such, the results from typology research on the police have garnered theoretical interest for officer attitudes as both dependent and independent variables in studies of the police (Worden, 1995).

### Summary of Typology Studies

Unlike the occupational perspective, which assumed officers responded to the challenges of their work environment in similar ways, officer typology studies highlighted differences in officers’ responses (Broderick, 1977; Brown, 1988; Muir, 1977; White, 1972). These differences were due to variation in officers’ attitudes toward

their work, and officers were placed in different types based on these attitudes. As such, typology studies have been important to the conceptual development of officer attitudes as they have “provide[d] some of the best written sources of such information” (Worden, 1995: 52).

It should be noted that the officer types proffered by the early typology researchers were rooted within an individual level perspective. For example, Broderick’s (1977) and Muir’s (1977) evidence for different officer types were based on differences in individual officers’ working personalities or moral qualities, respectively. Furthermore, White’s (1972) and Brown’s (1988) typologies were based on the individualistic nature of police work and the autonomy granted to officers to perform their work. Such an emphasis on these individual level explanations for attitudinal differences has had a strong impact on empirical research on officers’ attitudes discussed in the next section.

In addition to the explanations offered by typology studies for attitudinal differentiation, typology research made two important contributions to the study of officer attitudes. First, this line of research offered additional insight into the attitudes relevant to officers. For example, Brown’s (1988) observational work identified two additional attitudes important to officers: their views toward aggressively controlling crime as well as their selectivity in enforcing laws. Second, typology research provided evidence of variation in officer attitudes and that this variation is theoretically meaningful. As a result, typology studies have had a profound influence on empirical research on officer attitudes that have sought to explain attitudinal variation as well as on research that has sought to ascertain if attitudinal differences impact officers’ street-level behaviors.

## **Empirical Research on Police Officer Attitudes**

Empirical research on officer occupational attitudes generally falls within one of two categories: 1) studies that aim to explain differences in officer attitudes and 2) studies that aim to explain officer behaviors as a function of their attitudes, which is more commonly referred to as the police attitude-behavior relationship (Frank & Brandl, 1991). Both lines of research are rooted within an individual level approach to the study of officer attitudes. For example, studies aimed at explaining attitudinal differences place an emphasis on the significant demographic changes that the occupation of policing has undergone over the last forty years. These studies seek to determine if such changes impact how officers view their work and primarily focus on the effect of individual officer demographic characteristics (i.e., gender, race, age, and education) or length of service on officers' attitudes (Manning, 2005; Paoline et al., 2000).

Research on the police attitude-behavior relationship has also been subsumed under individual explanations of officer behaviors. Individual theories of police behavior propose that "who a police officer is makes a difference in how he acts" and officer attitudes are important explanatory characteristics (Sherman, 1980: 71). Similar to the views of the typology studies, officers are believed to develop distinctive policing styles and that these styles are shaped by their occupational attitudes (Worden, 1996). As Worden (1996: 25) has noted, "differences in attitude are presumed to manifest themselves in officers' behavioral patterns." Thus, variation in individual officers' attitudes is expected to explain variation in individual officers' behaviors.

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### *Individual Characteristics as Explanations of Officer Attitudes*

The focus on individual officer characteristics as explanations of officer attitudes is based on the idea that differences in officers' backgrounds lead to differences in how they view police work. Two often cited examples regard officer gender and race. Female officers are said to have "fundamentally different priorities and perspectives on human relationships" and these differences lead to variation in how male and female officers view their jobs (A. Worden, 1993: 204). Differences in cultural backgrounds between minority and white officers are also expected to lead to differences in how they view their work (Paoline et al., 2000; Sun, 2003). Furthermore, the long-held resistance to the integration of minority and women officers into the police occupation is believed to have an adverse impact on job satisfaction as the discrimination experienced by minority and women officers leads to dissatisfaction (Carlan, 2007). In essence, the occupation of policing has evolved to include a greater diversity of social backgrounds and this diversity is expected to affect officers' occupational attitudes (Paoline et al., 2000).

Examining the relationship between officer characteristics and occupational attitudes is important for two reasons. First, it offers potential insight into why officers hold certain types of attitudes. Second, this insight can aid in explaining differences in officers' actions. For example, prior research has noted that "it is critical to understand officers' perceptions...and what factors influence these attitudes, since these attitudes could affect the ways officers interact with citizens" (Moon & Zager, 2007: 485). The following reviews empirical research that has examined the effect of individual officer characteristics on occupational attitudes of the police. Only studies that focused on explaining differences in the five attitudinal areas discussed previously in this chapter



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were included in the review (i.e., views toward citizens, role orientations, views toward supervision, policing tactics, and job satisfaction). Additionally, only studies that employed a multivariate framework in their analyses were sought to ensure that potential confounding effects were controlled for. In all, fifteen studies fit these criteria and are reviewed here. Table 2.1 provides a summary of the studies and includes the officer characteristics used as predictors, the attitudes used as outcomes, study sample sizes, and a description of the relevant findings. Many of the studies included multiple officer characteristics in their analyses. Thus, the following discussion also highlights the research results organized by each officer characteristic.

### Gender

Thirteen of the studies included officer gender as a variable expected to explain attitudinal differences. Only two of these studies focused primarily on the effect of gender on officer attitudes. DeJong (2004) examined the role of gender in explaining officers' distrust toward citizens using data from over 6,000 encounters from the Project on Policing Neighborhoods study (PPN). While the results indicated that gender had no direct effect on distrust, two significant interaction effects were reported: nonwhite males were found to be less distrustful of citizens and college educated females were more likely to be distrustful of citizens. The effects were rather weak however, as the entire model including all officer demographic variables and interaction terms explained only 3.6 percent of the variation in citizen distrust (DeJong, 2004).

A second study focused on the role of gender differences in explaining variation in officer attitudes toward the police role, policing tactics, citizens, and supervisors. In a re-analysis of survey data from 740 officers from the Police Services Study (PSS),

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Worden (1993) also reported a handful of significant direct and interactive effects for officer gender. For example, female officers were more likely to hold positive attitudes towards citizens. Additionally, when compared to white males, both minority male and female officers were more likely to hold favorable attitudes towards legal restrictions imposed on police work, and minority male officers were more likely to prefer uniform enforcement of laws over selective enforcement practices. Despite these findings, there were few significant attitudinal differences between male and female officers. This led Worden (1993: 229) to conclude that, “[t]he most striking finding in this study is the failure of gender to explain much or any variation in the array of attitudes examined, even when potentially confounding variables are controlled.”

The above statement summarizes much of the work that has tested gender effects on officers’ occupational attitudes. Of the remaining eleven studies, most report weak or null results and many indicate inconsistent findings. With respect to officer attitudes toward the police role for example, some studies report female officers to hold broader role orientations in general (Sun, 2003) or hold more positive attitudes towards community policing (Schafer, 2002), while others note that female officers hold more negative attitudes towards order maintenance roles (Paoline et al., 2000). Other studies report female officers to prefer rigid enforcement of the law (Worden, 1990; cf. A. Worden, 1993) or to hold more negative views towards the use of force (Brooks, Piquero, & Cronin, 1993). Yet, other studies have found no gender effect on officers’ attitudes towards management or citizens (Sun, 2002; cf. DeJong, 2004; A. Worden, 1993).

**Table 2.1: Studies Examining the Effect of Individual Officer Characteristics on Officers' Attitudes**

| Study                              | Study Sample Size                 | Officer Characteristics                         | Key Attitudes                                                                                                        | Relevant Findings                                                                                                                                                                                                                                                                         |
|------------------------------------|-----------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hunt & McCadden (1985)             | 6 departments (N=1,202 officers)  | Race, Gender, Age, Education, Length of Service | Job Satisfaction                                                                                                     | Officers' race, age, and length of service were all found to be significant predictors. However, the effects were weak as officer characteristics collectively explained only 4% of the variation in satisfaction levels.                                                                 |
| Worden (1990) <sup>a</sup>         | 24 departments (N=1,360 officers) | Race, Gender, Education*, Length of Service     | Role Orientation<br>Legal Restrictions<br>Selectivity<br>Autonomy<br>Views of Supervisors<br>Morale                  | College educated officers significantly more likely to hold narrow views toward police role, positive views towards legal restrictions, and greater preferences for autonomy and selective enforcement. Education, however, explained "little of the variance in any attitude" (pg. 584). |
| Brooks et al. (1993)               | 2 departments (N=761 officers)    | Race, Gender, Age, Education, Length of Service | Role Orientation<br>Views of Citizens<br>Selectivity<br>Views toward force                                           | "While some relationships between police officer attitudes and demographic characteristics were apparent, the correlations were weak and the explained variance was low" (pg. 130).                                                                                                       |
| A. Worden (1993) <sup>a</sup>      | 24 departments (N=740 officers)   | Race, Gender*, Age, Length of Service           | Role Orientation<br>Selectivity<br>Legal Restrictions<br>Views of Citizens<br>Views of Peers<br>Views of Supervisors | Male officers less likely to favor selective enforcement. Women officers held more positive attitudes toward citizens. However, the "most striking finding... is the failure of gender to explain much or any variation in the array of attitudes examined" (pg. 229).                    |
| Dantzker & Kubin (1998)            | 14 departments (N=2,734 officers) | Race, Gender, Age, Education, Length of Service | Job Satisfaction                                                                                                     | Officers' gender, age, and length of service were significantly related to their levels of satisfaction. However, the variables "represent 6% or less of the variance" in explaining job satisfaction (pg. 28).                                                                           |
| Zhao et al. (1999)                 | 1 department (N=199 officers)     | Race, Gender, Education, Length of Service      | Job Satisfaction                                                                                                     | Officers' years of service negatively related to job satisfaction. However, the demographic variables explain only 6% of the variation in satisfaction levels.                                                                                                                            |
| Paoline et al. (2000) <sup>b</sup> | 2 departments (N=644 officers)    | Race, Gender, Education, Length of Service      | Role Orientation<br>Aggressiveness<br>Selectivity<br>Views of Citizens                                               | "Overall, then, we detect only modest differences associated with officers' race, and even smaller differences, if any associated with their sex and education" (pg. 600).                                                                                                                |

**Table 2.1: Studies Examining the Effect of Individual Officer Characteristics on Officers' Attitudes (cont.)**

| Study                      | Study Sample Size                                   | Officer Characteristics                         | Key Attitudes                                                                      | Relevant Findings                                                                                                                                                                                      |
|----------------------------|-----------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Davey et al. (2001)        | 2 Australia State Police Divisions (N=749 officers) | Gender, Age, Length of Service                  | Job Satisfaction                                                                   | No significant relationships reported.                                                                                                                                                                 |
| Schafer (2002)             | 1 department (N=128 officers)                       | Gender, Race, Education                         | Views of COP                                                                       | Female officers more likely to hold positive attitudes toward global assessments of COP.                                                                                                               |
| Sun (2002) <sup>b</sup>    | 1 department (N=398 officers)                       | Race, Gender, Education, Length of Service      | Views of Peers<br>Views of Supervisors<br>Views of Management<br>Views of Citizens | None of the four characteristics explain much of the variation in officers' occupational attitudes (pg. 80).                                                                                           |
| Sun (2003) <sup>b</sup>    | 1 department (N=398 officers)                       | Race*, Gender, Education, Length of Service     | Role Orientation<br>Selectivity<br>Legal Restrictions<br>Problem Solving           | Black officers significantly more likely to hold broader role orientations, less selective in enforcing law, and more likely to hold positive attitudes toward legal restrictions than White officers. |
| DeLong (2004) <sup>b</sup> | 2 departments (N=6,135 encounters)                  | Race, Gender*, Education, Length of Service     | Views of Citizens                                                                  | Nonwhite, male officers and female officers with college degree significantly more likely to be distrustful of citizens.                                                                               |
| Carlan (2007)              | 16 departments (N=1,114 officers)                   | Race, Gender, Age, Education, Length of Service | Job Satisfaction                                                                   | Officer "demographics are of little value to understanding job satisfaction" (pg. 74).                                                                                                                 |
| Moon & Zager (2007)        | Korean National Police (N=434 officers)             | Education & Length of Service                   | Views of Citizens                                                                  | More experienced officers significantly more likely to hold positive views towards citizens.                                                                                                           |
| Lord & Friday (2008)       | 1 department (N=77 officers)                        | Education & Length of Service                   | Views of COP                                                                       | Officer characteristics failed to explain changes in officers' acceptance of or receptiveness to community policing.                                                                                   |

<sup>a</sup> Studies analyzed data from the Police Services Study

<sup>b</sup> Studies analyzed data from the Project on Policing Neighborhoods Study

\*Where denoted, indicates study's primary variable of interest

A similar pattern is found when examining the role of gender in explaining officer job satisfaction. Many studies have reported no effect, indicating that gender is not related to officer satisfaction (Carlan, 2007; Davey, Obst, & Sheehan, 2001; Hunt & McCadden, 1989; Zhao, Thurman, & He, 1999). Only a single study reported a gender effect on officers' job satisfaction. Dantzker and Kubin (1998) found male officers to have higher levels of job satisfaction than female officers. Although, significant, the authors note the relationship was weak as the combined effect of officer demographics explained only 6 percent of the variation in satisfaction.

### Race

Twelve studies used officer race as a predictor of occupational attitudes. Only Sun's (2003) analysis of 398 officers from the POPN study, however, focused specifically on the effect race might have on officers' attitudes. The study examined differences between black and white officers on their views toward the police role, legal restrictions, and selective enforcement practices and reported three significant findings. Black officers were more likely to hold broader role orientations, to hold more positive views towards legal restrictions, and to hold more positive views toward selective enforcement of laws. Although the effect of race was one of the strongest reported across the three attitudes, the combined effect of all variables included in the analysis explained only between 6 percent (views of legal restrictions) to 16 percent (role orientations) of the variation in attitudes. Despite this, the findings did indicate that there were some racial differences in officer attitudes (Sun, 2003).

Results from the remaining studies, however, highlight a number of inconsistencies for the effect of race on officer attitudes. For example, some studies

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report findings similar to Sun (2003) with respect to selective enforcement of the law (Paoline et al., 2000; Worden, 1990), but not in all cases (cf. A. Worden, 1993).

Additionally, findings from these studies indicate that minority officers have more positive views towards the legal restrictions placed on police work (Worden, 1990; A. Worden, 1993) but that officer race has generally little affect on their views toward citizens (DeJong, 2004; Paoline et al., 2000; Sun, 2002), supervisors (Sun, 2002), or job satisfaction (Carlan, 2007; Dantzker & Kubin, 1998; Hunt & McCadden, 1985; Zhao et al., 1999).

Another inconsistency often reported in the literature concerns the effect of race on officers' views toward the police role. While Sun (2003) found minority officers to hold broader role orientations, this finding was only supported by one other study. Paoline et al. (2000) also found minority officers to hold more positive attitudes towards order maintenance and community policing roles. Other studies, however, have reported no relationship between officer race and attitudes toward the police role in general (e.g., broad versus narrow orientations) (Brooks et al., 1993; Worden, 1990) or more specifically, such as acceptance of community policing (Schafer, 2002). Thus, as with much of the research reported in this section, the effect of race on officer attitudes remains mixed and unclear.

### Education

All but one of the studies (i.e., A. Worden, 1993) included a measure of officer education as an explanation of occupational attitudes. Although the educational measures used varied somewhat across studies (e.g., highest degree earned or comparing college educated officers to non-college educated officers), all tested the effect of higher

education on officers' attitudes in some manner. Of the fourteen studies, only one focused specifically on educational effects. Worden (1990) re-analyzed PSS data to determine if officers' highest degree earned impacted their occupational attitudes. The results indicated that officers who had earned bachelor degrees were significantly more likely to hold narrower views toward the police role (i.e., a crime-fighting orientation), more positive views towards legal guidelines, and to have significantly greater preferences for autonomy and selective enforcement. Once again, although statistically significant, the effects were small. As Worden (1990: 584) noted, "to dwell on the handful of statistically significant relationships that emerge from these analyses would be to overemphasize the impact of education on officer attitudes...little of the variance in any attitude is explained by education."

Results from the remaining studies on officer education mirror those discussed for officer gender and race in the sense that the findings are often reported to be weak and, when examined collectively, highlight inconsistencies. For example, while Worden's (1990) study indicated that college educated officers held narrower, crime-fighting orientations to the police role; other studies have reported that more highly educated officers were less likely to favor crime-fighting orientations (Brooks et al., 1993; Paoline et al., 2000). On the other hand, some studies have reported no relationship between officers' education and either broader measures of their role orientations (Sun, 2003) or more specific attitudes, such as officer acceptance of community policing (Lord & Friday, 2008; Schafer, 2002).

With respect to other types of occupational attitudes, research has indicated that officer education is generally unrelated to their views toward citizens (DeJong, 2004;

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Moon & Zager, 2007; Paoline et al., 2000; Sun, 2002) as well as to their views toward supervisors (Sun, 2002; Worden, 1990). Although there is some evidence to suggest that college graduates hold more negative views towards upper police management, the effect was small (Sun, 2002). Additionally, of the studies that have examined the effect of education on officers' job satisfaction none have uncovered a significant relationship (Carlan, 2007; Datzker & Kubin, 1998; Davey et al., 2001; Hunt & McCadden, 1985; Zhao et al., 1999).

The only consistent, significant effect found for officer education concerns their attitudes toward selective enforcement. Worden's (1990) finding that college educated officers prefer selective enforcement has been supported in two subsequent studies. Using POPN data, both Paoline et al. (2000) and Sun (2003) found college educated officers to hold more positive views toward selective enforcement of the law. Although significant, the effects reported explained only a small amount of variation (Sun, 2003). Overall, the results from this research echo Worden's (1990: 584) sentiment that there is "little to support to arguments that higher education will improve the quality of street-level policing by changing the attitudes of patrol officers."

### Age

Only six studies used officer age as a predictor of officer attitudes and four of the six examined age in relation to job satisfaction (Carlan, 2007; Dantzker & Kubin, 1998; Davey et al., 2001; Hunt & McCadden, 1985). Although a significant effect was reported in three of the studies (Carlan, 2007; Dantzker & Kubin, 1998; Hunt & McCadden, 1985), it should be noted that for all three studies the combined effect of all demographic variables explained only four to six percent of the variation in satisfaction levels. Thus,

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officer age appears to be only weakly related to job satisfaction. With respect to other officer attitudes, officer age has not been found to be related to officer role orientations (Brooks et al., 1993) or views toward citizens (Worden, 1993). Older officers, however, were found to hold more positive attitudes toward legal restrictions and greater acceptance of authority, as well as more positive views towards their peers and their work environments (Worden, 1993).

Despite the significant relationships reported by the above studies, it should be noted that it is difficult to separate the unique effects of age from those associated with officers' years of experience. For example, Sherman (1980) has pointed out that while younger officers may hold more aggressive attitudes toward policing, their attitudes may also reflect experience or training levels (Sherman, 1980). The difficulty in isolating these effects is likely one reason why officer age has been included in so few of the studies reported in Table 2.1.

#### Length of Service

The final individual characteristic that has received considerable attention as an explanation of officer attitudes is length of service (i.e., years of experience). All but one of the studies included this characteristic as a predictor of attitudes. Much like the results for the previous officer demographic characteristics, the findings reported by the studies also point to weak and inconsistent relationships. Once again, the most inconsistent results are reported for the relationship between length of service and officer role orientations. For example, some studies found less experienced officers to accept broader role orientations (Sun, 2003; Worden, 1990), while another study indicated the opposite (Paoline et al., 2000). Other studies, however, reported no relationship between length of

service and officer attitudes towards the police role (Brooks et al., 1993; Lord & Friday, 2008; A. Worden, 1993).

Such inconsistencies are also illustrated when examining other types of attitudes, such as views toward citizens, policing tactics, and views toward supervision. With respect to length of service and views toward citizens, some studies have found less experienced officers to be more distrustful of citizens (Moon & Zager, 2007; Sun, 2002), some have found more experienced officers to be more distrustful (DeJong, 2004), and others have reported no relationship (Paoline et al., 2000). Although most of the studies report no relationship between officer length of service and views toward legal restrictions (Sun, 2003; A. Worden, 1993; Worden, 1990), results for attitudes toward other policing tactics, such as selective enforcement and aggressiveness, are not as clear.

Of the four studies that examined length of service and selective enforcement, three found less experienced officers to hold more negative attitudes towards selective enforcement (Paoline et al., 2000; Sun, 2003; Worden, 1990). Only one study has examined the effect of length of service on officer aggressiveness and found an inverse relationship; officers with more experience were less aggressive (Paoline et al., 2000). Finally, length of service has generally been found to be negatively related to views towards supervision (A. Worden, 1993; Worden, 1990), but not in all instances (Sun, 2002).

Additionally, five studies have examined the effect of officer experience on job satisfaction with mixed results. Two of the studies found no relationship (Carlan, 2007; Davey et al., 2001). Although the remaining three studies found more experienced officers to be less satisfied with their jobs, the effects accounted for only small

percentages of variation in satisfaction levels (Dantzker & Kubin, 1998; Hunt & McCadden, 1985; Zhao et al., 1999). Thus, when viewed in relation to the effects of officer characteristics as a whole on job satisfaction, the results are mostly unsupportive. As such, it has been noted that officer demographic characteristics “are of little value to understanding job satisfaction” (Carlan, 2007: 74).

#### Summary of Research on Individual Characteristics & Officer Attitudes

Empirical research that has sought to explain differences in officers’ occupational attitudes has placed an emphasis on the influence of officer demographic characteristics and length of service as predictors. Based on the notion that the occupation of policing has become increasingly diverse with the inclusion of more women, minority, and college educated officers, these studies have examined the effect that these individual characteristics along with officer age and experience have on officers’ occupational attitudes - the rationale being that “[a]s police forces have become more diverse, then, one might expect to find greater variation in officers’ adaptations to their working environment and greater covariation between their [attitudes] and their backgrounds” (Paoline et al., 2000: 584). In all, from the fifteen studies that examined the effect of officer characteristics on their occupational attitudes two important conclusions can be drawn.

First, the results reported by these studies point out a number of inconsistencies with respect to the nature of the relationship between individual officer characteristics and occupational attitudes. Although inconsistencies between the effect of officer characteristics and their attitudes towards citizens, policing tactics, supervisors, and job satisfaction all existed, the most notable discrepancies occurred when looking at officer



attitudes toward the police role. For example, discrepancies were noted for the effects of officer gender, race, education, and length of service on officer role orientations as some studies reported no relationships while others reported significant relationships.

Furthermore, even studies that reported significant relationships often reported results in opposite directions (e.g., the effect of length of service on officer role orientations).

These inconsistencies make it difficult to determine the exact nature of the relationships between individual officer characteristics and occupational attitudes.

Second, the results indicate that officer characteristics are rather weak predictors of officer attitudes. Even though this set of studies has found officer characteristics to significantly predict attitudinal differences among officers, the exact contribution these factors offer for explaining variation in attitudes is small. For example, the studies on job satisfaction note that officer characteristics explain four to six percent of the variation in satisfaction levels which calls into question the effect of officer characteristics on officer attitudes (Carlan, 2007; Dantzker & Kubin, 1998; Hunt & McCadden, 1985; Zhao et al., 1999). This sentiment was mirrored by many of the studies reviewed here (e.g., DeJong, 2004; A. Worden, 1993; Worden, 1990).

The inconsistent and weak findings regarding the effect of officer characteristics on their occupational attitudes has led to calls for research to begin exploring other types of factors that might explain attitudinal differences among officers. Since *individual characteristics* have been found to have little effect, researchers have noted that differences in officers' work environments, such as *organizational* and *environmental factors*, should be examined as potential explanations of officer attitudes (Brooks et al., 1993; DeJong, 2004; Paoline et al., 2000; Sun, 2002, 2003). Although, studies have

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begun to explore the effect of such factors (e.g., Hassell, 2006; Moon & Zager, 2007), research in this area is currently underdeveloped. The rationale for taking such a perspective is discussed later in this chapter as well as in Chapter Three.

### *Attitudes as Explanations of Officer Behaviors*

Research on the police attitude-behavior relationship has also taken an individual-level approach to explaining officer behaviors. For example, it has been proposed that officers who hold narrow orientations towards the police role, who are aggressive, and who are distrustful of citizens are more likely to use force (e.g., McCluskey et al., 2005; Terrill & Mastrofski, 2002; Terrill, Paoline, & Manning, 2003; Worden, 1996), to make arrests (e.g., Mastrofski, Worden, & Snipes, 1995), or to conduct searches (e.g., Gould & Mastrofski, 2004; Terrill & Paoline, 2005). Additionally, officer job satisfaction has also been argued to be an important component for understanding officer behavior. The more satisfied officers' are with their jobs, the greater the likelihood that they will strive to achieve the goals of the department. As the National Research Council (2004: 134) noted, "maintaining adequate levels of job satisfaction is essential for sustaining good or satisfactory police performance." Thus, officer attitudes have also been deemed important predictors of officer behaviors.

This section reviews empirical studies that have examined the effect of officer attitudes on behavior. To be included in the review, only studies that tested the impact of attitudes on behavior using multivariate analyses were sought. All studies included in the review have controlled for some combination of situational, organizational, or community level factors which also affect officer behavior (NRC, 2004; Riksheim & Chermak, 1993; Sherman, 1980). Additionally, the outcome of interest measured some

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type of observable or self-reported behavior. Studies that used officer intentions to engage in behaviors, such as vignette scenarios, were excluded as prior research has noted that factors that explain behavioral intentions are not the same as those that explain actual behavior (Ajzen & Fishbein, 1977; Schuman & Johnson, 1976). In all, eighteen studies fit these criteria and are included in this review. Table 2.2 provides a summary of the studies and includes the type of behavior under study, the attitudinal measures hypothesized to impact the behavior, study unit and sample size, and a summary of the relevant findings. The following discussion also highlights the research findings by behavioral area.

#### Use of Force

Six studies tested the effect of officers' attitudes on their use of force behavior. These studies examined a wide range of attitudes including job satisfaction, views towards citizens, attitudes towards force, officer role orientations, views toward legal guidelines, and aggressiveness. The studies do use different measures of force behavior, ranging from the use of reasonable and improper force (Friedrich, 1980; Worden, 1996) and the highest level of force used in encounters (McCluskey et al., 2005; Terrill & Mastrofski, 2002; Terrill et al., 2003) to predicting specific types of force, such as verbal force and impact force (Novak, Smith, & Frank, 2003). Each of the studies, however, focused on using attitudes as explanations of force behavior.

For example, Friedrich (1980) examined the effect of job satisfaction and views toward minority citizens on officers' use of reasonable and unreasonable force. Job satisfaction was found to be unrelated to use of force behavior. A significant relationship was found between officers' views toward minority citizens and their use of force. The

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finding, however, was weak as Friedrich (1980: 95) noted that there was only a “slight tendency for the more prejudiced white patrolmen to employ more force against black citizens.” Two additional studies also examined the relationship between officers’ views toward citizens and their use of force. While Friedrich’s (1980) measure was an indicator of officer prejudice against minority citizens, these studies employed measures of citizen distrust and perceptions of citizen hostility. Similar to Friedrich’s findings, Worden (1996) found a significant, but weak relationship between citizen distrust and use of force behavior. Distrustful officers were more likely to use improper force. Officer distrust of citizens, however, was not found to be related to the severity of force used in citizen encounters (Terrill & Mastrofski, 2002).

Four studies also examined whether officers’ attitudes toward the police role, force, or aggressiveness affected force behavior. While Worden (1996) reported a significant relationship between attitudes towards force and force behavior, this finding was also weak. Studies examining officers’ subscription to a narrow, crime-fighting role orientation reported no significant effects on force behavior (Worden, 1996; Terrill & Mastrofski, 2002). Similarly, officer views toward aggressive policing were also found to be unrelated to their force behavior (McCluskey et al., 2005). Thus, officers’ attitudes toward the police role and policing tactics have generally been found to be unrelated to use of force behavior.

The effect of officers’ attitudes toward legal restrictions and use of force behavior has also been largely unsupportive. For example, Terrill and Mastrofski (2002) reported no significant effect between officers’ beliefs regarding overlooking legal guidelines to conduct their job and the severity of force used in encounters. Similarly, officers’ views

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towards civil liability were found to have only a weak effect on officers' use of verbal force and no effect on their usage of impact force (Novak et al., 2003).

While the above studies examined the impact of each attitudinal measure separately on use of force outcomes, one final study combined a set of attitudes into a single measure to distinguish subgroups of officers. As will be discussed in the next section, many of the aforementioned occupational attitudes have been described as part of the police culture. Terrill, Paoline, and Manning (2003) examined whether officers' adherence to the attitudes associated with this culture affected their use of force behavior. Using cluster analysis, officers with similar dispositions on a set of attitudes (e.g., views toward citizens, views toward supervisors, views toward the police role, and views toward policing tactics) were grouped together. They found that officers in groups that held attitudes in accordance with the culture were more likely to use force in citizen encounters than officers in groups whose attitudes did not align with the traditional view of culture.

#### Decision to Arrest

Four studies tested the effect of officer attitudes on the decision to arrest. Smith and Klein (1983) were two of the first scholars to examine whether officers' attitudes were related to their arrest behavior. Although their primary research interest was in identifying the impact of organizational-level properties on the probability of arrest, the authors also conducted an encounter-level analysis for 950 police-citizen encounters to control for individual factors. Included in the analysis was a measure of officer job satisfaction. Results from the model, however, reported no significant relationship between officer satisfaction and their decision to arrest.

**Table 2.2: Studies Examining the Police Attitude-Behavior Relationship**

| Study                             | Study Unit & Sample Size                                     | Behavior                       | Attitudes                                                                                                      | Relevant Findings                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------|--------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Friedrich (1980)                  | Encounter (N=1,091)                                          | Force                          | 1. Job Satisfaction<br>2. Prejudice                                                                            | 1. No significant relationship.<br>2. "slight tendency for the more prejudiced white patrolmen to employ more force against black citizens" (pg. 95).                                                                                                                                                                                                                     |
| Smith & Klein (1983) <sup>a</sup> | Encounter (N=950)                                            | Arrest                         | Job Satisfaction                                                                                               | No significant relationship.                                                                                                                                                                                                                                                                                                                                              |
| Worden (1989) <sup>a</sup>        | Officer<br>(N=810; Pro-activity)<br>(N= 759; Aggressiveness) | Pro-activity<br>Aggressiveness | 1. Role Orientation<br>2. Citizens<br>3. Legal Institutions<br>4. Legal Restrictions<br>5. Selectivity         | "Officers who believe that citizens are respectful are more proactive...Likewise, officers who believe that police are supported by the courts and by prosecutors are more proactive...But while both...are statistically significant, neither is large in magnitude" (pg. 691).<br>"Officers' attitudes have rather little influence on their aggressiveness" (pg. 693). |
| Brehm & Gates (1993)              | Shift (N= 486)                                               | Time Spent<br>"Shirking"       | 1. Job Satisfaction<br>2. Supervisor Satisfaction                                                              | 1. "officers' attitudes toward their jobs affect their rates of compliance" (pg. 579).<br>2. "Officers who are more satisfied with their supervisors shirk more frequently" (pg. 579).                                                                                                                                                                                    |
| Mastrofski et al. (1994)          | Officer (N=954)                                              | DUI Arrest<br>(Self-reported)  | 1. Officers' instrumental beliefs of DUI enforcement<br>2. Officers' views of rewards/costs of DUI enforcement | "Some intrinsic rewards (reflected in attitudes about uniformity of enforcement) and the costs in the reward-cost balance show statistically significant relationships, although the size of their impact is much less than that of capability and opportunity variables...as a group they contribute little to the model's explanatory power" (pg. 138).                 |
| Mastrofski et al. (1995)          | Encounter (N=451)                                            | Arrest                         | View of COP                                                                                                    | "the more positive the officer toward community policing, the less likely an arrest. The effect of this variable is substantial, reducing on average, the odds of arrest by a factor of .63 for each unit increase in the attitude scale" (pg. 551-2).                                                                                                                    |



**Table 2.2: Studies Examining the Police Attitude-Behavior Relationship (cont.)**

| Study                                    | Study Unit & Sample Size                              | Behavior                      | Attitudes                                                                                                        | Relevant Findings                                                                                                                                                                                                                                                                                                                     |
|------------------------------------------|-------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Worden (1995, 1996) <sup>a</sup>         | Officer (N=463)                                       | Force                         | 1. Role Orientation<br>2. Attitude toward Force<br>3. Citizens                                                   | 1. No significant relationship.<br>2. "officers with more positive attitudes toward the use of force tend to use force improperly with greater frequency" (pg. 54).<br>3. "officers with more negative attitudes toward citizens are more likely to use force, reasonably and unreasonably" (pg. 54).                                 |
| DeJong et al. (2001) <sup>b</sup>        | Shift (N=614)                                         | Problem Solving               | 1. Officers' instrumental beliefs for problem solving<br>2. Officers' views of rewards/costs for problem solving | 1. "of all motivation expectancy considerations, instrumentality, variables dominated," however, "variables reflecting the officers' personal view of what police work should be, and the view of his or her peers, accounted for the smallest amount of the model's explanatory power" (pg. 58).<br>2. No significant relationships. |
| Terrill & Mastrofski (2002) <sup>b</sup> | Encounter (N=3,116)                                   | Force                         | 1. Role Orientation<br>2. Citizens<br>3. Legal Restraints                                                        | "None of the three attitude measures were significantly related to force." (pg. 239).                                                                                                                                                                                                                                                 |
| Mastrofski et al. (2002) <sup>b</sup>    | Requester-Officer Dyad (N=396)                        | Responses to Citizen Requests | Proclivity for COP                                                                                               | Officers with greater proclivity for COP, more likely to grant citizens' request for control.                                                                                                                                                                                                                                         |
| Terrill et al. (2003) <sup>b</sup>       | Encounter (N=3,223)                                   | Force                         | Police Culture                                                                                                   | "officers' attitudinal differences toward the traditional view of police culture produce differences in coercive actions over suspects." (pg. 1029).                                                                                                                                                                                  |
| Engel & Worden (2003) <sup>b</sup>       | Shift (N=577)<br>Officer (N=243)<br>Supervisor (N=70) | Problem Solving               | 1. Role Orientation<br>2. Citizens<br>3. Supervisors' Priorities                                                 | 1. No significant relationship.<br>2. No significant relationship.<br>3. "officers' perceptions of their supervisors' priorities for problem solving have a stronger influence over their behavior" (pg. 154).                                                                                                                        |

**Table 2.2: Studies Examining the Police Attitude-Behavior Relationship (cont.)**

| Study                                 | Study Unit & Sample Size | Behavior                                                                 | Attitudes                                                         | Relevant Findings                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------|--------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Novak et al. (2003)                   | Officer (N=147)          | Aggressiveness                                                           | Views toward Civil Liability                                      | "Officer initiated aggressive behaviors, therefore, do not seem to be deterred to any substantial extent by concerns of liability...beliefs about civil litigation do not affect lawful street-level behaviors" (pg. 363).                                                                                                                                                                                                                                                                    |
| DeJong (2004) <sup>b</sup>            | Encounter (N=6,135)      | Comforting Citizens                                                      | Citizens                                                          | "Officer attitude about citizens is not related to officers providing comfort to citizens" (pg. 1).                                                                                                                                                                                                                                                                                                                                                                                           |
| Gould & Mastrofski (2004)             | Encounter (N=114)        | Searches                                                                 | View of COP                                                       | No significant relationship.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Paoline & Terrill (2005) <sup>b</sup> | Encounter (N=549)        | Proactive Traffic Stop Searches                                          | Police Culture                                                    | Officers who were more attitudinally aligned with police culture significantly more likely to conduct searches in proactive stop encounters.                                                                                                                                                                                                                                                                                                                                                  |
| McCluskey et al. (2005) <sup>b</sup>  | Encounter (N=1,458)      | Force                                                                    | 1. Aggressiveness<br>2. Peer Aggressiveness                       | 1. No significant relationship.<br>2. No significant direct effect. However, significant conditional effect present: "peer group influence differentially affects the application of force based on the degree to which the peer group views aggressiveness" (pg. 32-3).                                                                                                                                                                                                                      |
| Smith et al. (2005)                   | Shift (N=446)            | Time spent on:<br>Patrol<br>Order Maint.<br>Crime Service<br>Traffic COP | 1. View of COP<br>2. Supervisor Influence<br>3. Citizen Influence | "The majority of attitude measures were not significantly related to community officer activity choices, with the exception that positive attitudes toward community policing were significantly related to less crime-related activities. For beat officers, the belief that citizens want them to perform crime-related tasks and the perception by some beat officers that their supervisors want them to perform less community policing may have influenced activity choices" (pg. 339). |

<sup>a</sup> Studies analyzed data from the Police Services Study

<sup>b</sup> Studies analyzed data from the Project on Policing Neighborhoods Study

Research has also examined the effect of officers' views towards civil liability and the decision to arrest. For example, Novak et al. (2003) hypothesized that officers who believed that they should be exempt from civil liability would be less inclined to make arrests. Using interview and observational data from 147 officers, they found a significant, but weak effect. Officers who believed they should be exempt made significantly less arrests. Another significant relationship has been reported between officers' views towards DUI enforcement and their self-reported DUI arrests. Using expectancy theory as a framework, it was found that officers who believed that DUI enforcement was instrumental to their career advancement and officers who believed that the rewards of DUI enforcement outweighed the costs were significantly more likely to make DUI arrests (Mastrofski, Ritti, & Snipes, 1994). The relationships were weak in magnitude as the authors noted, "intrinsic rewards (reflected in attitudes about uniformity of enforcement) and the costs in the reward-cost balance show statistically significant relationships, although...as a group they contribute little to the model's explanatory power" (Mastrofski et al., 1994: 138).

A final study examined the effect of officers' attitudes toward a specific aspect of the police role, community policing, and their arrest behavior. They found that officers with more positive views towards community policing were significantly less likely to make arrests. As the authors concluded, "the effect of this variable is substantial, reducing, on average, the odds of arrest by a factor of .63 for each unit increase in the attitudinal scale" (Mastrofski, Worden, & Snipes, 1995: 551-2). This is one of the few studies on the police attitude-behavior relationship to find a strong effect.

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### Proactive Stops & Searches

Four studies examined the effect of attitudes on officers' proactive stop and search behaviors. Similar to use of force and arrest studies on the police attitude-behavior relationship, these studies have also tested a wide range of occupational attitudes including officer views toward the police role, citizens, legal issues, and policing tactics. Also similar to the aforementioned studies, findings from this line of research also provide mixed support for the police attitude-behavior relationship.

For example, two studies tested the effect that officers' views toward the police role might have on both stop and search behaviors. Worden (1989) found that officers who subscribed to broader role orientations engaged in slightly more suspicion stops than those who subscribed to a narrower, crime-fighting role. Role orientations, however, had no effect on the number of traffic stops officers engaged in. In a second study, Gould and Mastrofski (2004) examined whether officer attitudes toward community policing affected their proclivity to engage in unconstitutional searches. Although the study used observational data to assess officers' views toward community policing rather than survey data, the results indicated no significant effect between whether officers had positive or negative views towards community policing and their search behavior.

Officers' attitudes toward legal issues have also rarely been found to have an impact on stop or search behaviors. In a recent study examining the effect of officers' views toward civil liability on stops and searches, the results were largely unresponsive. No relationship was found between officers who believed they should be exempt from civil suits and their self-initiated stopping behavior. Although officers who supported exemptions from civil suits were found to be involved in significantly fewer searches,



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this relationship was weak in magnitude (Novak et al., 2003). Furthermore, Worden (1989: 691) found that officers who believed that the court system was supportive of their efforts were more likely to engage in both traffic and suspicion stops; however, it was noted that “while both are statistically significant, neither is large in magnitude.”

Additionally, two other findings from Worden’s (1989) study bear mentioning. First, officer attitudes toward citizens, while significant, was also found to be weak in magnitude. Officers who had a more positive outlook towards citizens were only slightly more likely to engage in traffic stops. Second, officers’ attitudes toward selective enforcement of the law were found to have no effect on either the number of traffic or suspicion stops conducted by officers. Overall, this led to the conclusion that the “findings further indicate that attitudinal variables account for a very small part of the variation in officers’ behavior” (Worden, 1989: 668-9).

Only one study that has examined the police attitude-behavior relationship on officer pro-activity outcomes has uncovered a substantial effect. Paoline and Terrill (2005) examined the effect of officers’ attitudes in relation to officers’ search behavior stemming from traffic stops. Using a classification scheme similar to the one constructed for their study on police culture and coercion (see Terrill et al., 2003), the authors reported a positive relationship with officers whose attitudes were more aligned with the police culture to engage in significantly more searches. In contrast to previous studies that found a significant effect, the results reported here were much more profound as it was noted that “encounters involving officers with pro-culture orientations were over two and a half times more likely to conduct a search in comparison to encounters involving con-culture carriers” (Paoline & Terrill, 2005: 467).

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### Service & Other Discretionary Behaviors

A final set of studies has examined the relationship between officer attitudes and service or other discretionary behaviors. These studies have focused on five behavioral outcomes: time spent problem solving (DeJong, Mastrofski, & Parks, 2001; Engel & Worden, 2003), providing comfort to citizens (DeJong, 2004), responding to citizens' requests during encounters (Mastrofski, Snipes, Parks, & Maxwell, 2002), time spent goofing off or "shirking" (Brehm & Gates, 1993), and overall performance of discretionary activities while on duty (Smith et al., 2005). Types of officer attitudes expected to have an impact on these behaviors primarily include attitudes toward the police role, views toward citizens, views toward supervisors, and job satisfaction.

Of the two studies that tested the impact of officer attitudes on problem solving behavior, mixed results have been reported. Officers who believed that supervisors placed a priority on problem solving behavior were more likely to engage in problem solving activities (DeJong et al., 2001; Engel & Worden, 2003). Officers' acceptance of broader police roles and their level of distrust towards citizens, however, had no effect on their time spent on problem solving activities (Engel & Worden, 2003).

Officers' attitudes toward citizens have also been examined in relation to comforting behavior and time spent on general discretionary activities. DeJong (2004) reported no significant relationship between officers' level of distrust of citizens and their comforting behavior. Similarly, Smith and colleagues (2005) found little evidence that officers' views of citizens affected their discretionary behaviors. Thus, the results from these two studies indicate that officers' views toward the citizenry are largely unrelated to service and more general behavioral outcomes.

Officers' views toward the police role have been examined in relation to officers' responses to citizen requests and time spent on general discretionary activities. Results from these studies have found that acceptance of community policing roles significantly increase officers' likelihood of granting citizens' request to control a suspect during an encounter (Mastrofski et al., 2002) and significantly less likely to engage in activities aimed at addressing crime while on duty (Smith et al., 2005). Although these studies have provided some evidence that views toward the police role impact behavior, the results, once again, appear to be weak as both effects were minor in magnitude.

A final study tested the effect of officers' satisfaction with their jobs on the amount of time spent shirking while on duty. Using data from Black and Reiss's (1967) study of officers within the Washington, Boston, and Chicago police departments, Brehm and Gates (1993) found that officers who were dissatisfied with their job or officers who were more satisfied with their supervisors were more likely to "shirk" during a shift. As Engel and Worden (2003) would note ten years later, the results from this study is one of the few to report a significant relationship between officer attitudes and their behavior within this specific type of behavioral outcome.

#### Summary of Research on the Police Attitude-Behavior Relationship

Prior research on the police attitude-behavior relationship has examined the effect of officers' occupational attitudes on four behavioral outcomes: the use of force, the decision to arrest, pro-activity measures, and service related behaviors. Based on the notion that variation in individual officer attitudes explains variation in street level behavior, the results of the studies reviewed here have generally found attitudes to explain little variation in behaviors. In fact, only three of the eighteen studies that have

tested this relationship have reported findings that would indicate a substantial effect exists (e.g., Mastrofski et al., 1995; Paoline & Terrill, 2005; Terrill et al., 2003).

Collectively, the results have led comprehensive reviews of the factors expected to impact officer behaviors to conclude that officer attitudes have little impact on their actions (NRC, 2004; Riksheim & Chermak, 1993; Sherman, 1980; Worden, 1989, 1995).

Such a conclusion regarding the police attitude-behavior relationship has led police researchers to offer potential explanations for the lack of significant findings. Police scholars have often related their findings to the broader social psychology literature, which has also had a history of non-significant findings (see Ajzen & Fishbein, 1977; Schuman & Johnson, 1976). Although reviews of the social psychological literature note that there is a significant amount of evidence that indicates the relationship is theoretically important (e.g., Schuman & Johnson, 1976), the weak empirical evidence linking attitudes to behavior has made it “hardly surprising that the attitude concept has come under increasingly strong criticism” (Ajzen & Fishbein, 1977: 912). Such a sentiment has been echoed within the policing literature as many of the studies on the police attitude-behavior relationship have also pointed out this limitation (Engel & Worden, 2003; Novak et al., 2003; Smith et al., 2005; Worden, 1989, 1996).

Others have pointed out measurement and theoretical deficiencies of prior research. Specifically, calls have been made to include a much broader range of attitudes in officer behavioral studies (Worden, 1995). As can be seen from Table 2, earlier studies included only a few attitudinal measures. Additionally, an emphasis was placed on providing a more explicit theoretical link between attitudes and behavior. As Frank and Brandl (1991: 85) noted, “if the attitude measure is not relevant to the target behavior, it

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would be improper to anticipate that the attitude measure would predict the behavior under analysis.” For example, it is unclear in earlier studies why officer job satisfaction should predict officers’ force or arrest behavior (i.e., Friedrich, 1980; Smith & Klein, 1983). Both other types of attitudes as well as situational factors would theoretically be more closely related to these types of police behavior. Thus, police scholars have indicated that research is needed to address these issues before concluding that attitudes are unrelated to behavior (Frank & Brandl, 1991; Worden, 1995).

Recent research has begun to address many of the above deficiencies and the results are promising for future inquiries into the police-attitude behavior relationship. For example, the fact that a few studies have reported substantial relationships between officer attitudes and behaviors (e.g., Mastrofski et al., 1995; Paoline & Terrill, 2005; Terrill et al., 2003) indicates that the relationship remains theoretically important. The framing of the relationship from a cultural perspective (e.g., Paoline & Terrill, 2005; Terrill et al., 2003) is an important approach that addresses some of the conceptual shortcomings of prior research.<sup>3</sup> Furthermore, as Table 2.2 indicates more recent studies have begun to employ a broader range of attitudinal measures (e.g., Paoline & Terrill, 2005; Smith et al., 2005; Terrill et al., 2003) as well as providing more explicit theoretical links between attitudes and behavior (e.g., Engel & Worden, 2003; McCluskey et al., 2005).

Despite the progress that has been made, one area that has received little attention is the conceptual and methodological approach taken by studies. Specifically, the

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<sup>3</sup> These studies conceptualize attitudes as being shared by officers. This is important because these studies begin to move beyond the individual level assumptions of officer attitudes towards a more collective approach. Although attitudes are characterized from a cultural perspective, these studies are still rooted in the individual approach, however, since officers’ cultural alignments are treated as individual attributes rather than collective properties. This distinction is discussed in more detail in Chapter Three.



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limitations associated with taking an *individual level* approach to the study of officer attitudes has not been systematically incorporated into studies, especially those on the police attitude-behavior relationship. Such an oversight offers a potential alternative explanation for why the studies have historically reported null or weak relationships between attitudes and behavior.

### **Limitations of Prior Empirical Research**

The theoretical focus of past empirical research on officers' occupational attitudes has emphasized individual-level relationships. Studies that have sought to explain variation in officer attitudes have traditionally emphasized the effect of individual officer characteristics. Studies that have examined the effect of officer attitudes on behavior have relied heavily on the assumption that the individualism and autonomy afforded to officers enables them to develop distinctive styles of policing which are manifest by their attitudes. These attitudes are then hypothesized to impact officers' behaviors. There are, however, conceptual and methodological limitations associated with the individual level approaches taken by these bodies of literature which point to the need for alternative approaches to be undertaken and applied to the study of officer attitudes.

#### *Conceptual Limitations*

Conceptually, the emphasis placed on individual level approaches by prior research neglects the importance of contextual factors that might also influence attitudes. Officers perform their duties in occupational and social environments that likely shape their attitudes. By focusing on individual level relationships, however, the bodies of empirical research reviewed treat officer attitudes as if they occur in a social vacuum (Drummond, 1976; Frank & Brandl, 1991; Klinger, 1997). The deficiencies associated

with overemphasizing the individualistic nature of policing were noted over thirty years ago when Drummond (1976) pointed out that police research concentrated too heavily on individual officers while largely neglecting the larger contexts in which they work. For Drummond (1976: 7), the focus on individual officers is “not so much an illogical proposition as it is an oversimplification which neglects the interrelationships of people in an organization structure.” The limitations of relying on individual level approaches to the study of officer attitudes have also been given attention more recently (See Frank & Brandl, 1991; Klinger, 1997). Thus, research has pointed out the limitations of overemphasizing individual level approaches to the study of policing and has identified the need for incorporating broader organizational and social environments in which officers work. In essence, this necessitates a move from a micro-level perspective that has dominated research on officer attitudes to a more macro-level approach, which incorporates higher level factors into research on officer attitudes (Klinger, 2004). Two macro-level factors important to the study of officer attitudes are the organizational context and police culture.

### Organizational Context

Police scholars have stressed the importance of examining how organizational characteristics impact officer attitudes. Organizational characteristics have been argued to have a direct effect on officer attitudes because they represent an immediate context for attitudes (Frank & Brandl, 1991). As will be discussed in the following chapter, the organizational contexts in which officers work likely serve to shape and constrain officer’s occupational attitudes. Research in the organizational sciences has shown that such constraints reduce the likelihood that individual characteristics will predict

attitudinal variation (Kozlowski & Klein, 2000). This questions the ability of individual characteristics to explain variation in officer attitudes and substantiates the calls of previous research to incorporate the organizational environment into the study of officer attitudes (Brooks et al., 1993; DeJong, 2004; Hassell, 2006; Moon & Zager, 2007; Paoline et al., 2000; Sun, 2002, 2003). Although such an importance has been stressed, few studies have been conducted which tests the effect of the police organization on officer attitudes (i.e., Hassell, 2006; Wilson, 1968). Attention will be given to these studies in Chapter Three.

### Police Culture

Police culture is commonly defined as a set of shared norms that officers use to cope with the challenges inherent in police work (Herbert, 1998; Manning, 1995; Paoline, 2003).<sup>4</sup> Central to the definition of police culture is the notion of shared attitudes and values derived from the unique characteristics of policing. These commonly shared attitudes have been collectively presented as the “street cop culture” and include a number of the occupational attitudes described above (See Reuss-Ianni, 1983: 13-15). Shared attitudes among officers may provide a reason for the lack of findings for the police attitude-behavior relationship as it questions the likelihood that officers develop individual styles that influence their behavior. The notion that attitudes are shared is

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<sup>4</sup> Conceptualizations of police culture have also been undertaken from both an occupational perspective based largely on the ideas of the early observational studies of the police as well as a subcultural perspective based on typology approaches. Congruent with the view of the occupational perspective, officers are said to share similar attitudes because they work in similar environments (Crank, 2004). As a result, police culture is also treated as a “cohesive whole” (Herbert, 1998: 344). On the other hand, typological studies have also been conducted which found evidence of variation in cultural attitudes. This subcultural perspective provides evidence of variation in officers’ attitudes that differed from traditional views of the police culture offered by the occupational perspective (Cochran & Bromley, 2003; Jermier, Slocum, & Fry, 1991; Paoline, 2001, 2004). Regardless of the conceptual approach taken, the key notion here is that officers are described as sharing attitudes.



theoretically important because it may indicate that attitudes represent collective measures of the context of policing. For example, research on organizational culture has shown that if attitudes are shared, then a multilevel approach is necessary. As Ostroff et al. (2003: 577) note, “by definition, a multilevel process takes place in [attitudes], moving from individual constructions of the situation and sensemaking to the creation of shared meanings across people.”

The occupational attitudes of the police are sometimes framed from a cultural perspective in which attitudes are shared by officers (Paoline et al., 2000; Paoline & Terrill, 2005; Terrill et al., 2003). Although this is not always the case, studies on the police attitude-behavior relationship that have taken such a perspective are some of the few to uncover substantial relationships (Paoline & Terrill, 2005; Terrill et al., 2003). As such, the relevance of discussing the relationship between officer attitudes and police culture is necessary because the idea that officers share attitudes is important for the methodological approaches taken by prior research, especially those that test the police attitude-behavior relationship.

### *Methodological Limitations*

Methodologically, the individual level approaches have employed analysis techniques that also assume officers attitudes exist in a vacuum. The studies reviewed in Tables 2.1 and 2.2 rely on regression-based analytic techniques as ways for controlling for other potentially confounding factors related to either attitudes or behavior. Such techniques assume that observations are independent of each other (Bliese & Hanges, 2004; Kenny & Judd, 1986; Raudenbush & Bryk, 2002). If attitudes are indeed shared by officers, which research on police culture suggests, this assumption is violated because

the attitudinal measures would not be independent of each other. The independence assumptions associated with regression-based analyses are violated and modeling techniques that correctly model non-independence are needed.

A second methodological limitation involves the sources of data used for analyses. For both studies that attempt to explain attitudinal differences and studies on the police attitude-behavior relationship, research has relied on data from only a few departments. This is more problematic for recent studies as many of them have relied on data from the POPN study, which only included two departments. Thus, one reason for the weak findings in both these bodies of literature may be due to the fact that it is not possible to find adequate variation in attitudes due to the small number of research sites included by studies (see also DeJong, 2004).

## **Chapter Summary**

The study of officers' occupational attitudes has been a cornerstone of research on the police for almost fifty years. Early observational studies of the police identified a set of occupational attitudes officers developed to deal with the challenges of their work environments. This set of attitudes included views towards citizens, policing tactics, the police role, supervision, and overall job satisfaction. Officer typology studies further refined the set of attitudes relevant to officers and documented variation in these attitudes. As a result, officers' attitudes became important factors in empirical studies of the police that sought to explain officers' attitudinal differences, as well as in studies on the police attitude-behavior relationship.

Empirical research that has sought to explain differences in officers' occupational attitudes has placed an emphasis on the influence of officer demographic characteristics

and length of service as predictors. Fifteen studies that examined these relationships were reviewed and the results indicated that officer characteristics were rather weak predictors of officer attitudes. Prior research on the police attitude-behavior relationship was also reviewed. The results of the eighteen studies reviewed also found that in most cases attitudes had little effect on behaviors.

The extant literature relies on individual level assumptions that limit the conceptual and methodological development of research in this area. For example, research has indicated that the organizational context in which officers work influences their attitudes (e.g., Frank & Brandl, 1991). Furthermore, research on police culture highlights the fact that officers are said to share occupational attitudes (e.g., Paoline, 2003). Collectively, these limitations point out the need to move beyond individual level approaches and toward an approach that can incorporate these two characteristics.

Unfortunately, such approaches are not readily identifiable in the policing literature. Police scholars have pointed out that theory in police research is generally limited and theory that moves beyond individual explanations is scarce (Klinger, 2004; Manning, 2005). As Klinger (2004: 124) recently noted, “police scholars have devoted hardly any effort to developing theories about how organizational and environmental properties might affect how the police operate as they do” (Klinger, 2004: 124). The multilevel paradigm in organizational psychology, however, provides a useful theoretical framework for accomplishing this. This is the framework taken in the current work and is the subject of the next chapter.



### **CHAPTER THREE: THEORETICAL FRAMEWORK**

This chapter presents the theoretical framework that serves as a guide for the proposed study. Chapter Two pointed out the need for research on officers' occupational attitudes to incorporate macro-level phenomena, such as the organizational context and police culture, with the individual approach that has dominated this line of research. However, the integration of such approaches is limited within the policing literature. As such, the proposed study uses the multilevel theoretical perspective in organizational psychology (Klein et al., 1994; Kozlowski & Klein, 2000) as a way to integrate both perspectives. The chapter begins by providing a description of this approach. Next, an overview of how this theoretical framework is applicable to the study of occupational attitudes of the police is provided. The implications of this approach for the study of officer attitudes are also discussed. Finally, the chapter concludes with the specification of the research objectives and questions the proposed study aims to address.

#### **The Multilevel Theoretical Perspective**

The multilevel perspective in organizational psychology has been offered as a way to combine both micro and macro-level perspectives into a single framework that can be applied to the study of organizational phenomena. A key assumption of the multilevel perspective is that organizational constructs are tied to, and affected by, different levels of an organizational system. As Klein et al. (1994: 198) note, "[n]o construct is level free. Every construct is tied to one or more organizational levels or entities, that is individuals, dyads, groups, organizations, industries, markets, and so on. To examine organizational phenomena is thus to encounter levels issues." By viewing

constructs in relation to various organizational levels, this perspective is rooted within organizational systems theory (Kozlowski & Klein, 2000).

Organizational systems theory offered initial insight as to why the incorporation of multiple levels into the study of organizations was necessary for gaining understanding of organizational phenomena. The perspective sought to overcome the weaknesses of relying solely on either micro-level approaches driven by individual level explanations or macro-level approaches driven by sociological explanations. It did so by viewing organizational phenomena as part of the broader social system in which they operated and by making theoretical connections between system parts (Katz & Kahn, 1978; Kozlowski & Klein, 2000). Although the influence of systems theory on organizational science has been important for conceptualizing relationships among organizational constructs, its usefulness has primarily been metaphorical as others have noted that it provides “heuristic value but has contributed relatively little to the development of testable principles in organizational sciences” (Kozlowski & Klein, 2000: 7).

Unlike the criticism often associated with the systems framework, the multilevel perspective offers a more direct way of integrating macro and micro-level perspectives. It achieves this by offering a set of principles to assist in the application of multilevel theory to organizational research. These principles prescribe the need to explicitly state the nature of the expected multilevel relationships, where within the system the relationships are hypothesized to be most salient, the rationale for why such relationships exist, and the processes by which the relationships are formed. Multilevel theorists have more appropriately termed these principles the what, where, why, and how and have argued that researchers should address these issues when applying the framework

(Kozlowski & Klein, 2000). As a result, the goal of the multilevel perspective is “to identify principles that enable a more integrated understanding of phenomena that unfold across levels of organizations” (Kozlowski & Klein, 2000: 7).

The application of the multilevel perspective offers a potentially fruitful approach to the study of police officers’ occupational attitudes. Multilevel theorists have noted such an approach is useful when the outcome of interest represents behaviors or cognitions of individuals that are affected by organizational factors (Kozlowski & Klein, 2000). Occupational attitudes represent individual officers’ responses to the challenges of their work environment. Yet, police scholars have argued that individual officer attitudes are influenced by higher level organizational factors such as the organizational context and police culture (Drummond, 1976; Frank & Brandl, 1991; Klinger, 1997; Paoline, 2003). Thus, the study of officers’ attitudes fits within this multilevel framework.

### **Overview of Framework**

The current framework identifies workgroups, defined as officers’ assigned shifts within precincts, as the aspect of the organizational context of policing most likely to influence officer attitudes. Due to the structure of the formal organization of policing, officers within workgroups are exposed to similar features of the occupational environment (e.g., crime rates, workload, and community structural characteristics) and common leadership practices of supervisors. Additionally, officers assigned to the same workgroup are likely to interact with each other more often and more directly than with officers outside of their workgroups. As a result, contextual features of workgroups influence officers’ attitudes and officers within workgroups develop shared attitudinal perceptions regarding the police occupation. These shared perceptions emerge as a result

of officers' interactions. As such, emergence is the key process by which attitudes become shared and is the reason why attitudes can represent measures of the social environment. The following illustrates how this perspective is applied in the proposed study and is discussed in terms of the basic principles of the multilevel framework: the where, why, and how.<sup>5</sup>

### **The Where: Officer Workgroups**

A key component in applying the multilevel framework to the study of officers' occupational attitudes is specifying the "where" or the aspect of the police organization most likely to influence officer attitudes. Research within the multilevel perspective has suggested that such inquiries begin with the entity expected to have the most immediate and proximal effect on the outcome of interest (Katz & Kahn, 1978; Kozlowski & Klein, 2000; Ostroff et al., 2003). In identifying the appropriate organizational entity, two types of organizational units are considered: formal and informal units. Formal organizational units include the entities defined by the structures or tasks of the organization while informal units consist of social groupings of organizational members (Kozlowski & Klein, 2000). With respect to officers' occupational attitudes, both types of units are potentially applicable. Prior research has stressed the importance of organizational structural boundaries (e.g., Hassell, 2006; Wilson, 1968), as well as informal groupings of officers based on typology studies (e.g., Cochran & Bromley, 2003; Jermier et al., 1991; Paoline, 2001) in shaping officer attitudes.

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<sup>5</sup> It should be noted that the rationale for the "what" principle was discussed at length in Chapter Two in terms of the limitations of prior research and the need for multilevel approaches to be applied to the study of officers' occupational attitudes. As a result, the discussion is not repeated here.

In this section, I argue that formal structural boundaries are important organizational entities that shape attitudes. Formal structures specify boundaries that pattern interactions among organizational members and the nature of work tasks. As a result, members bounded by these structures interact with each other more often and are exposed to common features of the work environment (Kozlowski & Klein, 2000). As Louis (1985: 79) noted, formal organizational structures can influence members' attitudes because "they are regularly convening settings, they impose structural interdependencies among people performing tasks, they provide opportunities for affiliation, and they constitute constellations of interest or purposes. As such they serve as breeding grounds for the emergence of local shared meanings." In policing, organizational structure serves as important boundaries of police work. As a result, officers' occupational attitudes are more likely to be influenced by structural boundaries rather than informal social groupings (Hassell, 2006; Klinger, 1997).

### *The Formal Organization of Policing*

Police work is structured both geographically and temporally. In most municipal departments, patrol is divided into smaller geographic jurisdictions so that services can be provided in an efficient and effective manner (Klinger, 1997; Reiss, 1992). In larger jurisdictions, departments are first divided into precincts that serve a specific area of the larger jurisdiction (e.g., city) and have distinct command personnel.<sup>6</sup> Patrol operates out of these precincts, but it is also connected to the larger administrative structure (Hassell, 2006). Precinct boundaries are also further subdivided into beats, or smaller geographic

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<sup>6</sup> The term precinct is used throughout, however departments may use different terms to signify these smaller geographic jurisdictions, such as area commands, divisions, as well as precincts. Although different terms are used they represent the same type of organizational entity.

units patrolled by individual officers. Thus, patrol work is territorially defined where the department serves as the central organizing entity, precincts represent distinct command structures, and beats are where individual officers patrol. Generally speaking, patrol officers are assigned to precincts, and, in some instances, patrol beats (Hassell, 2006; Klinger, 1997; Reiss, 1992). Although some scholars focus on the geographic nature of policing (Hassell, 2006; Klinger, 1997), police work is also structured temporally. Within each precinct, officers are also assigned to shifts. Traditionally, officers are assigned to work one of three shifts (i.e., day, afternoon, or night). As Crank (2004: 64) notes, “[w]ith minor variation, this shift pattern is omnipresent across municipal police organizations today.”

With respect to the formal organization of policing, officers are embedded within shifts, shifts are embedded within precincts, precincts are embedded within departments, and departments are embedded within the municipality. Each respective level of the formal organization of policing could plausibly impact officers’ attitudes, and prior studies have examined how the department (Wilson, 1968), precinct (Hassell, 2006; Klinger, 1997) and lower organizational levels (Haarr, 2001; Sun, 2002) influences officer attitudes. As such, it is important to briefly discuss this body of literature in order to show how the current study builds upon and extends work in this area.

In his classic study of police organizations, Wilson (1968) offered an organizational perspective that hypothesized that officers’ views toward the police role are influenced by features at the department level. As Wilson (1968: 48) noted, “[t]he patrolman’s conception of the police role will vary to some extent with the character of the community and with the duty assignment of the officer, but the general features of the

patrol problem-coping with disorder by exercising wide discretion over vital matters in an apprehensive environment-tend to impart to the police department as a whole its special character.” His study found evidence of departmental styles and differences in departmental styles were based on the attitudes and policies emphasized by the chief (see also Paoline, 2003).

For Wilson (1968), styles vary based on differences in the attitudes and policies directed at the police role. For example, some departments emphasized the crime-fighting role and were categorized as legalistic departments while other departments emphasized order maintenance or service roles and were categorized as watchmen or service style departments. The key notion here is that the “ways in which officers cope with their organizational environments might differ across different types of departments” (Paoline, 2003: 205). Thus, individual officers within departments develop similar attitudes toward aspects of police work, such as the police role, and as a result will behave consistently in similar situations (McCluskey et al., 2005).

Prior research has also emphasized the precinct level as an important influence on officer attitudes. For example, Klinger (1997: 283) stressed the importance of “territorially based workgroups” in explaining patrol practices in his negotiated order theory of policing at the precinct level. Using this perspective as a framework, Hassell (2006, 2007) argued that precincts influence officer attitudes because they serve as “distinct and relatively independent communities within the infrastructure of the police organization.” Based on interviews, her study found that officers believed that similar situations would be handled differently by officers in different precincts (Hassell, 2006). Empirical tests, however, found few significant differences in officer attitudes across

precincts. While this may have been due to the methodological design which examined officers from a single department, the work is conceptually important for the idea that precincts produce variation in attitudes among officers and these differences translates into differences in behavior.

Other studies have taken a peer group or shift perspective. For example, Sun (2002) argued that officers within peer groups were more likely to develop stronger bonds with each other and adopt similar attitudinal outlooks than with those outside their peer group. As Sun (2002: 72) concluded, “[i]t would be very difficult for police officers to survive on the job if they did not share many of the views of their peer group.” Peer groups have also been used as explanations for use of force behavior. Here, peer groups (officers working the same shift and sector) were noted as being “an overlooked gap in explaining decision making in general, and specifically in decisions to use force” (McCluskey et al. 2005: 22). Shifts have also been identified as being an important referent for officers in conducting their daily work (Crank, 2004; Rubinstein, 1973), and research has found shifts to influence their attitudes. For example, Haarr (2001) found that changes in officers’ views toward community policing were partially explained by the type of shift (i.e., day, afternoon, or night) officers were assigned to upon graduation from the training academy. Thus, attitudinal differences toward police work were attributed to shift assignments (see also Paoline, 2001; Sun, 2003).

Although the above line of research has examined the impact that the formal organization of policing has on officer attitudes, a limitation of previous work is that each study focuses solely on a single level. The current study extends this line of research by incorporating each organizational level into a systematic framework; however it is



hypothesized that officers' shifts within precincts (i.e., workgroups), likely have the greatest impact on attitudes. As will be seen, it is within workgroups where much of police work is carried out and where officer interactions are patterned. In short, workgroups are the most proximal entity where attitudes are shaped and where officers are most likely to develop shared understandings of them.

### *Workgroup Conceptualization*

The above studies illustrate the importance of formal organizational groups to the study of officer attitudes. Although such groups have been applied in police research, some discrepancies exist in their conceptualization. Peer groups have been defined differently, but have been labeled the same (e.g., McCluskey et al, 2005; cf. Sun, 2002). Furthermore, groups based solely on geographic boundaries (e.g., Hassell, 2006) miss the importance of the temporal nature of shifts. Each shift leads to interactions with different types of citizens and different work obligations (Rubinstein, 1973). Thus, even officers working the same precinct likely have different experiences based on the time of day that they work. As a result, it appears fruitful to examine officers' attitudes in relation to their assigned shifts within precincts. For the purposes of the proposed study, workgroup is the term used to represent officers' shifts within precincts in order to avoid confusion with the peer group and shift concepts of prior studies.

It is important to note that just being assigned to the same workgroup does not fully capture the manners by which groups influence officer attitudes. Additionally, certain contextual features associated with workgroups facilitate interactions and expose officers to common features of the work environment. In order to have a full understanding as to how workgroups influence officer attitudes, it is also necessary to

discuss these factors (i.e., the environment, supervisors, and other officers). The specific aspects of the workgroup environment which expose officers to common situations, constrains their attitudes, and produce shared attitudinal responses serve as contextual features that have impact officers' attitudes.

### **The Why: Workgroups as Contexts for Officer Attitudes**

Workgroups are argued to influence officer's occupational attitudes because they represent immediate and proximal contexts of their work environments. It is within workgroups where police work is carried out. These contexts shape officers' attitudes and certain characteristics of workgroups serve as important attitudinal influences. In identifying such factors, Hackman (1992: 250) found that, "[g]roups provide the immediate context for individual thought and action. The attributes of the people in the group, the characteristics of the tasks, and the properties of the place where the group works collectively provide a stimulus rich context for individual(s)." Applied to policing, these three types of factors associated with officers' workgroups are important in shaping occupational attitudes. Specifically, characteristics of officers' environment, frontline supervisors, and the compositional attributes of the group are important characteristics of the workgroup context.

#### *Environment*

The idea that environmental characteristics influence officers' attitudes was offered by the early observational studies of the police. For example, Rubinstein (1973: 186) observed that "[t]he patrolmen's knowledge of people develops haphazardly. He is constantly recording bits of information about people he meets which he uses in making judgments about them if he encounters them again. He remembers places where he has

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had trouble or where trusted colleagues have met resistance. These recollections can affect his attitudes toward the people he meets even before his arrival at the scene.” Thus, within workgroups officers interact with different types of citizens in their routine encounters, and these interactions influence their attitudes, such as their views toward citizens (Crank, 2004; Rubinstein, 1973).

In addition, limited empirical evidence within the individual approach also suggests that the characteristics of officers’ occupational environments influence their attitudes. For example, it has been found that officers in low crime and racially heterogeneous neighborhoods have broader role orientations (Sun, 2003). Furthermore, officers who perceive their beat to be more economically affluent have been found to have more positive attitudes toward citizens, while those who perceive their beat to have a crime problem are more likely to hold more negative attitudes toward citizens (Moon & Zager, 2007). Finally, reported crimes and call for service workloads have also been found to influence officer attitudes. Specifically, officers with higher workloads were found to be more crime-control oriented while officers with lower workloads more service oriented and more positive views toward citizens (Brooks, Piquero, & Cronin, 1994).

The above environmental characteristics, such as interactions with citizens, levels of crime, and work load rates are all salient factors likely to impact officers’ attitudes within the contexts of workgroups. Prior research has found some evidence that such characteristics impact officers’ views toward citizens and the police role (Brooks et al, 1994; Moon & Zager, 2007; Sun, 2003), but the relationships may also readily apply to other attitudes. For example, it is possible that officers who work in occupational

environments characterized by higher workloads and higher levels of crime also subscribe to aggressive policing tactics and selective enforcement of the law. Additionally, officers in these conditions may also be more likely to feel that the administration is unsupportive of their efforts to address these workload and crime issues. Collectively, this may also reduce officers' satisfaction with their jobs.

### *Front Line Supervisors*

A second workgroup characteristic that shapes officer attitudes are the influence of officers' frontline supervisors (i.e., sergeants). The role of sergeants and their leadership practices in shaping officer attitudes are important for two reasons. First, sergeants have direct control over officers' daily work routines (Skogan, 2008). Second, sergeants have been described as mediators between the line level and top management (Fielding, 1988; Sharp, 1982). As such, sergeants have been described as the "transmission belts" of police departments (Skogan, 2008: 25).

The daily interactions between sergeants and their officers provide for a relationship where sergeants' views and attitudes can have a direct influence on officers' attitudes. Supervisors can affect officers' behaviors by shaping attitudes to coincide with their own views on what constitutes acceptable police work (Engel & Worden, 2003; Muir, 1977; Sharp, 1982). For example, Skogan and Hartnett (1997) found that line officer attitudes toward community policing were similar to those of their supervisors. Other studies have also found line officers' attitudes to be similar to those of sergeants (Paoline, 2001). Thus, the views of sergeants likely exert a direct influence on officer attitudes.

The idea that sergeants serve as mediators between the larger organization and the line level also illustrates their importance to the development of officers' attitudes. For example, the unique role of sergeants allows them to interpret the meaning of the policies and practices implemented by top management and communicate their own interpretations to their officers (Sharp, 1982; Skogan, 2008). As Sharp (1982: 169-170) noted, "[s]ergeants reinforce [policies] by using their considerable resources at their disposal to mold their squad of officers to their own image of good policing. Thus...the immediate supervisor's role is crucial." This role provides an additional more indirect influence on officer attitudes.

The above research implies that the role of sergeants within the workgroup context impacts the occupational attitudes of officers. Sergeants' own views toward factors such as the citizenry, police role, and policing tactics are likely to have a direct influence on how officers' view these factors. Additionally, sergeants' interpretations of department policies regarding treatment of citizens, the scope of the police role, or appropriate policing tactics are also likely to influence officers' own interpretations. Finally, sergeants own leadership styles are likely to influence officers' views toward supervision as well as job satisfaction. For example, Engel (2000) documented four distinct types of sergeants' leadership styles: traditional, innovative, supportive, and active, and argued that each type would influence officers' attitudes and behaviors in different ways. Applied to the current context, officers with supervisors who are less supportive of them may have more negative attitudes toward supervision and may be less satisfied with their jobs as a result.

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### *Workgroup Composition*

A final workgroup factor that likely shapes officers' attitudes is the composition of officers within the groups. In short, the attitudes of officers reflect the type of officers who compose the workgroup. Within the workgroup literature in the organizational sciences, it has been found that phenomena "often reflect the number and type of people who are its members" (Kozlowski & Bell, 2003: 337). Characteristics such as diversity and experience at the workgroup level serve to influence organizational phenomena. This is attributed to the fact that "people with similar backgrounds and experiences tend to behave in similar ways and to view their worlds from similar vantage points" (Schneider, 1981: 23).

The policing literature has offered insight into how the composition of workgroups can influence officer attitudes. For example, Haarr (1997) observed racial and gender barriers to integration into shift work. Specifically, white male officers interacted almost exclusively with other white male officers during their shifts. Female officers, on the other hand, had fewer types of interactions with other officers on their shifts. Diversity alters interaction patterns, as well as how officers are socialized into the culture of policing. Such increasing diversity is argued to change "the patterns of interactions among officers because minorities and women have not been accepted readily into the traditional culture" (Paoline et al., 2000: 583). As such, compositional characteristics of workgroups may also influence officer attitudes.

Workgroups composed of officers similar to each other may have more positive views toward supervision and job satisfaction because they receive more support from each other. On the other hand, workgroups that have higher concentrations of minority



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and female officers may have more negative views toward supervision and job satisfaction because they have not been adequately socialized into the police culture. Workgroups with higher concentrations of white, male officers may hold attitudes similar to those expected by the occupational perspective (e.g., distrust of citizens, crime-fighting roles, and aggressive policing tactics).

It should be noted that the rationale for the influence of workgroup composition characteristics on officer attitudes is similar to that of the individual approach that assumes demographic differences among officers explains attitudinal differences. Here, the difference lies in the process by which workgroup compositional characteristics impacts officer attitudes. It is not the characteristics of *individual* officers' that explains attitudinal differences, but rather the idea that differences in such characteristics either *enhance or constrain the interaction patterns among officers*. Therefore, contextual factors such as diversity (e.g., gender composition, racial composition, and average educational levels) and experience (e.g., average length of service of the group) at the workgroup- level, not the individual-level impacts officer attitudes. These factors influence officers' interactions, a social process that requires further discussion.

### **The How: Emergence of Shared Attitudes**

So far, the multilevel perspective offered has identified officer workgroups as important structural boundaries of the organizational context that influences officer attitudes. Additionally, specific features of the workgroup, such as the environment, frontline supervisors, and the composition of workgroups have been identified as salient contextual factors that explain why workgroups influence officer attitudes. In doing so, it has offered a perspective for identifying where within the police organization officer

attitudes are affected and why. The final component of the framework addresses the how officers within workgroups come to develop shared attitudinal perceptions. Central to this discussion is the importance of officer interactions within workgroups. The key concept for establishing how officers share attitudes is emergence.

Many concepts central to theories in the organizational sciences have been characterized as emergent phenomena. A concept is emergent “*when it originates in the cognition, affect, behaviors, and other characteristics of individuals, is amplified by their interactions, and manifests as a higher-level, collective phenomenon*” (Kozlowski & Klein, 2000: 55, italics in original). Emergent concepts have two essential features: elemental content and interactive processes. Elemental content denotes the substantive components of the concept while interaction is the key process by which the concept becomes a collective phenomenon (Kozlowski & Klein, 2000). Applied to the current topic, officers’ attitudes comprise the elemental content while interactions among officers reflect the process by which emergence takes place. As Ostroff et al. (2003: 578) notes emergence occurs, “through communication and information exchange, sharing of ideas, exchanging work products, and other forms of interactions of employees.” Over time, these interactions lead to the development of shared occupational attitudes among officers within workgroups. Thus, the current study views emergence from a compositional perspective (Kozlowski & Klein, 2000).<sup>7</sup> Officers within workgroups are

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<sup>7</sup> It is important to recognize that different types of emergence have been identified based on how interactive processes are assumed to relate to elemental content. For example, compositional emergence is based on the idea that individuals will share common perceptions of the elemental content because interactions lead to a convergence of perceptions. On the other hand, compilational emergence assumes that individuals will develop different perceptions of the elemental content as a result of their interactions. See Kozlowski & Klein (2000: 66) for a typology of the different types of emergence.

argued to develop shared attitudes as a result of their interactions and exposure to similar environments and supervisors.

The concept of emergence and the importance of officer interactions are not new within the policing literature, as research has included an emergent component to definitions of police culture and has also focused on how patterns of interaction among officers in their work environments shape police practices (Crank, 2004; Fielding, 1988; Haarr, 1997). However, much of the literature on police culture has not focused on how attitudes become shared, but rather has focused on assessing the amount of variation in these cultural attitudes (Paoline, 2003). Despite this, a number of studies have discussed specific types of interactions important to officers which can be drawn on.

For example, prior research has discussed the importance of jokes, stories, and metaphors to police work (Bayley & Bittner, 1984; Pogebrin & Poole, 1988). As Pogebrin and Poole (1988: 205) observed officers' use of humor and concluded that "[t]hrough humor the police reinforce their work perspective..., promoting a collective self-confidence conducive to the maintenance of group autonomy and the exercise of individual discretion." In addition to jokes, stories, and humor, interactions based on negotiations (Klinger, 1997), the communication of myths and rituals (Manning, 1997), and the sharing of ideas and experiences (Fielding, 1988) have also all been found to be salient in the policing literature. Collectively, the nature of these interactions produces shared meanings regarding occupational attitudes. Because officers within workgroups are more likely to interact on a routine basis and are exposed to the same contextual factors (i.e., environment, supervisors, and other officers), shared attitudes emerge.

The concept of emergence is important because it offers insight into how officers' attitudes move from an individual level perspective to higher, workgroup level constructs. Based on the individual approach, officers may develop their own styles of policing based on their attitudes (e.g., Brown, 1988). However through processes of interaction, the variation in these interpretations lessens as officers form common interpretations of their work environments. As Kozlowski & Klein (2000: 63) note, "[v]ariations in individual interpretations dissipate as a collective interpretations converges." As such, officer attitudes become shared constructs through the process of emergence at the workgroup level.

### **Implications for the Study of Officer Attitudes**

The above framework has two important implications for the study of officers' occupational attitudes. First, the notion that workgroups influence officer attitudes because officers are exposed to common aspects of the work environment suggests that contextual factors (i.e., environmental, supervisory, and compositional factors) of the workgroup can explain attitudinal differences. Second, the idea that officers within workgroups develop shared attitudes as a result of their daily interactions implies that attitudes may also represent contextual measures of the workgroup environment, which is important for research on the police attitude-behavior relationship.

#### *Workgroup Factors Explain Attitudinal Differences*

In explaining why workgroups influence officer attitudes, three key features of the workgroup were identified: the occupational environment, supervisors, and the composition of workgroups. These factors were argued to have a direct influence on attitudes because officers within workgroups are exposed to the same characteristics on a

daily basis. To the extent that environments, supervisors, and workgroup composition vary across workgroups, workgroup-level factors represent important measures of the organizational context that can explain attitudinal differences (Kozlowski & Klein, 2000; Ostroff et al., 2003). These workgroup level characteristics should explain differences over and above individual officer demographic characteristics that have dominated prior research.

### *Attitudes as Contextual Measures*

Officers' attitudes may also be viewed as contextual measures of the workgroup environment if they exhibit valid and reliable properties that allow for their aggregation to the workgroup level. These collective measures, then, may be used as predictors of officer behaviors. In this regard, "groups affect behavior indirectly by shaping members' beliefs and attitudes" (Hackman, 1992: 251). This notion is not as straightforward as the previous one and is discussed in more detail based on the idea of workgroup climates in the organizational psychology literature.

Workgroup climates are defined as "sets of perceptually based descriptions of organizational features, events, and processes. At the individual level, these perceptions represent cognitive interpretations of the context that arise from individuals' interactions with context and with each other" (Ostroff et al., 2003: 572). These climates represent macro-level constructs that are based on individuals' perceptions of their work environment (James, 1982). As such, they serve as mediators between individuals and their organizational contexts. As Kozlowski and Hattrup (1992: 162) note, "[c]limate perceptions represent cognitively based descriptions of these contextual features, linking contextual factors and events to psychological interpretation and individual responses."

Measures of workgroup climates are based on aggregated responses of individuals' attitudes (e.g., group means) and represent emergent constructs. Workgroup climate measures are designed to "capture or freeze" the social process of emergence and are used as indicators of collective properties (Kozlowski & Klein, 2000: 64). Such a conceptualization is important because they can have an impact on individuals' actions. For example, James (1982: 220) has argued that "aggregate climate perceptions may provide a powerful explanatory and predictive tool...because describing an environment in psychological terms...may enhance, in comparison to situational descriptors...the understanding of how individuals in general impute meanings to environments and, especially, how individuals in general will respond to environments."

Workgroup climate perceptions have been found to significantly predict employees' behaviors within the organizational psychology literature. For example, workgroup climate for safety has been examined in relation to the frequency of unsafe behaviors and accidents within organizations (Hoffman & Stetzer, 1996; Zohar, 2000; Zohar & Luria, 2005). Safety climates represent individual perceptions about management's commitment to safety and individuals' involvement in safety related activities and were hypothesized to be shared by individuals within each workgroup. As Hoffman and Stetzer (1996: 314) noted, "individuals attach meanings to and interpret the environment within which they work. These meanings and perceptions then influence the way in which individuals behave within the organization through their attitudes, norms, and perceptions of behavior-outcome contingencies." Results from this set of studies have found workgroup safety climate perceptions to be significantly related to unsafe behaviors by employees and accidents.

Additionally, workgroup climates for procedural justice have been found to influence group members helping behaviors (i.e., behavior that assists organization or other group members). This has led to the conclusion that “procedural justice climate is an important contextual variable expected to influence work attitudes and behaviors.” (Nauman & Bennett, 2000: 888). Finally, reviews of group climate perceptions have also found shared perceptions to be related to individual job performance, harassment incidents, and absenteeism (See Ostroff et al., 2003: 574). Thus to the extent that officers’ within workgroups share attitudes, aggregate measures of these attitudes may serve as important predictors of behavior within the workgroup context.

To date, only a single study on the police attitude-behavior relationship has taken an approach similar to that of the workgroup climate literature. McCluskey et al. (2005: 21) proposed that officers’ use of force behavior was influenced by a “broader context” associated with officers’ peer groups (i.e., officers working the same shift and sector). Peer groups were expected to have a direct effect on force behavior because they provided a context that defined how to handle citizens during encounters. The defining aspect of the peer group was officers’ attitudes toward aggressiveness. The study noted that aggressiveness has “at its core, the presentation of self as an offensive force against law breakers; and...it holds the coercive power of police (aggression/taking the initiative) at its core” (McCluskey et al., 2005: 23).

In the study, peer group aggressiveness was measured by aggregating officers’ responses within peer groups and creating a summary score. This was then related to individual officers’ use of force behavior. Officers in peer groups that had highly aggressive attitudes were hypothesized to use higher levels of force than officers in peer



groups that held less aggressive attitudes. The results from the study, however, indicated that peer group aggressiveness had no direct effect on use of force behavior. Some marginally significant ( $p < .10$ ) interaction effects were present among officers in highly aggressive workgroups compared to those in less aggressive work groups. This led to the conclusion that “the search for direct effects of police peer groups on behavior is unlikely to explain a great deal when compared with situational aspects of the police-suspect encounter” (McCluskey et al., 2005: 32).

Although this is one of the only studies to conceptualize officer attitudes as a contextual effect on behavior, the approach taken was limited in two ways. First, even though peer group aggressiveness was conceptualized as a contextual variable, scores were assigned as individual officer attributes. Therefore, an individual level approach was taken. The small number of peer groups available in the study for analysis ( $N=31$ ) may have precluded treatment of the measure as a macro-level construct. Second, aggressiveness scores were aggregated without considering whether officers within peer groups shared similar attitudes. As such, the validity of the measure as a contextual construct was not determined before it was related to force behavior.

### **Current Study**

The purpose of the current study is to provide an empirical test of the multilevel framework discussed in this chapter. Specifically, the study tests whether officers' assigned workgroups influence their occupational attitudes. In order to accomplish this, three research objectives are addressed:

*Research Objective #1:* The primary research objective is to determine if workgroups affect officer attitudes. Three research questions are examined: 1) are there

significant differences in officer attitudes between workgroups?; 2) how do differences at the workgroup level relate to differences at the precinct and department levels?; and 3) do officers within workgroups share attitudes? Examination of the above questions is important for two reasons. First, in order for workgroups to be considered salient contexts for officer attitudes, significant differences between workgroups must be found. If there are no differences in officer attitudes between workgroups, then workgroup level factors will not explain attitudes. Second, in order for attitudes to be viewed as collective measures of the workgroup environment, it must be demonstrated that officers within workgroups share similar attitudes. If attitudes are not shared, then they cannot represent valid, workgroup level constructs (e.g., climates) (Bliese, 2000; James, 1982; Kozlowski & Klein, 2000). To the extent that the results indicate that workgroups serve as valid contexts for officer attitudes, two additional objectives are proposed to further illustrate the framework.

*Research Objective #2:* The second objective examines whether workgroup level factors explain attitudinal differences. Although a number of environmental, supervisory, and compositional factors were offered as potential explanations in the prior discussion, the study will focus on workgroup compositional characteristics. Characteristics such as the racial, gender, educational, and experiential compositions of workgroups will be measured to test the question: do workgroup compositional characteristics explain attitudinal differences across workgroups?

*Research Objective #3:* The final objective tests whether workgroup level attitudes explain officer behaviors. The focus here centers on measures of workgroup attitudinal climates and one type of behavior- officers' use of force. Thus the final

research question is: do workgroup-level attitudes (e.g., climates) predict officers' use of force behavior? The following chapter outlines the methodology for how the above three research objectives will be carried out in greater detail.

## **CHAPTER 4: DATA & METHODS**

Despite the need identified by police scholars to incorporate multilevel approaches into the study of police officer attitudes (Frank & Brandl, 1991; Hassell, 2006; Klinger, 1997; Worden, 1995), there is currently a lack of research in this area. Much of the extant literature has been rooted within the individual approach to the study of police attitudes. Additionally, there currently is a lack of data available to adequately incorporate an organizational approach to the study of policing in general (Klinger, 2004), and officer attitudes in particular (DeJong, 2004; Hassell, 2006; Paoline, 2001), as much of recent policing research has been based on data from only one or two police organizations. The current study is designed to address these issues in two ways. First, drawing on the multilevel theoretical perspective within organizational psychology, the study employs a framework for examining officer attitudes from a multilevel perspective. Second, the study uses data from multiple departments and a methodology designed to allow for an adequate examination of the research objectives. The remainder of this chapter describes the data and methodology used to test these objectives. Specifically, this chapter discusses the data sources, study departments, study design, measures and variables, and the analysis plan.

### **The Assessing Police Use of Force Policy & Outcomes Study**

The current study uses data collected as a part of a National Institute of Justice funded project entitled, *Assessing Police Use of Force Policies and Outcomes* (2005-IJ-CX-005NIJ). This ongoing project is a multi-phase, multi-site study designed to examine use of force policies and practices across police departments in the United States. The specific goals of the study are twofold: 1) to identify the types of use of force policies

that are currently being used by police departments and 2) to determine whether certain types of policies produce more beneficial outcomes, such as providing better assistance and guidance to officers in making decisions, being associated with less force, fewer injuries to both citizens and officers, and being associated with fewer force-related complaints and lawsuits filed against departments. In order to accomplish these research goals, the study was conducted in two phases which are summarized below.<sup>8</sup>

Phase I consisted of an agency survey administered to a stratified random sample of 1,083 municipal police departments and sheriff's offices across the United States. The primary purpose of this survey was to assess variation in the types of use of force policies implemented as well as to identify the most common types of policies currently being used by departments. Based on the results of the agency survey, eight departments were selected to be studied more extensively in Phase II. The primary selection criterion for the eight departments was the type of force policy each agency had implemented. In essence, each of the eight departments had a different type of force policy.

The agency selection process, however, also sought to enhance the external and internal validity of research results. With respect to external validity, agency selection focused on departments of similar sizes. As such, departments that employed between 250 to 1,000 sworn officers were targeted. With respect to internal validity, agency selection focused on departments with similar city and departmental characteristics. Departments that served similar social and economic jurisdictions, and had similar workload (e.g., calls for service and arrests) and crime levels, were targeted. As a result of the selection process, participating agencies for the project's second phase included the

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<sup>8</sup> For a detailed description of the objectives and methodologies for both phases of the *Assessing Police Use of Force Policies and Outcomes Study*, see Terrill, Paoline, & Ingram, forthcoming.

departments from Columbus, Ohio (CPD), Charlotte-Mecklenburg, North Carolina (CMPD), Portland, Oregon (PPB), Albuquerque, New Mexico (APD), Colorado Springs, Colorado (CSPD), Fort Wayne, Indiana (FWPD), St. Petersburg, Florida (SPD), and Knoxville, Tennessee (KPD).

The purpose of Phase II of the study was to determine if the policies in each of the eight departments were associated with the outcomes described above (i.e., providing assistance, less force, injuries, complaints, and lawsuits). As such, data collection for Phase II of the project focused on two types of data. First, departmental records including use of force reports, citizen complaints, arrest data, call for service data, and reported crime data were collected for a two-year period. Second, an officer survey was administered which asked officers their views towards their department's force policy, their attitudes towards their work and organizational environments, and their background characteristics (e.g., educational, military, and career backgrounds).

Data for the proposed study come primarily from the officer survey administered in five of the eight departments (APD, PPB, CSPD, FWPD, & KPD) that participated in Phase II of the *Assessing Police Use of Force Policy and Outcomes Study*.<sup>9</sup> Although the primary purpose of the project is to assess the impact of force policies on force-related outcomes, the design of the study as well as the multitude of data components collected allows for the examination of much broader research issues such as the ones examined

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<sup>9</sup> Three of the departments (CPD, CMPD, & SPD) are excluded from the current study. First, CPD was organized differently from the rest of the sites. For example, CPD not only assigned officers to shifts and precincts, but also to specific zones across the city. Because the current study examines workgroups in relation to other structural levels, it is important that the hierarchical nesting of officers be similar across sites. Second, CMPD was excluded from the current study because the use of force data was not completely collected at the time of the dissertation. In an effort to remain consistent as possible across the study, CMPD was excluded; however, when the force data becomes available, the site can be incorporated for any subsequent papers that would come out of Research Objective #3. Finally, the administration at SPD did not allow the section of the survey that measured officer occupational attitudes to be administered to officers.

here. Specifically, the multi-site design along with the methodology of the officer survey allows for an examination of the effect of workgroups on officers' occupational attitudes.

### **Description of Study Sites**

City, department, and patrol officer characteristics for each of the sites are discussed to provide some context behind the types of jurisdictions each department serves and were gathered from three sources: the 2000 U.S. Census, the 2007 Uniform Crime Reports (UCR), and agency reports and rosters. As mentioned above, both the city and department characteristics were used as selection criteria for the larger NIJ project. Since the current study focuses on the attitudes of patrol officers, the demographic characteristics for officers assigned to patrol at the time of the study are also presented. A summary of the city, department, and patrol officer characteristics are provided in Table 4.1.

#### *City Characteristics*

Based on the city characteristics reported in Table 4.1, the five study sites shared similar demographics. All of the departments served cities ranging in population from over half a million people (APD & PPB) to just under 200,000 people (KPD). In terms of racial demographics, Albuquerque (APD) had a slightly higher percentage of non-white residents than the other sites; however all five sites had a minority population ranging approximately between 20 and 28 percent. It should be noted that although serving the smallest population, Knoxville (KPD) did experience higher poverty levels and Part I crimes than the other sites. In terms of similarities, all five sites had closely comparable percentages of female-headed households as well as percentages of residents below the poverty line.

**Table 4.1: City, Department, & Officer Characteristics of Study Sites**

| <b>Characteristics</b>                         | <b>APD</b> | <b>PPB</b> | <b>CSPD</b> | <b>FYPD</b> | <b>KPD</b> |
|------------------------------------------------|------------|------------|-------------|-------------|------------|
| <u>City</u>                                    |            |            |             |             |            |
| Population <sup>a</sup>                        | 513,124    | 538,133    | 374,112     | 248,423     | 182,337    |
| % Non-White <sup>b</sup>                       | 28.4       | 22.1       | 19.3        | 24.5        | 20.3       |
| % Female Headed Households <sup>b</sup>        | 8.0        | 6.3        | 7.1         | 9.8         | 8.0        |
| % Below Poverty <sup>b</sup>                   | 10.0       | 8.5        | 6.1         | 9.6         | 14.4       |
| % Unemployed <sup>b</sup>                      | 3.8        | 4.5        | 3.1         | 4.3         | 3.9        |
| UCR Part I Crimes <sup>a</sup>                 | 34,373     | 35,287     | 18,539      | 10,845      | 14,920     |
| UCR Part I Crimes/1,000 residents <sup>a</sup> | 66.98      | 65.57      | 49.55       | 43.65       | 81.38      |
| <u>Department</u>                              |            |            |             |             |            |
| Total # Sworn Officers <sup>a</sup>            | 986        | 989        | 669         | 457         | 382        |
| # Officers/1,000 residents                     | 1.92       | 1.84       | 1.78        | 1.84        | 2.09       |
| Total # Calls for Service <sup>c</sup>         | 335,133    | 219,840    | 286,534     | 182,912     | 225,064    |
| Total # Part I Arrests <sup>c</sup>            | 3,428      | 7,083      | 4,604       | 2,495       | 2,960      |
| UCR Part I/officer                             | 34.86      | 35.67      | 27.71       | 23.73       | 39.05      |
| Calls for service/ officer                     | 339.89     | 222.28     | 428.30      | 400.25      | 589.17     |
| Part I Arrests per/officer                     | 3.48       | 7.16       | 6.88        | 5.46        | 7.75       |
| # of Precincts                                 | 5          | 5          | 4           | 4           | 2          |
| # of Shifts                                    | 4          | 3          | 3           | 3           | 4          |
| <u>Patrol Officer <sup>d</sup></u>             |            |            |             |             |            |
| Total # Patrol Officers                        | 429        | 364        | 314         | 212         | 141        |
| <u>Gender</u>                                  |            |            |             |             |            |
| Male                                           | 369 (86.0) | 312 (85.7) | 273 (86.9)  | 193 (91.0)  | 128 (90.8) |
| Female                                         | 60 (14.0)  | 50 (13.7)  | 41 (13.1)   | 18 (8.5)    | 13 (9.2)   |
| <u>Race</u>                                    |            |            |             |             |            |
| White                                          | 245 (57.1) | 315 (86.5) | 254 (80.9)  | 181 (85.4)  | 129 (91.5) |
| Black                                          | 10 (2.3)   | 13 (3.6)   | 19 (6.1)    | 21 (9.9)    | 7 (5.0)    |
| Hispanic                                       | 165 (38.5) | 12 (3.3)   | 29 (9.2)    | 7 (3.3)     | 0 (0.0)    |
| Other                                          | 6 (1.4)    | 21 (5.8)   | 12 (3.9)    | 1 (0.5)     | 5 (3.5)    |
| <u>Age</u>                                     |            |            |             |             |            |
| Median (years)                                 | 33.87      | 36.58      | 36.87       | 36.17       | 34.00      |
| <u>Length of Service</u>                       |            |            |             |             |            |
| Average (years)                                | 5.62       | 8.87       | 9.27        | 9.67        | 6.83       |

<sup>a</sup> Source: United States Department of Justice, FBI (September, 2008). *Crime in the United States 2007*

<sup>b</sup> Source: United States Census Bureau (2000)

<sup>c</sup> Source: Agency 2006-2007 Annual Reports

<sup>d</sup> Source: Departmental Master Rosters. Note: Numbers in parentheses represent percentages. Totals may not equal total number of patrol officers due to missing data.



### *Department Characteristics*

Both Albuquerque (APD) and Portland (PPB) were the largest departments in terms of number of sworn officers, while Knoxville (KPD) was the smallest. Despite the size differences, all five departments were comparable when examining the number of sworn officers per 1,000 residents as the range was 1.78 (CSPD) to 2.09 (KPD). Thus, even though city population and department size varied, staffing levels were similar across sites. Furthermore, even though KPD had the highest crime rate, it had similar Part I crimes per officer as APD and PPB. In terms of workload measures, KPD did vary from the other four departments in terms of calls for service. KPD had over 100 more calls for service per officer than CSPD, the next highest department. Based on these numbers, KPD appears to have slightly higher workload levels than the other departments. The sites did have comparable Part I arrests per officer.

The five study departments are also structured similarly. Each department is broken down geographically into precincts. Table 4.1 shows that the number of precincts per department varies according to department size with the larger departments having four to five precincts while KPD, the smallest department, having only two precincts. Each of the five departments had similar shift allocations. Patrol officers in PPB, CSPD, and FWPD were assigned to one of three shifts (i.e., Day, Afternoon, or Night) while officers in APD and KPD could be assigned to one of four shifts (i.e., Day, Afternoon, Split, or Night). With respect to shift assignments, officers assigned to shifts generally worked four days a week and eight to ten hour days depending on the site. Each site used a bid system to allocate officers to shifts primarily on an annual basis. Each year officers were allowed to bid on what shift and precinct assignment they wished to be assigned

with one exception; FWPD officers could bid for a shift assignment whenever one became open.

Finally, it should be noted that officers were not necessarily assigned to their own beats. In fact, only officers in KPD and FWPD had stable beat assignments. Officers in the other three sites were not regularly assigned to work a specific beat. This is likely due to the fact that KPD and FWPD police smaller jurisdictions, while the other sites have larger areas to cover. Reductions in resources were also identified by department personnel as another reason why officers were not assigned their own beats. Rather officers may have been needed to work a number of beats based on shift needs.

#### *Patrol Officer Characteristics*

The last set of characteristics in Table 4.1 depicts the demographic characteristics of patrol officers across the five study sites. Across all sites, most officers were male and white. This is consistent with the demographic characteristics of police departments in general, as policing has historically been dominated by white males (NRC, 2004; Manning, 2005). APD, however, did have a sizeable population of Hispanic officers (38.5%). Additionally, patrol officers were between 33 and 36 years of age. Officers' length of service did vary across sites ranging from approximately 6 years in APD to approximately 10 years in FWPD. Although data on officers' educational levels were not provided in the departmental master rosters, educational requirements for officers also varied by department. Based on the hiring requirements listed on each agency's website, APD, FWPD, and KPD required only a high school education or equivalent (i.e., GED) while PPB and CSPD required an Associates degree or 60 hours of college credit.

## **Officer Survey Research Design & Protocol**

The officer survey was administered during roll call sessions at the start of each shift and targeted patrol officers assigned to a patrol shift. Surveys were administered during roll calls at every site except FWPD as this site did not use a roll call system. Here, the officer survey was coordinated with the department's annual in-service training schedule, and the surveys were administered at this time by the research team. The group administration method and protocol, however, remained similar to the other sites. The instrument contained 116 questions and was divided into three main sections. The first section asked officers their views towards their departments' use of force policy. The second section asked officers about their attitudes regarding their organizational and work environment. The final section asked some basic background characteristics. The instrument was pre-tested on a sample of current and former police officers in Michigan and Florida. These officers provided feedback regarding both the content and structure of the survey. Based upon the comments from the pre-test, revisions were made which incorporated this feedback before the survey was administered at each site.

The goal of the design was to survey the entire target population within each of the five study sites. This was done for three reasons. First, sufficient resources were available to the research team to survey every patrol officer. Second, the organization of departments and their roll call system facilitated this approach. Finally, the multilevel nature of the study's research objectives requires large sample sizes as well as sufficient sample representativeness across workgroups. Thus, instead of using a sampling frame, a census was conducted.

### *Survey Protocol*

In order to carry out the survey research design, a standardized protocol was implemented to ensure that the survey was administered consistently across sites. First, a departmental master roster listing all sworn officers, their demographic characteristics (i.e., race, gender, date of birth, date of hire), and their current work assignments (i.e., rank, precinct, shift, and work schedule) was obtained for each department approximately two weeks to one month before surveying was to take place. Based on the master roster a survey schedule was created for each site that afforded the research team the opportunity to survey every patrol officer assigned to a patrol shift. Second, a memorandum providing background information about the research project and the survey schedule for each site was disseminated department wide to alert command personnel of the dates that the research team would be administering the survey at their roll calls. Third, a member of the research team attended each designated roll call to administer the survey.

During roll call, officers were given a brief description of the research project and instructions for completing the survey. The survey administrator also informed officers that participation was voluntary during this time. Officers were to complete the surveys during roll call before going out to work their shift. The surveys took approximately twenty minutes to complete. Upon completion, the research team member collected the survey directly from the officer. Across sites, survey administration took place over a period of a week to ten days depending upon the organization of the department. In most instances, the survey administrators visited each roll call twice to ensure that every officer was given the opportunity to complete the survey.

### *Confidentiality Protections*

In addition to standardized protocol, several precautions were taken to ensure the confidentiality of officers' responses. First, officers were briefed about the confidentiality protections afforded to them during roll call sessions. Because surveys were administered while a researcher was present, any questions regarding the confidentiality of responses could also be directly answered. Second, officers were assigned unique identification numbers specifically for the study. These identification numbers were generated randomly and were not associated with any characteristics of the officers (e.g., badge numbers). The numbers were placed on the survey instrument and served primarily as a way for the research team to remove officers from the survey list upon completion. Finally, the informed consent signature page was placed on a cover sheet separate from the survey instrument. After completion of the survey the informed consent cover sheet was removed from the survey instrument and stored separately.

### *Survey Administration Results*

Table 4.2 reports the survey administration results across each of the five study sites. The numbers in Table 4.2 represent the total number of officers assigned to patrol, the number of patrol officers present at roll calls when the survey was administered, the number of officers surveyed, the percentage of officers surveyed, and the response rates for each site. Total numbers and averages are also provided. On average, approximately seventy percent of patrol officers in the five sites were surveyed. CSPD had the lowest percentage of patrol officers surveyed; however, the percentage was still above sixty percent. FWP and KPD had the highest percentage of officers surveyed (approximately 85%). It should be noted that the 407 patrol officers on work rosters but absent from roll

calls were not available due to illness, vacation, training, court, or leave. For those officers present during the administration times, almost all took the survey. On average, the survey response rate was considerably high (i.e., approximately 97 percent). Even PPB, the site with the lowest response rate, still had a completion rate of almost ninety-five percent.

In addition to the results presented in Table 4.2, additional analyses were conducted to ensure representativeness across each department. For each of the five sites, chi-square and t-tests were conducted to determine if there were any significant demographic differences (i.e., race, gender, age, and experience) between those surveyed and those not surveyed.<sup>10</sup> The only significant finding was a gender difference for APD. Specifically, slightly fewer females were surveyed than expected (chi square= 4.663;  $p<.05$ ). With respect to all other demographic characteristics, there were no significant differences between officers surveyed and those not surveyed for any site.

Collectively, the results suggest that the officers surveyed in each site are representative of the patrol population for each department. The high percentage of officers surveyed, high response rates, and the presence of only one demographic difference between officers surveyed and those not surveyed are indicative of sample representativeness across each site. These results can be attributed to the attention given to the planning and coordination required by the survey protocol. The on-site administration method coupled with the attempt to survey every available patrol officer is a critical reason for the high percentages and response rates.

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<sup>10</sup> Bivariate tests (not presented) were conducted for each site and for each demographic characteristic using data from each department's master rosters. Tests for differences in education could not be conducted since this data was not provided for all officers. Results can be provided upon request.

**Table 4.2: Officer Survey Administration Results**

| <b>Site</b>           | <b>Patrol #<sup>a</sup></b> | <b># at Roll Call</b> | <b># Surveyed</b> | <b>Patrol %</b> | <b>Response Rate<sup>b</sup></b> |
|-----------------------|-----------------------------|-----------------------|-------------------|-----------------|----------------------------------|
| APD                   | 429                         | 304                   | 301               | 70.16           | 99.01                            |
| PPB                   | 364                         | 245                   | 232               | 63.74           | 94.69                            |
| CSPD                  | 314                         | 194                   | 189               | 60.19           | 97.42                            |
| FYPD                  | 212                         | 189                   | 182               | 85.84           | 96.30                            |
| KPD                   | 141                         | 121                   | 120               | 85.11           | 99.36                            |
| <b>Total #/Avg. %</b> | <b>1,460</b>                | <b>1,053</b>          | <b>1,022</b>      | <b>70.14</b>    | <b>97.25</b>                     |

<sup>a</sup> Represents the total number of patrol officers assigned to a patrol shift.

<sup>b</sup> Response rates are based on the total number of patrol officer surveyed divided by the number of patrol officers present at roll calls.

### **Workgroup Operationalization**

Workgroups are defined as officers' assigned shifts within precincts. This conceptualization is similar to prior research that has examined the effect of peer groups (e.g., McCluskey et al., 2005; Sun, 2003) and shifts (Haarr, 2001; Paoline et al., 2000; Sun, 2002) on officer attitudes. The current work has incorporated aspects from each of these entities to capture both the spatial and temporal boundaries important to the structure of police work. Using data from the master rosters provided by each department as a part of the survey protocol, officers were coded into their respective workgroup. Thus, each officer assigned to the same shift in the same precinct is considered to be a member of the same workgroup. For the current study, officers' workgroup membership serves as a key independent variable. It is hypothesized that workgroup membership influences each of the occupational attitudinal measures.

Since officer workgroups represent an important organizational level in the current study, survey administration results were also calculated to ensure sample representatives across workgroups. Based on the shift and precinct information from Table 4.1, there are 67 total workgroups available for analysis. However, there were six

workgroups that had low survey response rates (e.g., < 50%). As a result, all workgroup-level analyses in the subsequent chapters will be based on 61 workgroups. The number of workgroups for each of the five sites is as follows: APD (18 workgroups), PPB (13 workgroups), CSPD (10 workgroups), FWPD (12 workgroups), and KPD (8 workgroups).

**Table 4.3: Workgroup Survey Results (N=61)**

| Site            | Workgroup N  | Avg. # of Officers | Avg. # Surveyed | Avg. % Surveyed | Min. % Surveyed | Max. % Surveyed |
|-----------------|--------------|--------------------|-----------------|-----------------|-----------------|-----------------|
| APD             | 18           | 22.61              | 16.16           | 72.00           | 55.55           | 100.00          |
| PPB             | 13           | 25.46              | 17.00           | 67.91           | 50.00           | 81.25           |
| CSPD            | 10           | 27.00              | 17.60           | 66.31           | 56.10           | 83.33           |
| FWPD            | 12           | 17.67              | 15.16           | 85.77           | 76.90           | 91.67           |
| KPD             | 8            | 17.63              | 15.00           | 84.64           | 70.00           | 100.00          |
| <b>Averages</b> | <b>12.20</b> | <b>22.07</b>       | <b>16.18</b>    | <b>75.32</b>    | <b>61.70</b>    | <b>91.25</b>    |

Table 4.3 displays the survey administration results at the workgroup-level across the five sites. Workgroups had approximately 22 officers assigned to them, of which approximately sixteen (i.e., 75.32%) were surveyed on average across sites. After excluding the six workgroups with low response rates, the minimum percentage of officers surveyed within workgroups were all at 50 percent or above. The maximum percentage of officers surveyed was high, ranging from approximately 80 to 100 percent across the five sites. Overall, these results suggest that the survey data should provide an accurate representation of officers' attitudes within workgroups. Again, these results can be attributed to the attention given to the planning and coordination required by the survey protocol.



## **Officers' Occupational Attitudes**

### *Survey Items*

Nineteen questions were taken from the section of the officer survey measuring officers' attitudes toward their work environments (See Appendix A). The questions are based on Likert scales ranging from 1 (Strongly Agree) to 4 (Strongly Disagree) and measure the extent to which officers agree with the statement posed. The survey items used as measures for officers' occupational attitudes are identical to those used by prior research in this area. This is beneficial for two reasons. First, the measures used in prior research have a lineage indicating that they are reliable and valid constructs. For example, many of the survey items were also used by the POPN study, and the research generated from them (see Chapter Two) has generally indicated that the psychometric properties of the attitudes are reliable and valid. Second, police scholars have noted the importance of developing consistent measures for officers' attitudes so that the results can be compared and findings can become cumulative (Paoline et al., 2000; Worden, 1995). As such, it is expected that these items will reflect the seven occupational attitudes outlined previously. Also, by using the same measures as prior research the proposed study builds upon the results in this area.

### Views toward Citizens

Two survey items are used as indicators of the citizen distrust measure. Specifically, officers were asked the extent to which they agreed with the following statements: 1) "Police officers have reason to be suspicious of most citizens." and 2) "Police officers have reason to be distrustful of most citizens." Higher values indicate officers have a greater distrust of citizens.

### Policing Tactics

The survey items used as indicators of aggressiveness and selective enforcement were taken from Brown's (1988) study. To measure aggressiveness, officers were asked the extent to which they agreed with the following statement: "A good police officer is one who patrols aggressively by stopping cars, checking out people, running license checks, and so forth." To measure selective enforcement, officers were asked the extent to which they agreed with the statement: "An officer is more effective when s/he patrols for serious felony violations rather than stopping people for minor traffic violations and misdemeanors." Higher values on both measures indicate officers are more aggressive and selective.

### Role Orientations

Prior research has measured officers' role orientations in two different ways. Some studies use three separate measures for each of the three primary policing roles which consist of enforcing laws, maintaining order, and providing services (e.g., Brooks et al., 1993; Lord & Friday, 2008; Paoline et al., 2000; Schafer, 2002). Essentially, this method measures officers' acceptance of each role type. Other studies, however, include all items associated with the police role under a single measure (e.g., Sun, 2003; A. Worden, 1993; Worden, 1990). This method is used to assess whether officers hold narrower role orientations geared toward crime fighting or hold broader role orientations that indicate acceptance of other roles. To be consistent with the conceptual development of this occupational attitude described in Chapter Two, the proposed study will follow the latter approach.

The narrow role orientation measure consists of seven items that indicate the degree to which officers feel that law enforcement is the primary role of the police. Officers were asked the extent to which they agreed with the following statement: “Enforcing the law is by far a patrol officer’s most important responsibility.” The final six items measure how officers view order maintenance and service job roles. Specifically, officers were asked the extent of their agreement in having to address the following six order maintenance/service duties: public nuisances, neighbor disputes, family disputes, parents who don’t control their kids, nuisance businesses, and litter and trash. For these items, higher values indicate a narrower role orientation.

#### Views toward Supervision

Five survey items were used to measure officers’ views toward two types of supervision. Officers’ views toward direct supervisors were measured with the following questions: 1) “My supervisor looks out for the personal welfare of his/her subordinates.” and 2) “My supervisor’s approach tends to discourage me from giving extra effort.” Both items were coded so that higher values indicate more negative views toward supervision.

#### Top Management

Views toward top management consisted of three questions: 1) “When an officer does a particularly good job, how likely is it that top management will publicly recognize his or her performance?”, 2) “When an officer gets written up for minor violation of the rules, how likely is it that he or she will be treated fairly?”, and 3) “When an officer contributes to a team effort rather than look good individually, how likely is it that top management here will recognize it?” Items were coded so that higher values indicate more negative views toward top management.

## Job Satisfaction

Finally, officers' job satisfaction consisted of three questions: 1) "I find real enjoyment in my job," 2) "I like my job better than the average police officer does," and 3) "I would not consider taking another job." Here, higher values on each item indicate greater job satisfaction.

## *Validity & Reliability*

Although the attitudinal items used for the study have displayed valid and reliable properties in previous studies, three sets of analyses were conducted to ensure the validity and reliability of the constructs in the current study. First, polychoric correlations were estimated to determine the strength and nature of associations among individual survey items.<sup>11</sup> Ideally, items hypothesized to represent the above attitudinal constructs would be highly correlated with each other and not highly correlated across items hypothesized to comprise the other constructs. The results from the correlation analysis presented in Appendix B generally indicated these patterns. For example, the two items hypothesized to measure supervisor distrust were strongly correlated ( $r=.64$ ,  $p<.001$ ). Additionally, the items hypothesized to measure the constructs of top management, role orientations, citizen distrust, and job satisfaction were more strongly associated with each other than with the other items. Two items, however, displayed some properties that need to be explored further.

With respect to the role orientation measures, the item, "enforcing the law is by far a patrol officers' most important responsibility," was not significantly correlated with

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<sup>11</sup> Polychoric correlations were estimated since the survey items were ordinal variables (i.e., Likert measures with four response categories). When measures are ordinal but expected to follow an underlying continuous distribution as survey items usually are assumed to be, polychoric correlations are appropriate (Muthen & Muthen, 2007).

any of the other six hypothesized role orientation items. This is a preliminary indication that the item is not a valid indicator of officers' role orientations. This may be due to the fact that the current study operationalizes the role orientation measure as the extent to which officers hold narrow or broad orientations *collectively* rather than assessing officers' acceptance of each of the three major roles of policing *separately* (i.e., enforcing laws, order maintenance, and providing services). Officers' attitudes toward enforcing the law was also moderately correlated with aggressiveness ( $r=.41$ ,  $p<.001$ ). This may indicate that enforcing the law and aggressiveness represent a single underlying construct.

Second, confirmatory factor analysis (CFA) was conducted to assess the construct validity of the survey items as well as to examine the three issues discussed above.<sup>12</sup> Here, CFA was used to determine how well the proposed measurement model fit the data. The results of the final CFA model are presented in Table 4.4. Overall, the model fit statistics indicate good fit between the model and the data. Although the chi-square statistic was significant suggesting poor model fit, prior research has shown this statistic to be sensitive in models with large sample sizes (Kline, 1998; Yu, 2002). As such, the comparative fit index (CFI=.95), Tucker-Lewis index (TLI=.96), and the root mean square error of approximation (RMSEA=.06) were also examined, and the values suggest acceptable fit between the model and the data. Based on the model fit statistics, there is support that the proposed attitudinal items represent five distinct constructs: citizen

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<sup>12</sup> A number of potential measurement models were tested to examine the measurement issues identified in the correlation analysis. For example, an initial model tested whether officers' views toward law enforcement loaded on the role orientation factor. Results revealed a small and insignificant standardized factor loading of -.11. This measure was subsequently dropped from the role orientation construct. A second model tested whether attitudes toward enforcing laws, aggressiveness, and selectivity best represented a single measure. The results indicated that this was not the case. As a result, these three items were dropped from the final CFA model.

distrust, narrow role orientations, supervisor distrust, top management, and job satisfaction.

Table 4.4 also reports the unstandardized loadings, standardized loadings, and the observed  $R^2$  values for each item. All of the unstandardized factor loadings were significant, and all of the standardized factor loadings were large (i.e.,  $>.50$ ) (Kline, 1998). Additionally, the observed  $R^2$  values indicate that the underlying constructs accounted for at least a third and up to almost ninety percent of the variance across individual survey items. Based on the final CFA model results, the third analysis assessed the reliability of the items as measures of the underlying constructs. Four of the five constructs displayed acceptable reliability coefficients of .70 or greater. Even though job satisfaction ( $\alpha=.63$ ) was somewhat lower, each of the three items will be retained based on the results of the CFA model.

Overall, the results of the above sets of analyses suggest that the items reliably and validly measure five multi-item constructs. Specifically the model fit statistics, the significant unstandardized loadings, the magnitude of standardized loadings, and the magnitude of the reliability coefficients suggest that five distinct constructs can be derived from the data: *citizen distrust, order maintenance, supervisor distrust, top management, and job satisfaction*. In order to be consistent with the prior research discussed in Chapter Two, these constructs will be measured in the current study as additive indices.<sup>13</sup> In addition to the five multi-item constructs, three single-item measures will also be retained. Although officers' views toward law enforcement,

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<sup>13</sup> Unless otherwise noted, the results reported in the succeeding chapters will be based off the additive index measures. The factor scores from the measurement model were saved and were also used as variables in subsequent analyses in order to ensure the results are consistent across different measures. However, unless there is a discrepancy, only the results from the additive index measure are reported.

aggressiveness, and selectivity did not reliably reflect one of the above constructs, these attitudes are still theoretically important to the occupational attitude literature discussed in Chapter Two. As such, these measures will still be included in subsequent analyses as single-item measures and are referred to as *crime fighting*, *aggressiveness*, and *selectivity* hereafter. The current study includes the examination of eight occupational attitudes as key outcomes of interest.

**Table 4.4: Final CFA & Reliability Results of Attitudinal Measures (N=1,022)**

| Constructs & Measures                       | Unstandardized Loadings | Standardized Loadings | Observed R <sup>2</sup> |
|---------------------------------------------|-------------------------|-----------------------|-------------------------|
| <u>Citizen Distrust</u> ( $\alpha=.81$ )    |                         |                       |                         |
| Officer suspicious of citizens              | 1.00 (.00)              | 0.94                  | 0.87                    |
| Officer distrustful of citizens             | 0.86 (.16)***           | 0.81                  | 0.64                    |
| <u>Order Maintenance</u> ( $\alpha=.75$ )   |                         |                       |                         |
| Officer required to...                      |                         |                       |                         |
| Public nuisances                            | 1.00 (.00)              | 0.61                  | 0.37                    |
| Neighbor disputes                           | 1.30 (.05)***           | 0.79                  | 0.63                    |
| Family disputes                             | 1.15 (.06)***           | 0.70                  | 0.49                    |
| Litter and trash                            | 1.00 (.05)***           | 0.61                  | 0.37                    |
| Parents                                     | 0.94 (.05)***           | 0.57                  | 0.33                    |
| Nuisance businesses                         | 0.94 (.06)***           | 0.57                  | 0.32                    |
| <u>Supervisor Distrust</u> ( $\alpha=.70$ ) |                         |                       |                         |
| Looks out for personal welfare              | 1.00 (.00)              | 0.93                  | 0.86                    |
| Approach discourages effort                 | 0.75 (.06)***           | 0.69                  | 0.48                    |
| <u>Top Management</u> ( $\alpha=.78$ )      |                         |                       |                         |
| Recognizes good job                         | 1.00 (.00)              | 0.71                  | 0.50                    |
| Treats fairly for minor violation           | 1.11 (.04)***           | 0.79                  | 0.62                    |
| Recognizes group contribution               | 1.26 (.05)***           | 0.89                  | 0.80                    |
| <u>Job Satisfaction</u> ( $\alpha=.63$ )    |                         |                       |                         |
| Not consider taking another job             | 1.00 (.00)              | 0.63                  | 0.40                    |
| Like job better than avg. officer           | 0.94 (.07)***           | 0.59                  | 0.35                    |
| Find enjoyment in job                       | 1.38 (.10)***           | 0.87                  | 0.76                    |
| <b>Model Fit Statistics</b>                 |                         |                       |                         |
| $\chi^2=304.32$ , $df=54$ , $p<.001$        |                         |                       |                         |
| CFI=.95; TLI=.96; RMSEA=.06                 |                         |                       |                         |

\*\*\* $p<.001$

## **Analysis Plan**

### *Research Objective #1: Workgroup as Contexts for Officer Attitudes*

The primary research objective of the proposed study is to examine the extent to which officer workgroups represent important contexts for examining officer attitudes. Three sets of analyses are used to assess whether workgroups represent contexts that influence officers' occupational attitudes. First, multi-level modeling procedures are used to test whether significant between-group variability exists on the attitudinal constructs between workgroups. Next, the between-group variability will be compared to the amount of attitudinal variation between precincts and departments. To the extent that significant variation exists at the precinct or department levels, it will also provide a way to control for this variation. Finally, empirical tests will be conducted to determine if officers within workgroups share similar attitudinal perceptions. Here, there must be adequate homogeneity of officers' attitudes within workgroups. If both sets of analyses indicate significant between-group variability and within-group homogeneity, then there is empirical support that workgroups serve as contexts for officers' attitudes (Bliese, 2000; Hoffman & Steitzer, 1996; James, 1982; Kozlowski & Klein, 2000; Zohar, 2000).

Conducting the above analyses is necessary for two reasons. First, the results from the between-group variability analyses will indicate if workgroup level compositional factors are useful for explaining variation in officers' attitudes, which is the subject of second research objective. Second, the results from the within group homogeneity assessment will provide an indication as to whether officer attitudes display collective, contextual properties themselves. For example, sufficient within-group agreement indicates a "shared assignment of psychological meaning, from which it follows that an aggregate (mean)...score provides the opportunity to describe an environment in



psychological terms...” (James, 1982: 221). As such, evidence of within-group agreement and group mean reliabilities allows for the aggregation of attitudes to the workgroup level because the measures have valid and reliable collective properties (Bliese, 2000; Kozlowski & Hattrup, 1992). These collective attitudes can serve as perceptual measures of the workgroup context, which in turn may explain officers’ street level behaviors. This is the subject of the third research objective.

#### *Research Objective #2: Workgroup Composition & Officer Attitudes*

The second research objective tests the effects of workgroup composition characteristics on officer attitudes. Using data from the survey and master rosters, this objective examines whether the demographic makeup of workgroups explains variation in attitudes over and above the effects of individual officer demographic characteristics. For example, if job satisfaction is found to be influenced at the workgroup level, then workgroup compositional characteristics such as the proportion of male officers or the proportion of minority officers present in the workgroup may aide in explaining why some officers are more satisfied with their jobs than others. Therefore, attitudes constitute the outcomes of interest and multilevel models are proposed to address this objective. Specific details of the analytic procedures are discussed in Chapter Six.

#### *Research Objective #3: Workgroup Aggressiveness & Officer Behavior*

The third research objective is proposed to demonstrate the utility of examining officer attitudes as collective, workgroup constructs that impact officer behavior. In order to test this objective, this part of the proposed study focuses on one type of behavior, officers’ use of force. For example, if officers within workgroups share distrust toward citizens, then this distrust represents a collective measure of officers’ workgroup

environment. This collective, perceptual measure may then explain officers' use of force behavior. Officers assigned to workgroups that are distrustful may use higher levels of force during encounters with citizens. As such, this objective builds on McCluskey et al.'s (2005) prior research on peer group aggressiveness and officer use of force behavior but extends it by taking a multilevel approach and also by determining if officers' attitudes represent valid, contextual constructs at the workgroup level. Specific details of the data and analytic procedures are discussed in Chapter Seven.

## **CHAPTER FIVE: WORKGROUP EFFECTS ON OFFICER ATTITUDES**

This chapter presents the results of the study's first research objective which tests the following three research questions: 1) Are there significant differences in officers' attitudes between workgroups?, 2) How do significant attitudinal differences at the workgroup level compare to other formal organizational levels of policing (i.e., precincts and departments)?, and 3) Do officers within workgroups share similar attitudinal dispositions? Thus, the primary objectives of this chapter are to test for the presence and amount of between-group variability in officers' attitudes and to determine if there is significant homogeneity of officer attitudes within workgroups. To the extent that empirical support exists, then there is evidence that officers' workgroups serve as important organizational contexts for understanding the occupational attitudes of police.

The chapter begins by discussing the analytic techniques used to test the above research questions. Next, the results of each of the analyses are presented. The results from this chapter impact the types of analyses and potential results of the following two chapters. For example, the results of the first two research questions affect whether workgroup level compositional characteristics might possibly explain variation in officer attitudes (Chapter Six), while the results of the third question affect whether occupational attitudes can be viewed as contextual, group level measures that influence officer behavior (Chapter Seven). As such, the chapter concludes with a discussion of how the results influence the approaches taken in the next two chapters.

### **Analyses & Results**

Data analyses proceeds in three stages. First, descriptive statistics of the eight attitudinal measures are presented. Measures of central tendency and dispersion are used

to provide a descriptive summary of each of the measures. The distributions of each attitudinal measure are also discussed to assess how officers' attitudinal responses are distributed across each index score or response category and to determine if there are any potential issues with missing data. Next, multilevel modeling techniques are used to determine the nature and amount of between-group variation in officer attitudes across workgroups, precincts, and departments. Finally, group-mean reliabilities and within-group agreement values are calculated to assess the nature of the group level properties of officer attitudes.

### *Descriptive Statistics*

Descriptive summaries of each of the eight attitudinal measures are provided to show how the officers surveyed in the study viewed citizens, order maintenance roles, supervision, management, their job, law-enforcement tactics, and crime-fighting attitudes. In addition, attention is given to the amount of missing responses present across each measure to see if missing data might be problematic for subsequent analyses. Table 5.1 reports officers' average responses, standard deviations, and the minimum and maximum categories for each attitudinal index or item. Appendix C displays the frequencies and percentages for each value to show the distribution of officers' responses.

With respect to citizen distrust, the results indicate that officers were not overly distrustful of citizens. Recall that this additive measure was coded so that higher values represent greater distrust of citizens. Based on the distributions reported in Appendix C, the majority of officers' responses (i.e., 71.8%) were in the middle of the index. Also, officers had a mean response of approximately five on the index that ranged from two to

eight. This distribution is similar to findings from the POPN study in which the majority of officers were also not found to be distrustful of citizens (Paoline, 2001).

**Table 5.1: Descriptive Statistics of Officers' Occupational Attitudes (N=1,022)**

| <b>Attitudes</b>                            | <b>N</b> | <b>Mean</b> | <b>S.D.</b> | <b>Min.</b> | <b>Max.</b> |
|---------------------------------------------|----------|-------------|-------------|-------------|-------------|
| Citizen Distrust (2 items; $\alpha=.81$ )   | 1,008    | 4.95        | 1.53        | 2           | 8           |
| Order Maintenance (6 items; $\alpha=.75$ )  | 1,009    | 13.83       | 3.24        | 6           | 24          |
| Direct Supervisors (2 items; $\alpha=.70$ ) | 1,012    | 3.67        | 1.47        | 2           | 8           |
| Top Management (3 items; $\alpha=.78$ )     | 999      | 8.58        | 2.13        | 3           | 12          |
| Job Satisfaction (3 items; $\alpha=.63$ )   | 1,001    | 9.12        | 1.80        | 3           | 12          |
| Aggressiveness (1 item)                     | 1,016    | 3.11        | 0.75        | 1           | 4           |
| Selective Enforcement (1 item)              | 1,009    | 1.91        | 0.73        | 1           | 4           |
| Crime fighting (1 item)                     | 1,017    | 2.93        | 0.74        | 1           | 4           |

Officers also held broader role orientations that encompass order maintenance type activities. Scores on the additive scale ranged from six to twenty-four with higher values indicating less acceptance of order maintenance roles. On average, officers' responses were located toward the lower end of the scale (i.e.,  $\bar{x} = 13.83$ ) as the majority (i.e., 71.8%) had scores of fifteen or lower on the index. The results in Appendix C also illustrate wide variation in officers' responses on this index, indicating that officers did use the entire range of response options.

With respect to officers' views toward supervisors and management, descriptive results show that while officers held more positive attitudes toward their direct supervisors, they held more negative views toward top management. Again, both additive indices were coded so that higher values represent more negative attitudes. For the direct supervisor measure, the majority of officers (i.e., 73.8%) responded on the lower end of the distribution. Thus, officers held more positive attitudes toward their supervisors. On the other hand, the majority of officers (i.e., 68%) had values of eight or above on the top management index. Officers held more negative attitudes toward top management in their respective departments.

Officers also reported being satisfied with their jobs. Scores on the additive scale ranged from three to twelve with higher values associated with greater satisfaction. On average, officers' responses were located toward the upper end of the scale (i.e.,  $\bar{x}$  = 9.12). Appendix C also shows that the majority (i.e., 81.7%) had scores of eight or higher on the index. The results in Appendix C also illustrate this pattern when examining officers' responses across the entire distribution as few officers had values of seven or lower on the index.

With respect to the three single-item measures associated with officers' views toward the importance of law enforcement (e.g., crime fighting) and policing tactics, the descriptive results show that the majority of officers held highly aggressive attitudes as over 81 percent responded as agreeing somewhat or agreeing strongly to this item. On the other hand, the majority of officers disagreed with selective enforcement practices as over 82 percent disagreed somewhat or strongly to this item. Although officers on average agreed somewhat with the importance of law enforcement (i.e.,  $\bar{x}$  = 2.93), a substantial number of officers also disagreed somewhat (22%) or agreed strongly (21.2%) with this statement. Thus, officers can be described as varying more in their attitudes toward crime fighting than in their attitudes toward aggressiveness and selectivity.

The descriptive results in both Table 5.1 and Appendix C also indicate the amount of missing data for each attitudinal measure. Across each of the eight attitudinal measures, missing responses ranged from less than one percent to just over two percent of the total number of cases, a very small amount. Because of these low percentages, missing data are not considered to be a problem for the analyses conducted in this

chapter. As a result, cases with missing data will be deleted listwise from all subsequent analyses.

### *Between-group Variability*

Separate one-way, random effect ANOVA models for each of the eight attitudinal measures are conducted for each formal organizational level (i.e., workgroup, precinct, and department) using the Mplus 5.21 software. Each attitude represents the outcome of interest, and officer membership within each level represents the independent variable. The random effect ANOVA models are a type of multilevel model that provides important information about the nature and extent of between group-variability across each of the three organizational levels. First, the models partition variation in officer attitudes into both within- and between- level components. Second, they test whether the within- and between-level variance components are significant.<sup>14</sup> Finally, the results also provide an intraclass correlation coefficient, the ICC(1), for each of the eight models (Raudenbush & Bryk, 2002). The ICC(1) values are calculated using the following formula from Raudenbush and Bryk (2002)<sup>15</sup>:

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<sup>14</sup> Unlike HLM software, Mplus software conducts a significance test for the within-group variance components for continuous variables. Mplus does not estimate within-group variance components for categorical variables due to heteroskedasticity (see Muthen & Muthen, 2007). The attitudes of aggressiveness, selectivity, and crime fighting are treated as ordinal variables in the between-group analyses because they are single-item measures based on four point Likert scales. Thus, within-group variance estimates are not estimated. This is the reason for the “N/A” designations in Table 5.2.

<sup>15</sup> The ICC(1) values for aggressiveness, selectivity, and crime-fighting were calculated differently. Here, categorical ANOVA models based on the logistic distribution were conducted in Mplus. In order to calculate ICC(1) values for these measures, prior research substitutes  $\pi^2/3$ , or the assumed variance of the logistic distribution, for the within-level variance component (Guo & Zhao, 2000; Hedeker & Gibbons, 2006). This procedure was used to calculate the ICC(1) values for these three measures.

$$ICC(1) = \frac{\tau_{00}}{\tau_{00} + \sigma^2}$$

Where:

$\tau_{00}$  = the between-level variance component

$\sigma^2$  = the within-level variance component

The ICC(1) values represent the ratio of between-group variance to total variance in the attitudinal measures. ICC(1) values greater than zero indicate the presence of group effects or that group membership affects officer attitudes. Interpreted another way, these coefficients represent the amount of variation in officers' attitudes that can be explained by group membership (Bliese, 2000). Therefore, the ICC(1) also indicates the magnitude of the group effects. Collectively, the results from the random effect ANOVA models and the ICC(1) coefficients will answer whether officer attitudes differ between workgroups, precincts, and departments as well as the amount of variation in attitudes that can be explained by group membership.

Table 5.2 presents the between-group variability results for each of the eight attitudinal constructs across workgroup, precinct, and department levels. Since the primary research question involves the amount and nature of between-group variability at the workgroup level, discussion of the results begins here. At the workgroup level, significant between-group variability was found for seven of the eight attitudinal measures. Officers' attitudes measuring citizen distrust, order maintenance, direct supervisor, top management, job satisfaction, aggressiveness, and crime fighting were found to vary significantly across workgroups, indicating the presence of group effects. Furthermore, the ICC(1) values revealed that between four (i.e., order maintenance) and



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fourteen (i.e., top management) percent of the variation in these seven attitudes can be explained by workgroup membership. For example, the ICC(1) value for top management indicates that fourteen percent of the variation in officers' views toward top management can be accounted for by their assigned workgroup. The only attitude not found to vary significantly between workgroups was officers' views toward selective enforcement.

When examining the magnitude of the between-group variability results at the workgroup-level, many of the ICC(1) values may appear to be low in magnitude with the highest value being 0.14 for top management. The magnitude of these values, however, is consistent with the results from other attitudinal studies within organizational psychology. For example, Bliese (2000) notes that ICC(1) values for attitudinal items based on Likert scales will rarely reach 0.30 and that most values will range between 0.05 to 0.20 due to range restriction associated with attitudinal items and scales. Furthermore, values within this range have still been found to be important for understanding the nature of group effects (Bliese, 2000). Thus, even though the ICC(1) values may appear to be low in magnitude they are within a range of values reported by prior research to be important.

At the precinct and department levels, the results in Table 5.2 show significant variation as well. Specifically, the between-level variance components at the precinct level are similar to the results found at the workgroup level for citizen distrust, order maintenance, direct supervisor, top management, job satisfaction, aggressiveness, and crime-fighting. The ICC(1) values, however, are lower in magnitude. Most of these values range from 0.04 to 0.08, and the highest being 0.12 for top management. At the

department level only officers' attitudes associated with order maintenance, direct supervision, top management, and job satisfaction display significant between-group variance components and they also display lower ICC(1) values.

**Table 5.2: One-way Random Effect ANOVA Results**

| <b>Attitudinal Measures</b> | <b>Within-Level<br/>Variance</b> | <b>Between-Level<br/>Variance</b> | <b>ICC(1)</b> |
|-----------------------------|----------------------------------|-----------------------------------|---------------|
| <b>Workgroup Level</b>      | (N=988)                          | (N=61)                            |               |
| Citizen Distrust            | 2.22 (.08)***                    | 0.14 (.04)**                      | 0.06          |
| Order Maintenance           | 9.86 (.54)***                    | 0.47 (.14)**                      | 0.04          |
| Direct Supervisor           | 1.97 (.10)***                    | 0.21 (.06)***                     | 0.10          |
| Top Management              | 3.91 (.19)***                    | 0.63 (.16)***                     | 0.14          |
| Job Satisfaction            | 3.00 (.18)***                    | 0.27 (.08)**                      | 0.08          |
| Aggressiveness <sup>a</sup> | N/A                              | 0.38 (.10)***                     | 0.10          |
| Selectivity <sup>a</sup>    | N/A                              | 0.02 (.04)                        | 0.01          |
| Crime fighting <sup>a</sup> | N/A                              | 0.17 (.06)**                      | 0.05          |
| <b>Precinct Level</b>       | (N=1,022)                        | (N=20)                            |               |
| Citizen Distrust            | 2.22 (.10)***                    | 0.12 (.04)**                      | 0.05          |
| Order Maintenance           | 10.14 (.59)***                   | 0.37 (.11)**                      | 0.04          |
| Direct Supervisor           | 2.10 (.09)***                    | 0.09 (.03)*                       | 0.04          |
| Top Management              | 4.00 (.16)***                    | 0.55 (.15)**                      | 0.12          |
| Job Satisfaction            | 3.09 (.16)***                    | 0.15 (.04)***                     | 0.05          |
| Aggressiveness <sup>a</sup> | N/A                              | 0.27 (.10)**                      | 0.08          |
| Selectivity <sup>a</sup>    | N/A                              | 0.01 (.02)                        | 0.00          |
| Crime fighting <sup>a</sup> | N/A                              | 0.15 (.06)*                       | 0.04          |
| <b>Department Level</b>     | (N=1,022)                        | (N=5)                             |               |
| Citizen Distrust            | 2.22 (.12)***                    | 0.15 (.09)                        | 0.06          |
| Order Maintenance           | 10.19 (.87)***                   | 0.28 (.14)*                       | 0.03          |
| Direct Supervisor           | 2.10 (.07)***                    | 0.08 (.03)**                      | 0.04          |
| Top Management              | 4.06 (.26)***                    | 0.61 (.31)*                       | 0.13          |
| Job Satisfaction            | 3.12 (.12)***                    | 0.10 (.05)*                       | 0.03          |
| Aggressiveness <sup>a</sup> | N/A                              | 0.26 (.15)                        | 0.07          |
| Selectivity <sup>a</sup>    | N/A                              | 0.00 (.01)                        | 0.00          |
| Crime fighting <sup>a</sup> | N/A                              | 0.17 (.09)                        | 0.05          |

\*\*\*p<.001, \*\*p<.01, \*p<.05; <sup>a</sup> Results based on categorical models, within-level variances are not estimated; Note: Numbers in parentheses denote standard errors of variance component estimates.

With respect to the within-level variance component results in Table 5.2, it should be noted that significant within-level variation exists for the five attitudes for which

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within-level variance components were estimated (i.e., citizen distrust, order maintenance, direct supervisor, top management, and job satisfaction) across all organizational levels. This finding is also important to take note of because it indicates that individual level officer factors may also account for attitudinal variation among officers. As such, these potential factors will need to be included in subsequent models that seek to explain attitudinal differences in the following chapter.

The results in Table 5.2 provide preliminary support for the notion that workgroups represent the part of the formal organization of policing that has the greatest influence on officers' occupational attitudes. Specifically, variation in officer attitudes was found to be more prevalent at the workgroup level than at the precinct or department levels. Furthermore, the ICC(1) values were generally stronger at the workgroup level. Although this provides empirical support for the study's hypothesis, the conclusion that workgroups are the most salient influence on attitudes cannot be readily made. First, significant results are still present at the precinct and department levels. Second, the between-group variance components are difficult to compare across levels due to the fact that there are differences in the number of organizational units analyzed at each level. As Kozlowski and Klein (2000) have noted, it is easier to detect variation when there are a larger numbers of groups. The stronger workgroup effects might be due to the fact that there are 61 workgroups compared to only 20 precincts and 5 departments available for analysis. As such, it is necessary to control for variation at the precinct and department levels to determine if significant attitudinal variation between workgroups remains.

Additional tests are conducted that take into account the fact that workgroups are nested within precincts and departments. When data and organizational units are nested

within higher-level organizational units, such as the case is here, Mplus allows for the clustering of data at the higher level to be accounted for and adjusts the standard errors at the primary level of interest (e.g., workgroups) to ensure that Type I errors are not made (Muthen & Muthen, 2007). In the current context, two sets of random effect ANOVA models are conducted for each of the attitudinal measures: one that controls for the nesting of workgroups within precincts and another that controls for the nesting of workgroups within departments.<sup>16</sup> If significant between-group variation in officer attitudes at the workgroup-level remains after accounting for clustering by precinct and department, then the claim that workgroups are important organizational contexts that influence officer attitudes is strengthened.

Table 5.3 reports the results of separate one-way, random effect ANOVA models that control for the clustering of workgroups within precincts and departments. An interesting finding emerges when looking at the results for officers' views toward top management. Specifically, the between-group variance component becomes non-significant when controlling for the clustering of workgroups within departments. In the previous analyses, workgroups had the strongest effect on this attitude with the ICC(1) value in Table 5.2 indicating that fourteen percent of the variation in officers' views toward top management could be explained by workgroup membership. The results in Table 5.3 suggest that differences at the department level likely account for this variation.

This finding makes sense when examining the nature of this attitudinal construct. For example, the construct references the department level by asking officers whether

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<sup>16</sup> Mplus only allows two-level multilevel models to be analyzed. As such, it is not possible to control for both precinct and department effects simultaneously in the same model (See Muthen & Muthen, 2007: 221).

they believe that top management supports, rewards, and treats officers fairly. When examining the influence of the formal organization of policing on this particular attitude, it is differences in department policies and management practices that likely account for this variation. Thus, differences in officers' views toward top management are not likely to be important across workgroups but rather across departments.

**Table 5.3: Between-Workgroup Variability Accounting for Precinct & Department Levels (N=988)**

| <b>Attitudinal Measures</b> | <b>Between-Level Variance<br/>Clustering by Precinct</b> | <b>Between-Level Variance<br/>Clustering by Department</b> |
|-----------------------------|----------------------------------------------------------|------------------------------------------------------------|
| Citizen Distrust            | 0.14 (.05)**                                             | 0.14 (.06)*                                                |
| Order Maintenance           | 0.47 (.11)***                                            | 0.47 (.07)***                                              |
| Direct Supervisor           | 0.21 (.06)**                                             | 0.21 (.06)**                                               |
| Top Management              | 0.63 (.21)**                                             | 0.63 (.36)                                                 |
| Job Satisfaction            | 0.27 (.07)***                                            | 0.27 (.07)***                                              |
| Aggressiveness <sup>a</sup> | 0.38 (.12)**                                             | 0.38 (.16)*                                                |
| Selectivity <sup>a</sup>    | 0.02 (.03)                                               | 0.02 (.01)                                                 |
| Crime fighting <sup>a</sup> | 0.17 (.08)*                                              | 0.17 (.08)*                                                |

\*\*\*p<.001, \*\*p<.01, \*p<.05; <sup>a</sup> Results based on categorical models; Note: Numbers in parentheses denote standard errors of variance component estimates.

Despite the results for top management, overall the results show that even when controlling for clustering at the precinct and department levels, officers' attitudes associated with citizen distrust, order maintenance, direct supervisor, job satisfaction, aggressiveness, and crime fighting still significantly vary across workgroups. In essence, six of the seven attitudes with significant between-group variance components at the workgroup level remained significant after controlling for precinct and department effects. These findings strengthen the claim that workgroups represent important organizational contexts that influence officer attitudes.

### *Group Reliability & Within-group Agreement*

The final set of analyses assesses the reliability and validity of officers' occupational attitudes as group level measures. First, to test the reliability of the group level means for each attitudinal construct a second intraclass correlation coefficient is used and is derived from information from the ANOVA models. Specifically, ICC(2) coefficients are calculated using the Spearman-Brown formula (Shrout & Fleiss, 1979):

$$ICC(2) = \frac{k(ICC1)}{1 + (k - 1) * ICC(1)},$$

Where:

ICC(1) = the intraclass correlation coefficient from the random effect ANOVA results  
k = the average number of officers per workgroup

These ICC(2) coefficients estimate how stable the values for the aggregated attitudinal measures will be, which is necessary when examining the group level characteristics of attitudinal constructs. ICC(2) coefficients of 0.70 or above generally indicate acceptable reliability of the group means, coefficients between 0.50 and 0.70 indicate marginal reliability, and coefficients below 0.50 generally indicate poor reliability (Klein, Bliese, Kozlowski, Dansereau, Gavin, Griffin et al., 2000).

ICC(2) estimates alone, however, do not provide a sufficient basis for deciding if officers actually share attitudes or if attitudes can be aggregated to the workgroup level as contextual measures. The reliability of measures does not necessarily reflect agreement among individuals within groups (James, 1982; Kozlowski & Hattrup, 1992). In order to empirically test the extent to which officers within workgroups share attitudes, it must be demonstrated that officers within workgroups have sufficient levels of agreement on the attitudinal constructs. This means that officers within workgroups should provide similar



ratings on each attitudinal measure. Prior research in the organizational psychology literature has recommended the use of two methods for demonstrating perceptual agreement among individuals and for validating shared unit properties:  $r_{wg}$  values (James, Demaree, & Wolf, 1984, 1993; Kozlowski & Hattrup, 1992) and the average deviation index (Burke & Dunlap, 2002; Burke, Finkelstein, & Dusig, 1999).

A popular method for assessing within-group agreement has been the  $r_{wg}$  index of interrater agreement (Cohen, Doveh, & Nahum-Shani, 2009). This index assesses agreement by estimating the proportion of systematic variance in officer attitudes in relation to the total variance in the attitudes (James et al., 1984: 87). Values of  $r_{wg}$  range from zero to one with higher values indicating greater levels of agreement. For single item attitudinal measures, agreement is calculated using the following equation (James et al., 1984):

$$r_{wg} = 1 - \frac{S_X^2}{\sigma_E^2}$$

Where:

$S_X^2$  = the observed variance on variable X

$\sigma_E^2$  = the expected variance on variable X when there is a complete lack of agreement

For the purposes of the current study, the expected variance will be assumed to follow a uniform distribution or the variance expected if all responses were due solely to random measurement error (James et al., 1984). As such, the expected variance is derived via the following formula:  $\sigma_E^2 = (A^2 - 1)/12$ , where A equals the number of response categories.

The above equation has been extended to multi-item indices (i.e.,  $r_{wg(J)}$ ) by taking the average of each item's observed variance for the numerator of the above equation (James et al., 1984; Lindell, Brandt, & Whitney, 1999).

Despite the fact that the  $r_{wg}$  index has been the most common method for estimating agreement, it does have limitations. Most notably, the specification of the expected variance (i.e., the denominator in the above equation) based on the assumption of a complete lack of agreement has been criticized (Burke & Dunlap, 2002; Burke et al., 1999; Lindell et al., 1999). For example, Burke et al. (1999: 51) noted that, "to specify a random response distribution, the researcher needs to indicate the proportion of respondents that would respond to each response by chance or with respect to a particular type of response bias...Appropriately specifying a null response distribution is a difficult task..." This is problematic because  $r_{wg}$  values may either be overestimated or underestimated as a result (Burke et al., 1999).

As such, alternative methods for estimating agreement have been derived. The average deviation index (e.g.,  $AD_M$  for single items or  $AD_{M(J)}$  for multiple items) is a second type of agreement index used in the current study. The AD index represents "the extent to which each item rating differs from the mean...item rating, summing the absolute values of these deviations..., and dividing by the number of deviations" (Burke et al., 1999: 53).  $AD_M$  values also range from zero to one; however, lower  $AD_M$  values indicate greater agreement (Burke & Dunlap, 2002). For example, an  $AD_M$  value of zero would indicate perfect agreement among officers within a workgroup on attitudinal items.

For single items the AD index is calculated using the following equation from Burke et al. (1999):

$$AD_M = \frac{\sum_{k=1}^N |x_{jk} - \bar{x}_j|}{N}$$

Where:

N = Number of officers for the item

$x_{jk}$  = is the  $k$ th officers rating on the item

$\bar{x}_j$  = the mean of all officers' scores on the item

For multiple item measures,  $AD_{M(J)}$  values are calculated by taking the average of the item  $AD_M$  values (Burke & Dunlap, 2002). There are two advantages for using average deviation indices. First, it does not require the explicit modeling of a null response distribution. Second, the values can be more easily interpreted because they are in the units of the attitudinal response scale (Burke & Dunlap, 2002). For example an  $AD_M$  value of 0.50 would indicate that officers' responses within a workgroup were on average half a unit apart on the Likert scale. Thus, it has been recommended that both  $r_{wg}$  and  $AD_M$  indices be reported in studies (Dunlap, Burke, & Smith-Crowe, 2003).<sup>17</sup>

In order to assess whether officers within workgroups display sufficient levels of attitudinal agreement to warrant aggregation, two issues are considered: statistical significance tests and the magnitude of the agreement values. Dunlap et al. (2003) has developed a method and program to test whether agreement values are significantly

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<sup>17</sup> From this point on  $r_{wg}$  and  $AD_M$  are used to refer to both single-item and multi-item measures.

different from chance agreement using an approximate randomization test.<sup>18</sup> Therefore, the first step is to assess whether agreement within workgroups is statistically significant.

As Dunlap et al. (2003) points out, however, statistical significance is not sufficient for justifying aggregation. The magnitude of the agreement values should also be considered. A rule of thumb for  $r_{wg}$  values is as follows: values less than 0.59 indicate a lack of agreement, 0.60 to 0.69 indicates weak agreement, 0.70 to 0.79 indicates moderate agreement and 0.80 and above indicates strong agreement (Brown & Hauenstein, 2005; Cohen et al., 2009). For average deviation indices a standard for determining practical significance has generally been accepted by dividing the number of response options in the Likert measures by six (Burke & Dunlap, 2002). For the current study,  $AD_M$  values equal to or less than 0.67 indicates acceptable levels of agreement within workgroups (Burke & Dunlap, 2002; Dunlap et al., 2003).<sup>19</sup>

It should be noted that unlike the calculation of the intraclass correlation coefficients which represent summary measures of between-group variation and group mean reliabilities,  $r_{wg}$  and  $AD_M$  estimates are calculated for each individual workgroup. In the current context, this means there will be 61  $r_{wg}$  and  $AD_M$  values and significance tests. The decision to determine if there is sufficient agreement across the sample of workgroups is usually made by assessing the average or median  $r_{wg}$  and  $AD_M$  values

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<sup>18</sup> The program is called “agree.exe” and is available for download at [www.tulane.edu/~dunlap/psylib.html](http://www.tulane.edu/~dunlap/psylib.html). (Dunlap et al., 2003)

<sup>19</sup> See Burke & Dunlap (2002) for the derivation used to identify six as the appropriate denominator. In the current study, acceptable levels of agreement are decided upon using 0.67 as the cutoff. This cutoff is calculated by taking the number of Likert responses for the survey items (i.e., 4) and dividing by the denominator of six:  $4/6 = 0.67$ .

across workgroups (e.g., Naumann & Bennett, 2000) as well as reporting the percentage of workgroups that displayed statistically significant levels of agreement (Dunlap et al., 2003).

The group reliability and within-group agreement results of officers' attitudes within workgroups are reported in Table 5.4. For each of the eight attitudinal constructs, group-mean reliabilities were estimated and are based on ICC(2) calculations.

Additionally, within-group agreement results based on  $r_{wg}$  and  $AD_M$  indices are also reported. Specifically, the median  $r_{wg}$  and  $AD_M$  values as well as the percentage of values that were found to be statistically and practically significant across workgroups are reported for each attitude. Within-group agreement results for each of the 61 individual workgroups from which the results in Table 5.4 were derived from are provided in Appendix D.

**Table 5.4: Group Reliability & Within-Group Agreement Results (N=61)**

| Attitudinal Measures | ICC(2) | $r_{wg}$ Results |        | $AD_M$ Results |        |                  |
|----------------------|--------|------------------|--------|----------------|--------|------------------|
|                      |        | Median           | % Sig. | Median         | % Sig. | % Practical Sig. |
| Citizen Distrust     | 0.51   | 0.46             | 68.8   | 0.63           | 62.2   | 60.7             |
| Order Maintenance    | 0.40   | 0.52             | 75.4   | 0.61           | 77.0   | 75.4             |
| Direct Supervisor    | 0.64   | 0.50             | 68.8   | 0.59           | 73.8   | 80.3             |
| Top Management       | 0.73   | 0.50             | 72.2   | 0.62           | 63.9   | 67.2             |
| Job Satisfaction     | 0.58   | 0.54             | 80.3   | 0.58           | 80.3   | 88.5             |
| Aggressiveness       | 0.64   | 0.61             | 86.9   | 0.56           | 81.9   | 86.9             |
| Selectivity          | 0.14   | 0.62             | 82.0   | 0.51           | 85.2   | 88.5             |
| Crime fighting       | 0.46   | 0.61             | 75.4   | 0.53           | 83.6   | 83.6             |

With respect to the reliability of the workgroup level means for each attitude, the ICC(2) values in Table 5.4 indicate that five of the eight constructs met at least the cutoff criteria for marginal reliability (i.e.,  $ICC(2) > 0.50$ ). Specifically, the attitudes of citizen distrust, direct supervisor, job satisfaction, and aggressiveness had ICC(2) values

associated with marginal group-mean reliabilities. Only officers' views toward top management had an ICC(2) value above the 0.70 cutoff for acceptable reliability. Officers' views toward both order maintenance and crime-fighting roles had ICC(2) values just below the 0.50 cutoff for marginal reliability. Finally, the results for selectivity show poor reliability for estimates of workgroup means on this attitude.<sup>20</sup>

The  $r_{wg}$  results in Table 5.4 provide an assessment on whether officers within workgroups share similar attitudinal dispositions. Across all eight attitudes, the majority of workgroups had statistically significant levels of within-group agreement. For example, citizen distrust and direct supervisor attitudes had statistically significant levels of agreement in over two-thirds (68.8%) of workgroups while order maintenance (75.4%), top management (72.2%), and crime-fighting attitudes had statistically significant levels of agreement in almost three-quarters of workgroups. Finally, officers in over eighty percent of workgroups had statistically significant agreement levels for the attitudes of job satisfaction, aggressiveness, and selectivity. In terms of statistical significance, there is empirical support for sufficient within group agreement based on  $r_{wg}$  values.

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<sup>20</sup> It should be noted that ICC(2) values are influenced by group size and the amount of between-group variability (Bliese, 1998). Recall that these coefficients are calculated using the average size of workgroups and the ICC(1) values reported in Table 5.2. As such, attitudes with low ICC(1) values and small group sizes will also have lower ICC(2) values. Since the ICC(1) values in Table 5.2 were within the established range reported by prior research for attitudinal measures (with the exception of selectivity) a partial explanation for the lower ICC(2) values is likely due to the fact that workgroups only had an average of approximately sixteen officers. In other words, if workgroups contained more officers (which is restricted given the structure of workgroups in the current study), then more reliable estimates of the group means would likely result.

An examination of the magnitude of the median  $r_{wg}$  values in Table 5.4, however, is not as supportive. Only three attitudes have median  $r_{wg}$  values that would meet the cutoff criteria for weak agreement (i.e., 0.60 to 0.69): aggressiveness, selectivity, and crime fighting. Based on the magnitude of the median  $r_{wg}$  values for the other five attitudes, the findings indicate a lack of agreement. Thus, although within-group agreement across the 61 workgroups is statistically significant, the magnitude of agreement based on the  $r_{wg}$  values appears to be rather weak.

Within-group agreement results based on  $AD_M$  values shows similar results when looking at the percentage of workgroups that displayed statistically significant levels of agreement across the eight attitudinal measures. The two exceptions are for top management and crime-fighting attitudes. Here, fewer workgroups displayed statistically significant levels of agreement for views toward top management while a greater number of workgroups displayed statistically significant levels of agreement for crime-fighting attitudes.

In terms of practical significance, or the percentage of workgroups that had  $AD_M$  values equal to or less than the cutoff for practical significance (i.e., 0.67), the majority of workgroups had sufficient levels of agreement. Over eighty percent of workgroups had practically significant agreement values for attitudes associated with direct supervisor, job satisfaction, aggressiveness, selectivity, and crime fighting. Views toward citizens had the lowest percentage of practical significance; still over sixty percent of workgroups had practically significant levels of agreement on this attitude. Finally, when looking at

the median  $AD_M$  values, all eight attitudes had median values below the 0.67 cutoff for acceptable levels of agreement. In fact, five of the eight attitudes had median values in the 0.50 range. This means that, on average, officers within workgroups were approximately half a unit apart on the Likert measurement scale. Overall, the results from the  $AD_M$  analysis are more supportive of within-group agreement than the  $r_{wg}$  analysis.

## **Discussion**

This chapter empirically examined whether officers' occupational attitudes were influenced by the formal organization of policing. Of particular interest was the extent to which officers' assigned workgroups influenced their attitudes. Specifically, analyses were conducted to determine if there was significant variation in officer attitudes between workgroups, examined this variation in relation to other formal organizational levels, and accounted for the fact that workgroups were nested within these higher organizational levels. Additionally, analyses were conducted to determine whether officers within the same workgroup shared similar occupational attitudes.

Although the results were presented and discussed as separate research questions, it is necessary to examine them collectively as well. This is due to the fact that the results reported here are important for understanding the approaches taken for the remaining research objectives of the study. Table 5.5 presents a summary of the results for this chapter related to the presence and nature of workgroup effects on each of the eight attitudes in the key areas of between-group variability, group-mean reliability, and within-group agreement. The following discusses the impact that these results have on the approaches taken for the two remaining research objectives.



With respect to Research Objective #2, there must be significant between-group variability on officers' attitudes in order for workgroup compositional characteristics to be considered as explanations for attitudinal differences. Simply stated, if officers' attitudes do not differ across workgroups, then examination of workgroup compositional characteristics is not necessary because there would be no variation to explain. The results in Table 5.5 show that six of the eight attitudinal measures had significant between-group variance components. Additionally, it was reported in Table 5.2 that between five and ten percent of the variation in these attitudes can be explained by workgroup membership. *As a result, workgroup compositional characteristics (i.e., proportion male officers, proportion white officers, average educational levels, and average length of experience) are viable factors that could explain differences in officers' attitudes toward citizens, order maintenance roles, direct supervisors, job satisfaction, aggressiveness, and crime fighting.* The results of these tests are presented and discussed in Chapter Six.

**Table 5.5: Summary of Results for Workgroup Effects & Officer Attitudes**

| Attitude          | Between-group<br>Variability? | Group-Mean<br>Reliability? | Within-group<br>Agreement?<br>( $r_{wg}$ ) | Within-group<br>Agreement?<br>( $AD_M$ ) |
|-------------------|-------------------------------|----------------------------|--------------------------------------------|------------------------------------------|
| Citizen Distrust  | Yes                           | Marginal                   | Insufficient                               | Sufficient                               |
| Order Maintenance | Yes                           | Poor                       | Insufficient                               | Sufficient                               |
| Direct Supervisor | Yes                           | Marginal                   | Insufficient                               | Sufficient                               |
| Top Management    | No                            | Acceptable                 | Insufficient                               | Sufficient                               |
| Job Satisfaction  | Yes                           | Marginal                   | Insufficient                               | Sufficient                               |
| Aggressiveness    | Yes                           | Marginal                   | Weak                                       | Sufficient                               |
| Selectivity       | No                            | Poor                       | Weak                                       | Sufficient                               |
| Crime fighting    | Yes                           | Poor                       | Weak                                       | Sufficient                               |

With respect to Research Objective #3, a key proposition is that officers within workgroups share similar attitudes, and because of this, attitudes can be aggregated to the workgroup level to represent valid, reliable measures of the work environment (e.g.,

workgroup climates). Furthermore, these aggregate measures are hypothesized to influence officer behavior. Each of the analyses conducted in this chapter bears importance as to whether there is sufficient evidence for treating officers' attitudes in this manner. The evidence used to consider and justify this is discussed below.

First, the summary of within-group agreement results in Table 5.5 indicates sufficient levels of agreement among workgroups for the measures of aggressiveness, selectivity, and crime fighting. Discrepancies exist, however, for the remaining five attitudes. Generally, the  $AD_M$  results indicate sufficient agreement while the  $r_{wg}$  results indicate insufficient agreement. When results differ as is the case here, prior research offers insight for making decisions. Klein et al. (2000: 520) note that "when the indices lead to differing conclusions regarding the merits of aggregation, research may rely on theory, prior research, and/or belief in the superior merits of one of the indices in deciding whether to aggregate their measure(s)." In the current study, theoretical support for the treatment of attitudes as measures of the workgroup environment was detailed in Chapter Three. Furthermore, the limitations previously identified for the  $r_{wg}$  indices (e.g., Burke & Dunlap, 2002; Burke et al., 1999; Lindell et al., 1999) suggest that giving preference to the  $AD_M$  results is arguably warranted. Based upon this, it is argued that each of the eight attitudes possesses sufficient levels of agreement at the workgroup level. In other words, each attitudinal measure displays the necessary properties of validity to be further considered as workgroup constructs.

Second, the group-mean reliability results illustrate whether the group level constructs can be viewed as reliable aggregate measures. As Bliese (2000: 375) points

out, “estimating group-mean reliability – ICC(2) is always important...groups need to have reliably different mean values on the construct of interest if one hopes to detect emergent relationships.” Based on the summary presented in Table 5.5, only five of the eight attitudes possess sufficient reliability levels: citizen distrust, direct supervisor, top management, job satisfaction, and aggressiveness. Views toward order maintenance, selectivity, and crime fighting had poor group-mean reliability values. Thus, even though these three measures represented valid workgroup measures, they do not necessarily represent reliable ones. Thus, order maintenance, selectivity, and crime fighting were removed from consideration for aggregation due to low group-mean reliabilities. Finally, the between-group variability results must also be considered. In order for workgroup attitudinal measures to be viewed as viable explanations for officer behavior, attitudes must be found to significantly vary across workgroups. As such, top management was further dropped from consideration for aggregation since between-group variability was found to be non-significant.

Overall, Table 5.5 indicates that the attitudinal measures of *citizen distrust, direct supervisor, job satisfaction, and aggressiveness represent valid and reliable measures of the workgroup environment. These were the four attitudes that sufficiently met the empirical criteria for within-group agreement, group-mean reliability, and between-group variability. Thus, these four measures can be aggregated to the workgroup-level and used as representations of the workgroup environment.* These four measures are hypothesized to influence officer use of force behavior. The results of these tests are presented and discussed in Chapter Seven.

## **CHAPTER SIX: WORKGROUP COMPOSITION & OFFICER ATTITUDES**

This chapter presents the results of the study's second research objective: whether workgroup characteristics explain differences in officers' occupational attitudes. The results from the previous chapter indicated that six of the eight attitudinal measures significantly differed across workgroups. These include officers' attitudes toward citizens, order maintenance roles, direct supervisors, job satisfaction, aggressiveness, and the crime-fighting role. As a result, workgroup level factors can be examined as potential explanations for these differences. Here, the impact that the compositional makeup of officers' assigned workgroups (i.e., gender composition, racial composition, educational composition, and experience levels) has on their attitudes is tested. The chapter begins by discussing the data and measures used for this research objective. Next, the analytic procedures are discussed. Finally, the results of the analyses are presented.

### **Data**

The data for this second research objective comes from the officer survey described in the previous two chapters and the master rosters obtained from each of the five departments. Officers' attitudes were taken from the survey and are the same measures used in Chapters Four and Five. In addition, officer education was also taken from the survey.<sup>21</sup> Demographic characteristics were coded from the master rosters supplied by each department to assist with survey administration. These rosters included the gender, race, and date of hire for every sworn officer working in each department. The unique project identification number assigned by the research team to each officer as

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<sup>21</sup> Recall from Chapter Four that departments did not always keep records on officers' education levels. As a result, an educational question was included on the officer survey.

a part of the project was added to the roster.<sup>22</sup> The use of the identification numbers was necessary to allow officers' demographic characteristics to be linked to survey responses.

## **Variables**

### *Dependent Variables*

The dependent variables of interest are the attitudinal measures of citizen distrust, order maintenance, direct supervisor, job satisfaction, aggressiveness, and crime fighting. Based on the results from Chapter Five, these six attitudes displayed significant between-group variability at the workgroup level even after accounting for the precinct and department where officers worked. Because of this, workgroup factors may be used to explain this variability. The six attitudinal variables are the same measures used and described in Chapters Four and Five. As such, the indicators, codings, and properties of validity and reliability are not repeated again here.

### *Individual Officer Demographic Controls*

Four individual officer variables are also included in this portion of the study. These officer characteristics have traditionally been the emphasis of prior research that has taken individual level approaches for explaining attitudinal differences among officers (see Chapter Two). The four variables include officer gender, race, education, and experience. Officer gender (1=male) and race (1=white) are both binary variables and were coded to reflect the demographic attributes that have heavily dominated the policing profession. Officer education was based off of the survey question measuring officers' highest level of education completed at the time of the study. This variable was coded so that higher values indicate a higher level of education (1= less than HS; 2=HS diploma or

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<sup>22</sup> Again, this project identification number is not related to any identifying information that can be traced back to officers. Furthermore, only the research team has access to these numbers to ensure confidentiality.

equivalent; 3=some junior college, no degree; 4=Associates degree; 5=more than two years of college, no degree; 6=Bachelors degree; 7=some graduate work, no degree; and 8=graduate degree). Finally, officer experience refers to years of service based on their date of hire through the time that the survey was administered. Inclusion of these variables is important for two reasons. First, they are used as control variables in the empirical models. Controlling for any individual demographic effects strengthens the empirical support for any findings at the workgroup level. Second, the workgroup compositional measures are derived directly from these four individual officer variables.

#### *Workgroup Composition Measures*

The current research objective hypothesizes that officers' attitudes can be explained by the types of officers who make up their assigned workgroups. The rationale for this is similar to the individual level assumptions employed by prior research. The theoretical framework taken for the study, however, argues that the types of officers' that individual officers are exposed to within their workgroup context will also influence their attitudes, a multilevel perspective. For example, in workgroups with higher concentrations of white or male officers, officers will more likely hold attitudes depicted by the occupational perspective (e.g., distrust of citizens, narrow role orientations, aggressive policing tactics, and negative views toward supervision) regardless of their own individual characteristics because the gender and racial composition reflect that which has historically dominated the policing profession. Thus, instead of individual effects for officer race and gender, collective, multilevel effects (i.e., contextual effects) at the workgroup level are what are important for understanding differences in officer attitudes.

Four workgroup composition measures are examined. Gender composition is an aggregate variable that measures the proportion of male officers assigned to the workgroup. Racial composition is an aggregate variable that measures the proportion of white officers assigned to the workgroup. Additionally, the average education level and years of experience are also used as aggregate, compositional measures. These represent the same characteristics that empirical research has examined at the individual level. In the current context, however, these represent aggregate measures reflecting the demographic makeup of workgroups.

### *Department Controls*

In addition to the four workgroup composition variables, the analyses also control for the department where officers worked. Four dummy variables were created and are treated as workgroup level control variables. These dummy variables measure one of the following four sites (CSPD, PPB, FWPD, or KPD). APD was chosen as the reference department because this site contributed the most officers to the study sample (29%).

### **Analyses**

Analysis begins with descriptive and bivariate statistics for the dependent, officer, and workgroup variables. Then, multilevel modeling is used for all multivariate analyses. Since this research objective examines observations that occur at both the individual officer level and the workgroup level, multilevel modeling techniques are appropriate (Hoffman, Griffin, & Gavin, 2000; Raudenbush & Bryk, 2002). Further support for the use of multilevel modeling was provided by the between-group variability results from the previous chapter. Intercepts as outcome models are appropriate for this type of research question (Hoffman et al., 2000; Raudenbush & Bryk, 2002). Workgroup

composition measures are the level 2 variables and individual officer characteristics constitute the level 1 control measures. Additionally, the models control for officers' department. The purpose of these models is to empirically determine whether workgroup compositional variables predict variation in officer attitudes while controlling for individual officer demographics and the department where officers work.

It should be noted that the multilevel models conducted for citizen distrust, order maintenance, direct supervisor, and job satisfaction represent traditional multilevel models for continuous variables. The models for aggressiveness and crime fighting, on the other hand, are forms of hierarchical generalized linear models (HGLM) because each of these measures is ordinal (i.e., single-item measures based on a four point Likert scale). For these two attitudes, each multilevel model is an ordinal logistic regression model estimated using robust maximum likelihood estimation (MLR). Intercept and slope estimates represent cumulative logit coefficients from which cumulative odds ratios can be calculated (Muthen & Muthen, 2007; Raudenbush & Bryk, 2002). Since the primary interest is the effect of level 2 variables (i.e., workgroup composition) on attitudes, the level 1 officer variables remain fixed across models. Furthermore, all level 1 variables are grand mean centered.

Grand mean centering is necessary for two reasons. First, it is the appropriate centering option when the research question involves testing for the presence of level 2 effects while controlling for the level 1 variables. Therefore, the level 2 coefficients reflect the relationship between the workgroup measures and attitudes after adjusting for the effects of the level 1 officer variables. Second, grand mean centering allows for the assessment of any contextual effects among the workgroup measures at level 2. For



example, if racial composition is significantly associated with officers' attitudes while controlling for individual officer race, then empirical support exists that the composition of workgroups explains attitudinal differences over and above individual officer characteristics. In other words, the effect of the aggregate measure represents a contextual effect and grand mean centering allows for the direct determination of these effects (Enders & Tofighi, 2007; Hoffman, 1998; Raudenbush & Bryk, 2002).

## **Results**

### *Descriptive Statistics*

Table 6.1 reports descriptive statistics for the attitudinal, individual officer demographic, and workgroup composition variables. There were 988 total officers surveyed who were nested within the sixty-one workgroups across the five departments. On average, there were approximately sixteen officers within each workgroup. These numbers indicate a sufficient number of workgroups and officer observations to conduct multilevel analyses (Maas & Hox, 2005). For the attitudinal measures, the descriptive results mirror those presented and discussed in the preceding chapter.

With respect to the workgroup composition variables, the majority of workgroups were staffed by male and white officers. This is not surprising since male and white officers still largely dominate the policing profession despite efforts to increase gender and racial diversity across departments. Furthermore, the study departments were primarily comprised of male and white officers at the individual officer level. Workgroups were found to differ more extensively in terms of racial composition with the proportion of white officers ranging from 33 percent to 100 percent across workgroups. The gender composition of workgroups, however, varied considerably less as the proportion of male officers ranged from 66 percent to 100 percent. Average

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experience levels ranged from just under two years to over eighteen years. Thus, some workgroups were composed primarily of relatively inexperienced officers while other workgroups consisted of officers with much more years of service to the department. Finally in terms of average education levels, most workgroups were comprised of college educated officers ranging from some junior college to undergraduate degrees.

**Table 6.1: Descriptive Statistics for Officer Attitudes, Demographics, & Workgroup Variables**

| <b>Variable</b>             | <b>N</b> | <b>Min.</b> | <b>Max.</b> | <b>Mean</b> | <b>Std.<br/>Deviation</b> |
|-----------------------------|----------|-------------|-------------|-------------|---------------------------|
| <i>Attitudinal Measures</i> |          |             |             |             |                           |
| Citizen Distrust            | 974      | 2           | 8           | 4.95        | 1.54                      |
| Order Maintenance           | 975      | 6           | 24          | 13.80       | 3.22                      |
| Direct Supervisor           | 978      | 2           | 8           | 3.68        | 1.47                      |
| Job Satisfaction            | 967      | 3           | 12          | 9.11        | 1.81                      |
| Aggressiveness              | 982      | 1           | 4           | 3.10        | 0.75                      |
| Crime fighting              | 983      | 1           | 4           | 2.93        | 0.74                      |
| <i>Workgroup Level</i>      |          |             |             |             |                           |
| Proportion Male             | 61       | 0.66        | 1.00        | 0.89        | 0.08                      |
| Proportion White            | 61       | 0.33        | 1.00        | 0.79        | 0.17                      |
| Average Experience          | 61       | 1.83        | 18.04       | 7.64        | 3.74                      |
| Average Education           | 61       | 3.00        | 6.22        | 4.70        | 0.83                      |
| CSPD                        | 61       | 0           | 1           | 0.16        | 0.37                      |
| PPB                         | 61       | 0           | 1           | 0.21        | 0.41                      |
| APD (reference site)        | 61       | 0           | 1           | 0.29        | 0.46                      |
| FYPD                        | 61       | 0           | 1           | 0.20        | 0.40                      |
| KPD                         | 61       | 0           | 1           | 0.13        | 0.34                      |
| <i>Officer Demographics</i> |          |             |             |             |                           |
| Male                        | 984      | 0           | 1           | 0.89        | 0.30                      |
| White                       | 980      | 0           | 1           | 0.79        | 0.40                      |
| Experience (in years)       | 984      | 0.17        | 34.58       | 7.85        | 6.43                      |
| Education                   | 971      | 1           | 8           | 4.76        | 1.64                      |

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Departmental controls are also included as workgroup level variables. Descriptive results for these variables indicate that the majority of workgroups were from APD (29%) followed by PPB (21%), FWPD (20%), CSPD (16%), and KPD (13%).

Examination of individual officer demographic characteristics showed that the majority of officers were male and white. In terms of officer experience, officers had served an average of approximately eight years. There was, however, a wide range of experience levels as some officers had served for less than a year while others had served their department for over 34 years. Descriptive statistics also revealed that this measure was positively skewed. As a result, officers' experience was transformed by taking the natural log to address this issue. The newly transformed variable is used in all subsequent analyses ( $\bar{x}=1.71$ ,  $s.d.=0.91$ ). Finally, most officers had some level of higher education with the modal officer having a bachelor's degree.

### *Bivariate Results*

Bivariate correlations were estimated among the study variables primarily for two purposes. First, the correlations were used to assess the relationships among officer attitudes and workgroup composition measures. Second, they were examined to provide more insight into the compositional makeup of workgroups. A correlation matrix denoting all bivariate relationships among the study variables is provided in Appendix E.

An examination of the relationships between workgroup compositional measures and officers' attitudes reveal several interesting findings, particularly for the effect of average experience and educational levels. Average experience levels were significantly associated with each of the six occupational attitudes; however, the strongest associations were for job satisfaction ( $r=-.26$ ), aggressiveness ( $r=-.23$ ), and direct supervisors ( $r=.21$ ).

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Officers in workgroups with higher average experience levels were significantly less likely to be satisfied with their jobs, less likely to hold aggressive views toward patrol, and more likely to hold negative attitudes toward their supervisors. With the exception of aggressiveness, workgroup average educational levels were also significantly associated with each attitude. The strongest associations were found for job satisfaction ( $r=-.20$ ), citizen distrust ( $r=-.18$ ) and direct supervisors ( $r=.18$ ). Officers in workgroups with higher average educational levels were significantly less likely to be satisfied with their jobs, less likely to be distrustful of citizens, and more likely to hold negative views toward supervisors.

Workgroup gender and racial composition were not as widely or strongly related to officers' attitudes. For example, officers in workgroups with higher proportions of white officers were significantly less likely to accept order maintenance roles, less likely to be satisfied with their jobs, and less likely to accept the crime-fighting role. However, the magnitudes of these correlations were smaller than the workgroup experience and educational variables. The proportion of male officers assigned to workgroups was only positively related to officers' views toward crime fighting ( $r=.25$ ).

With respect to the relationships among the workgroup compositional measures, there were also several significant correlations. Workgroups with higher proportions of male officers also had significantly higher proportions of white officers ( $r=.07$ ) but lower average educational levels ( $r=-.10$ ). Workgroups with higher proportions of white officers had significantly higher average experience ( $r=.26$ ) and educational levels ( $r=.36$ ). Finally, workgroups with higher average experience levels also had significantly higher average educational levels ( $r=.30$ ).

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Although the above results offer empirical support for the notion that workgroup compositional characteristics are related to officers' occupational attitudes, additional analysis is necessary. First, the bivariate results do not control for individual officer demographics or for the fact that officers' attitudes cluster by workgroup and department. Second, workgroup composition measures were examined at the individual officer level, which can lead to problems associated with the ecological fallacy when drawing conclusions (Raudenbush & Bryk, 2002). As such, multivariate, multilevel analysis is needed to control for individual officer and department variables, to address the clustering of officer attitudes, and to treat the compositional measures as workgroup level contextual factors.

### *Multilevel Results*

Tables 6.2 and 6.3 present the findings for the multivariate, multilevel models. Table 6.2 includes the results for the four continuous attitudinal measures (i.e., citizen distrust, order maintenance, direct supervisor, and job satisfaction) while Table 6.3 includes the results for the two categorical attitudinal measures (i.e., aggressiveness and crime fighting). Each of the six models controls for individual officer characteristics and the department where officers worked. It should be noted that each of the models included in Tables 6.2 and 6.3 represent final models, meaning that some of the level 2 variables ended up being excluded to ensure stability of the remaining parameter estimates.<sup>23</sup>

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<sup>23</sup> The study has 61 workgroups at level 2. Multilevel researchers have suggested estimating one variable for every ten multilevel units (Maas & Hox, 2005). With the four workgroup composition variables and four department controls, initial models included eight level 2 variables. To ensure that the level 2 parameter estimates were stable, two of the workgroup composition variables were excluded from each of the final models. The two excluded variables were nonsignificant and contributed little explanatory power. By excluding these variables, the final models estimate six level 2 variables for the 61 workgroups.

**Table 6.2: Multilevel Regression Results Predicting Officer Attitudes – Final Models**

| Variable                             | Citizen Distrust  |         | Order Maintenance  |         | Direct Supervisor |         | Job Satisfaction   |         |
|--------------------------------------|-------------------|---------|--------------------|---------|-------------------|---------|--------------------|---------|
|                                      | <u>b (s.e.)</u>   | $\beta$ | <u>b (s.e.)</u>    | $\beta$ | <u>b (s.e.)</u>   | $\beta$ | <u>b (s.e.)</u>    | $\beta$ |
| <b>Level II</b>                      |                   |         |                    |         |                   |         |                    |         |
| Intercept                            | 4.95***<br>(0.05) | -----   | 13.78***<br>(0.10) | ---     | 3.69***<br>(0.06) | ---     | 9.10***<br>(0.05)  | ---     |
| Prop. Male                           | 0.52<br>(0.64)    | 0.14    | -----              | -----   | -----             | -----   | -----              | -----   |
| Prop. White                          | -----             | -----   | 1.93*<br>(0.77)    | 0.48    | -----             | -----   | -----              | -----   |
| Avg. Experience                      | -0.01<br>(0.02)   | -0.17   | -----              | -----   | 0.04*<br>(0.02)   | 0.36    | -0.08***<br>(0.02) | -0.88   |
| Avg. Education                       | -----             | -----   | 0.67*<br>(0.27)    | 0.83    | 0.28*<br>(0.12)   | 0.63    | -0.23†<br>(0.12)   | -0.53   |
| CSPD                                 | -0.11<br>(0.19)   | -0.14   | 0.31<br>(0.41)     | 0.17    | -0.05<br>(0.26)   | -0.05   | 0.31<br>(0.27)     | 0.33    |
| PPB                                  | -0.37**<br>(0.12) | -0.51   | -0.65<br>(0.52)    | -0.40   | -0.33<br>(0.30)   | -0.37   | 0.06<br>(0.27)     | 0.07    |
| FYPD                                 | -0.08<br>(0.17)   | -0.10   | -0.08<br>(0.36)    | -0.04   | -0.02<br>(0.21)   | -0.02   | 0.22<br>(0.22)     | 0.25    |
| KPD                                  | 0.53***<br>(0.13) | 0.60    | 0.61<br>(0.42)     | 0.31    | -0.26<br>(0.22)   | -0.24   | -0.12<br>(0.18)    | -0.11   |
| <b>Level I</b>                       |                   |         |                    |         |                   |         |                    |         |
| Male                                 | -0.06<br>(0.15)   | -0.01   | -0.42<br>(0.33)    | -0.04   | 0.14<br>(0.14)    | 0.03    | 0.18<br>(0.19)     | 0.03    |
| White                                | 0.05<br>(0.13)    | 0.01    | -0.23<br>(0.31)    | -0.03   | -0.10<br>(0.12)   | -0.03   | 0.03<br>(0.14)     | 0.01    |
| Experience (ln)                      | -0.23**<br>(0.07) | -0.13   | -0.08<br>(0.14)    | -0.02   | 0.30**<br>(0.09)  | 0.18    | -0.31**<br>(0.10)  | -0.15   |
| Education                            | -0.04<br>(0.03)   | -0.05   | 0.08<br>(0.07)     | 0.04    | 0.05<br>(0.03)    | 0.05    | -0.12**<br>(0.04)  | -0.11   |
| <b>Model Results</b>                 |                   |         |                    |         |                   |         |                    |         |
| N                                    | 953               |         | 954                |         | 957               |         | 946                |         |
| ICC(1)                               | 0.06              |         | 0.04               |         | 0.10              |         | 0.08               |         |
| R <sup>2</sup> Level I               | 0.02              |         | 0.01               |         | 0.04              |         | 0.04               |         |
| R <sup>2</sup> Level II <sup>a</sup> | 0.91              |         | 0.98               |         | 0.56              |         | 0.94               |         |

\*\*\*p<.001, \*\*p<.01, \*p<.05, †p<.10; <sup>a</sup>Level II R<sup>2</sup> values reflect the amount of variation explained by the models in relation to the total amount of variation that is present between workgroups (i.e., the ICC(1) values).

**Table 6.3: Multilevel Ordinal Logistic Regression Results Predicting Officer Attitudes – Final Models**

| Variable                                    | Aggressiveness     |               | Crime fighting     |               |
|---------------------------------------------|--------------------|---------------|--------------------|---------------|
|                                             | <u>b (s.e.)</u>    | <u>Exp(b)</u> | <u>b (s.e.)</u>    | <u>Exp(b)</u> |
| <b>Level II</b>                             |                    |               |                    |               |
| Intercept 1                                 | -3.81***<br>(0.19) | ---           | -3.60***<br>(0.20) | ---           |
| Intercept 2                                 | -1.63***<br>(0.09) | ---           | -1.16***<br>(0.07) | ---           |
| Intercept 3                                 | 0.88***<br>(0.09)  | ---           | 1.37***<br>(0.08)  | ---           |
| Prop. Male                                  | -----              | -----         | -----              | -----         |
| Prop. White                                 | -----              | -----         | -1.13*<br>(0.51)   | 0.32          |
| Avg. Experience                             | -0.07**<br>(0.03)  | 0.93          | -----              | -----         |
| Avg. Education                              | 0.06<br>(0.16)     | 1.06          | -0.13<br>(0.16)    | 0.87          |
| CSPD                                        | 0.22<br>(0.36)     | 1.25          | 0.22<br>(0.28)     | 1.25          |
| PPB                                         | -0.01<br>(0.43)    | 0.99          | -0.09<br>(0.31)    | 0.91          |
| FWPD                                        | -0.88**<br>(0.27)  | 0.41          | -0.15<br>(0.21)    | 0.86          |
| KPD                                         | 0.36<br>(0.24)     | 1.43          | 0.81**<br>(0.23)   | 2.25          |
| <b>Level I</b>                              |                    |               |                    |               |
| Male                                        | 0.38*<br>(0.18)    | 1.48          | 0.27<br>(0.19)     | 1.30          |
| White                                       | 0.53***<br>(0.16)  | 1.69          | 0.14<br>(0.16)     | 1.15          |
| Experience (ln)                             | -0.25*<br>(0.09)   | 0.78          | -0.14*<br>(0.07)   | 0.87          |
| Education                                   | -0.03<br>(0.04)    | 0.97          | -0.07<br>(0.04)    | 0.93          |
| <b>Model Results</b>                        |                    |               |                    |               |
| N                                           | 961                |               | 962                |               |
| ICC(1)                                      | 0.10               |               | 0.05               |               |
| Pseudo R <sup>2</sup> Level I               | 0.03               |               | 0.01               |               |
| Pseudo R <sup>2</sup> Level II <sup>a</sup> | 0.89               |               | 0.99               |               |

\*\*\*p<.001, \*\*p<.01, \*p<.05; <sup>a</sup>Level II R<sup>2</sup> values reflect the amount of variation explained by the models in relation to the total amount of variation that is present between workgroups (i.e., the ICC(1) values).

Several interesting findings emerge when looking at the effects of workgroup composition on officers' occupational attitudes.<sup>24</sup> Again, it is important to note that since the individual officer characteristics are included at level 1 and are grand mean centered, the coefficients for the workgroup level 2 variables can be viewed as the contextual effects of workgroup composition over and above individual officer demographic effects (Raudenbush & Bryk, 2002). Workgroup average experience levels had significant effects on three of the six attitudinal variables. In workgroups with higher average experience levels among officers, officers were more likely to hold negative views toward supervisors ( $\beta=0.36$ ), less likely to be satisfied with their jobs ( $\beta=-0.88$ ), and less likely to hold aggressive attitudes toward patrol ( $\exp(b)=0.93$ ).

Workgroup racial composition also had a significant effect on officers' role orientations. Specifically, workgroups containing higher proportions of white officers were significantly less likely to accept order maintenance roles ( $\beta=0.48$ ), yet also significantly less likely to favor crime-fighting orientations ( $\exp(b)=0.32$ ). Finally, workgroup average educational level was related to three of the six attitudinal measures. For example, in workgroups containing officers with higher average educational levels, officers were less likely to accept order maintenance roles ( $\beta=0.83$ ), more likely to hold negative views toward supervisors ( $\beta=0.63$ ), and less likely to be satisfied with their jobs ( $\beta=-0.53$ ;  $p<.10$ ). Overall, these three compositional characteristics were consistently related to officers' attitudes and exerted some of the strongest effects across the six models.

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<sup>24</sup> Diagnostic tests for multicollinearity were conducted for all models presented in Tables 6.2 and 6.3 for each level. At level 1, tolerance levels and variance inflation factors (VIFs) were examined and all VIFs were 1.02 or below. At level 2, this issue was examined using the workgroup mean for each attitude as the dependent variable. VIF values for the four compositional measures were all less than 1.24. Thus, multicollinearity was not deemed to be a problem.

In terms of the model results for the level 2 portion of the models, the four composition measures explained between 56 percent (i.e., direct supervisors) to almost 99 percent (i.e., job satisfaction) of the attitudinal variation between workgroups. This is in part due to the contribution of the compositional characteristics to the model; however, the high percentages of explained variation are also due to the inclusion of the department dummy variables as level 2 controls. It should be noted that the results of the unconditional models presented in the previous chapter indicated that the total amount of attitudinal variation between workgroups ranged from 4 percent (i.e., ICC(1) for order maintenance) to 10 percent (ICC(1) for direct supervisor and aggressiveness). Thus, it is important to keep this in mind when examining the amount level 2 variation explained by the models in Tables 6.2 and 6.3.

At the individual officer level, there were also several significant effects on officer attitudes. Individual officer experience levels were significantly related to five attitudes. Specifically, officers with more years of service to the department were less likely to be distrustful of citizens, more likely to hold negative views toward supervisors, less likely to be satisfied with their jobs, less likely to hold aggressive attitudes toward patrol, and less likely to believe crime-fighting is the most important role of officers. Officers with higher education levels were also less likely to be satisfied with their jobs. Male officers were more likely to favor aggressive patrol tactics. Finally, white officers were more likely to hold aggressive attitudes toward patrol. Even though there were a handful of significant effects at the individual officer level, examination of the model results indicate that these variables did not explain much variation in officer attitudes.

Collectively, these four individual officer variables only explained one percent (i.e., order maintenance) to four percent (i.e., job satisfaction) of the variance in officers' attitudes.

## **Discussion**

This chapter examined the effect that workgroup compositional characteristics had on officers' occupational attitudes. Specifically, analyses tested the extent to which workgroup gender composition, racial composition, average experience levels, and average educational levels explained officers' views toward citizens, order maintenance roles, direct supervisors, job satisfaction, aggressive patrol, and crime fighting. The results of these tests indicated that the composition of officers' workgroups did have an impact on their attitudes. Of particular importance were the racial composition, average experience levels, and educational levels of workgroups as these three measures were consistently and strongly related to officer attitudes even after controlling for individual officer characteristics and while controlling for their respective departments.

The results show that the types of officers' that individual officers are exposed to and work with within the workgroup context matter in influencing attitudes regardless of officers' own individual characteristics. For example, when looking at officers' acceptance of order maintenance roles, individual officer race did not have a significant effect. Yet officers who worked in groups with higher proportions of white officers were significantly less likely to accept order maintenance roles. Thus, being exposed to and routinely interacting with officers in this type of context influenced officers' acceptance of role orientations over and above individual level influences. Additionally, workgroup experience levels had both individual and aggregate effects on satisfaction levels. At the individual level more experienced officers were less likely to be satisfied with their jobs.

However, officers exposed to more experienced officers within their workgroups were also less satisfied with their jobs even after controlling for their own experience levels. Finally, average education levels consistently influenced officer attitudes regardless of officers' own educational level. For example, in workgroups where officers were exposed to other officers' with higher educational levels, they were less likely to accept order maintenance roles.

One aspect that is important to consider is whether the compositional results reflect socialization effects or selection effects. In other words, are officer attitudes influenced by their interactions and exposure to their workgroup peers or are officers who are familiar with the practices of a particular workgroup more likely to select into that environment? For example, an officer's view towards aggressive patrol may be influenced as a result of working with other officers who have specific orientations toward aggressiveness (i.e., a socialization effect). On the other hand, aggressive officers may be attracted to specific workgroups that they know adhere to aggressive practices (i.e., a selection effect). Across the study departments, workgroup assignments were decided by both the administration and individual officers through the use of bid systems. As such, this question cannot be adequately examined due to the cross-sectional nature of the data. Future research, however, using longitudinal designs could investigate the nature of these effects. It would be beneficial to know how socialization and/or selection processes influence attitudes. In addition, uncovering the processes by which information regarding the nature of these attitudes is transmitted across officers would offer insight as to how attitudes might become shared by officers.

Regardless of the nature of the compositional effects, the results do have practical implications for police administrators. For example, if departments are trying to implement strategies and practices that require acceptance of broader police role orientations, then how workgroups are comprised may have an effect on their successful implementation. It has already been argued that strategies and practices implemented at the department level are administered and carried out at the street level within the workgroup context. In order for these to be successful, administrators need to consider the types of officers assigned to workgroups. For example, the current results found that officers in workgroups with higher proportions of white officers were significantly less likely to favor broader role orientations even after controlling for officer's individual race. If departments seek to implement strategies that require acceptance of broader roles, such as community policing approaches, then administrators would benefit by assessing the racial composition of workgroups. Perhaps creating greater racial diversity within the workgroup context might create a work environment that would accept such strategies. In essence, having an understanding of how the demographic makeup of workgroups can influence officers' attitudes may prove beneficial in establishing settings where the ideals of the department are viewed similarly and carried out at lower levels of the organization.

Although the findings illustrate the importance of workgroup composition on officer attitudes, the study is not without limitations. First, the focus was solely on the effect of workgroup composition on officer attitudes. Within the workgroup context, however, there are likely other factors that also influence attitudes. Two other types of factors that were identified by the theoretical framework of the study include officers' supervisors as well as characteristics of their physical environment (e.g., crime rates,



workload, or neighborhood structural factors). Incorporation of these other factors could attenuate some of the results for the workgroup compositional characteristics. Thus, it is important to consider the current findings with this limitation in mind. Future research would benefit by including these additional factors in empirical models.

Second, the individual officer characteristics used as controls had little explanatory power across the six models. The fact that officer demographics accounted for only small amounts of variation in the level 1 models could lead to bias in the workgroup composition estimates. The inclusion of other individual level variables that might also explain officer attitudes could also attenuate some of the workgroup level results. Although important to bear in mind, it is unclear what other individual officer characteristics might influence attitudes as prior research has focused heavily on officer demographics and these results have also shown little explanatory power. Although officer age was not included in the current study, this was due to the fact that age and experience levels were highly correlated ( $r=.70$ ) and would likely pose collinearity problems. Future research would also benefit by identifying and including other individual level characteristics.

Finally, limitations existed for some of the attitudinal and workgroup measures. For example, there was little variation across workgroups with respect to gender composition. The study departments were still heavily comprised of male officers. The lack of diversity could be why gender composition was largely unrelated to officers' attitudes with the exception of views toward order maintenance. Despite these limitations, the results do offer important insight into how officers' workgroups influence their attitudes.

## **CHAPTER SEVEN: WORKGROUP ATTITUDES & FORCE BEHAVIOR**

This chapter presents the results testing whether workgroup level attitudinal measures predict officers' use of force behavior. Specifically, the results from Chapter Five revealed that four attitudinal measures displayed valid and reliable group-level properties: citizen distrust, direct supervisor, job satisfaction, and aggressiveness. As such, these attitudes can be viewed and treated as contextual measures of officers' work environments (e.g., workgroup climates) that may explain street-level behaviors, such as use of force. Here, these measures are examined in relation to three types of force used in encounters with citizens: soft hand force, hard hand force, and impact force. The chapter begins by discussing the data used for analysis. Next, the force, workgroup, and control variables used in the empirical models are described. The analytic techniques used to test the models are then explained. Finally, the results of the analysis are presented and discussed.

### **Data**

Data for this portion of the study come from two sources. First, the attitudinal measures and individual officer characteristics are taken from the officer survey and master rosters. These data are identical to the data described and used to test the previous two research objectives. Second, the force data came from the use of force reports collected as part of the larger NIJ project. These force reports included data on the level of force used by officers during encounters, the level of resistance suspects presented to officers, and suspect demographic characteristics. From these data, measures of force behavior (the outcomes of interest) as well as the suspect characteristics used as controls were derived.

Across each site, at least two years of force reports were collected. Department policy required officers to fill out these reports for every encounter in which a reportable use of force incident occurred. Reporting requirements were similar across all sites.<sup>25</sup> The data collection periods reflect a time frame in which each department had a consistent use of force policy and force reporting method. The exact time frames for each of the five study departments were: APD (April, 13 2006-April 12, 2008), PPB (November 5, 2005-November 4, 2007), CSPD (2006-2007 calendar years), FWPD (December 18, 2004-December 31, 2007), and KPD (June 1, 2005-May 31, 2007). For purposes of the current study, however, only force data from the calendar year 2007 was used for analysis as this coincided with the time frame in which the officer survey was administered.

Based on the time frames, two issues had to be addressed. First, the time frame for KPD only included force data for part of 2007. Because only five months of force data was collected, KPD was excluded from this part of the study. Second, only eleven months of 2007 data could be collected for PPB. This was due to the fact that PPB's force reporting requirements changed after this date. To remedy this, force data for PPB was taken back to November, 2006. Although not ideal, this allowed for the use of twelve consistent months of force data for the four remaining sites (i.e., APD, PPB, CSPD, and FWPD).

## **Variables**

### *Use of Force Measures*

The outcomes of interest are the type(s) of force officers used during encounters with citizens. Across each of the four sites, common measures of force usage were

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<sup>25</sup> Generally, officers were required to fill out reports for every action above handcuffing or simple restraints across each site.

constructed from each department's force reports to ensure that force types were comparable across departments. Force behavior was coded into two categories: weaponless tactics and weapon tactics. For weaponless tactics, the following force types were coded from each department's reports: simple restraints (e.g., a pat down or escort maneuver), pain compliance techniques (e.g., pressure point holds), control maneuvers, takedowns, and strikes. For weapon tactics, the following force types were coded: chemical spray, baton, EMD (i.e., taser), less lethal weapons, and firearms.<sup>26</sup> Based on these categorizations, three force measures were constructed to reflect the types of force used by officers during encounters. Two of these measures were derived from the weaponless tactics categorizations and are defined as *soft hand force* and *hard hand force*, while the third measure was derived from the weapon tactic categorizations and is defined as *impact force*.

*Soft hand force* is a binary variable (0=no, 1=yes) that captures whether officers reported using any of the following weaponless tactics during a citizen encounter: simple restraints, pain compliance techniques, control maneuvers, and/or take downs. In essence, this measure captures lower levels of hands on force that involves guiding or controlling a suspect. *Hard hand force* is a binary variable (0=no, 1=yes) that captures whether officers reported using striking techniques (e.g. strikes with hands, body, or feet) during a citizen encounter. This variable captures more aggressive physical force used by officers to gain control of suspects. *Impact force* is also a binary variable (0=no, 1=yes) that measures whether officers reported using any type of weapon tactic during a citizen

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<sup>26</sup> For a more detailed description as to how the common force measures were derived and coded from each department's force reports, see Terrill, Paoline, & Ingram, forthcoming.

encounter.<sup>27</sup> These three force measures are consistent with the current conceptualization and operationalization of force usage for the larger NIJ project (Terrill & Paoline, 2009).

In addition to constructing the force measures, each case had to be coded into the appropriate workgroup. The force data was coded at the officer level, meaning that each officer who reported using force during an encounter was a unique observation. As a result, the force data and survey data could be linked at the officer level based on the unique identification numbers assigned to each officer for the study. This allowed for the workgroup level measures and survey data to be merged with the use of force data.

#### *Workgroup Attitudinal Measures*

The primary independent variables of interest are the four attitudes found in Chapter Five to exhibit collective properties that allow for their aggregation to the workgroup level. Specifically, the measures of citizen distrust, direct supervisor, job satisfaction, and aggressiveness were found to have sufficient levels of within-group agreement, acceptable group mean reliabilities, and significant between-group variability. As a result, these four measures can be treated as contextual measures of officers' workgroup environments. Furthermore, they can be measured by aggregating individual officer responses to the workgroup level by taking the group level means for each attitude (Bliese, 2000; James, 1982; Kozlowski & Klein, 2000).

For example, the findings from Chapter Five indicated that officers within workgroups shared similar perceptions of citizens (i.e., within-group agreement). However, the nature of these shared perceptions varied across workgroups (i.e., between-

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<sup>27</sup> It should be noted that in order for the observation to be coded as impact force, the officer had to have used the weapon in some capacity during the encounter; mere drawing or pointing of the weapon was not coded as an instance of impact force.

group variability). Officers within some workgroups had more distrustful views toward citizens than officers within other workgroups. When viewed from the context of the workgroup climate literature discussed in Chapter Three, this suggests that a climate of distrust exists within the formal organization of policing at the workgroup level and that these climates significantly vary across workgroups. Therefore, a workgroup level variable was constructed by taking the group level mean of the citizen distrust measure. This measure is defined and referred to as *distrust climate* and higher values indicate a greater climate of distrust towards citizens. It is hypothesized that officers in workgroups with distrustful climates will have a greater likelihood of using soft hand, hard hand, and impact force tactics against suspects than officers in workgroups with less distrustful climates.

A similar approach can be taken for the other three attitudes. The results from Chapter Five found that officers within workgroups shared similar attitudes toward their direct supervisors in terms of the degree to which supervisors' management approaches discouraged extra effort from officers and the degree to which supervisors looked out for the personal welfare of officers. The nature of these shared attitudes also varied across workgroups. This also suggests that a climate of support exists within the formal organization of policing at the workgroup level and that these climates significantly vary across workgroups. A workgroup level variable was constructed and defined as *unsupportive supervisor* to measure this aspect of the workgroup environment. Here,

higher values indicate less supportive climates and these climates are hypothesized to predict officers' use of soft hand, hard hand, and impact force.<sup>28</sup>

Officers within workgroups were also found to share similar levels of job satisfaction. The nature of these shared attitudes also varied across workgroups: officers in some workgroups had greater levels of satisfaction, while officers in other workgroups shared lower levels of satisfaction. While the previous two measures were described as workgroup climates, the group-level measure of job satisfaction is perhaps better viewed as an indicator of group morale. For example, Bliese, Chan, and Ployhart (2007: 553) have noted that individual ratings of job satisfaction may be influenced by the shared experiences of group members, and so "the group mean reflects shared group properties such as...group morale." As a result, the group level measure of job satisfaction is viewed similarly in the context of the current study and the variable *morale* was computed based on the group means of the job satisfaction measure. Higher values reflect greater morale and it is hypothesized that morale will predict soft hand, hard hand, and impact force because it serves as a way to cope with the stressors associated with that type of environment.

Finally, *aggressive climate* is derived from individual officers' responses to the aggressiveness measure (i.e., a good patrol officer is one who patrols aggressively, stopping cars, checking out people, running license checks and so forth). Similar to the

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<sup>28</sup> Unlike the hypotheses given for the effect of distrust climate on force behavior, directional hypotheses are not offered for the effect of supervisor support because the results could either be positively or negatively related to the three force measures. For example, officers in less supportive climates may be less likely to use any of the three force tactics because of their belief that supervisors do not look out for their well being. Officers in these climates might try to refrain from using force during encounters. On the other hand, officers in less supportive climates could also be more likely to rely on impact force tactics, such as OC spray or the taser because these tactics are less likely to cause injury to the officer. Here, reliance on impact force tactics may be used to make up for the perceived lack of support from supervisors who do not look out for the personal welfare of officers or discourage extra effort from officers.

distrust and unsupportive supervisor climate measures, workgroup means are used as measures of aggressive climates for each workgroup. This measure represents a contextual variable of officers' workgroup environment and it is hypothesized that officers who work in aggressive climates will have a greater likelihood of using soft hand, hard hand, and impact force than officers working in less aggressive climates.

#### *Control Variables*

Several individual officer and suspect control variables that prior research has found to be related to use of force behavior are also included in the analysis. Eight variables are used to control for individual officer characteristics. Four of these consist of the officer demographic characteristics used in the second research objective and include officer gender, race, education, and length of service. The other four variables consist of individual officer attitudes of citizen distrust, direct supervisor, job satisfaction, and aggressiveness. Including these individual officer attitudes in the models strengthens empirical support for any contextual effects of the workgroup attitudinal measures. If the workgroup attitudinal measures explain variation in force behaviors over and above the individual level measures, then stronger evidence of contextual effects are present (see Bursik & Grasmick, 1996; Bliese, et al., 2007; Hauser, 1970; Sampson, Raudenbush, & Earls, 1997).

In terms of suspect characteristics, the following variables were coded from each sites' use of force reports and are included in the analyses: suspect demographics (i.e., race, gender, and age), whether the suspect was under the influence of drugs and/or alcohol, whether the suspect was mentally or emotionally disturbed, whether the suspect possessed a weapon, whether the suspect was arrested, and the highest level of resistance



presented to the officer during the encounter. The operational definitions and hypothesized effects for each of these variables as well as the force and workgroup measures are outlined in Table 7.1.

In addition to controlling for officer and suspect characteristics, the study also controls for the department where each force encounter occurred. This is necessary because departments selected for the study had different force policies, meaning that each department had different guidelines for when and how various forms of force could be used during encounters. It is necessary to account for these factors as it likely produces differences in the application of force across sites. In subsequent analyses, the department is controlled for in two manners. First, when examining force usage, the clustering of force incidents by site is accounted for statistically using the same analytic procedure used to account for the nesting of workgroups within higher organizational units in Chapters Five. This procedure is used here by adjusting the standard errors of parameter estimates to account for the clustering of force usage within departments. Second, a series of dummy variables are used as controls for the multilevel models explaining force usage. Three dummy variables were constructed to measure where the force incident occurred (CSPD, PPB, or APD) and FWPD serves as the reference site.

**Table 7.1: Descriptions of Key Force, Workgroup, Officer, & Suspect Variables**

| <b>Variable</b>         | <b>Hypothesized Effect</b> | <b>Definition</b>                                                                                                |
|-------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------|
| <i>Dependent</i>        |                            |                                                                                                                  |
| Soft Hands              |                            | Did officer use soft hand techniques? (0=No, 1=Yes) Firm grip, pressure point, control maneuvers, takedowns      |
| Hard Hands              |                            | Did officer use hard hand techniques (0=No, 1=Yes) Striking w/ hands, feet, body                                 |
| Impact                  |                            | Did officer use impact force? (0=No, 1=Yes) OC spray, Taser, baton, impact munitions, other weapon               |
| <i>Workgroup</i>        |                            |                                                                                                                  |
| Distrust Climate        | +                          | Group-level mean of citizen distrust attitude                                                                    |
| Unsupportive Supervisor | +/-                        | Group-level mean of direct supervisor attitude                                                                   |
| Morale                  | +/-                        | Group-level mean of job satisfaction attitude                                                                    |
| Aggressive Climate      | +                          | Group-level mean of aggressiveness attitude                                                                      |
| <i>Officer</i>          |                            |                                                                                                                  |
| Citizen Distrust        | +                          | Distrust of citizens (higher values=greater distrust)                                                            |
| Direct Supervisor       | +/-                        | Views toward supervisor (higher values=negative views)                                                           |
| Job Satisfaction        | -                          | Job satisfaction (higher values=greater satisfaction)                                                            |
| Aggressiveness          | +                          | Aggressive patrol 1(SD) to 4 (SA)                                                                                |
| Male                    | +                          | 1=male, 0=female                                                                                                 |
| Non-white               | +/-                        | 1=non-white, 0=white                                                                                             |
| Experience              | -                          | Years of experience                                                                                              |
| Education               | -                          | Highest level of education ranging from 1 (less than HS) to 8 (Graduate Degree)                                  |
| <i>Suspect</i>          |                            |                                                                                                                  |
| Resistance              | +                          | Highest level of resistance: 1(failure to comply), 2(defensive physical), 3(defensive aggressive), or 4 (deadly) |
| Male                    | +                          | 1=male, 0=female                                                                                                 |
| Non-white               | +/-                        | 1=non-white, 0=white                                                                                             |
| Age                     | -                          | Age in years                                                                                                     |
| Alcohol/Drugs           | +                          | 1=suspect under influence of alcohol/drugs, 0=no                                                                 |
| Mental/Emotion          | +                          | 1=suspect mentally or emotionally disturbed, 0=no                                                                |
| Weapon                  | +                          | 1=suspect had weapon, 0=no                                                                                       |
| Arrest                  | +                          | 1=suspect arrested, 0=no                                                                                         |

## **Analysis**

For the final research objective, observations occur at two levels of analysis: officers' attitudes and use of force behavior are nested within workgroups. As such, the data are hierarchically structured and the research question of interest involves variables at different levels of analysis. When such factors are present, multilevel modeling techniques are appropriate analytic strategies for answering the above research objective (Hoffman et al., 2000; Raudenbush & Bryk, 2002). The multilevel analyses are conducted in two steps.

After descriptive statistics are reported and discussed, unconditional models are presented for each of the three force variables. These multilevel models assess the amount of variation in the force variables between workgroups while accounting for the clustering of force across sites and are similar to the one-way, random effect ANOVA analyses conducted for each attitudinal measure in Chapter Five. No other independent variables are included in the model; the purpose is to determine if sufficient variation exists on the force measures between workgroups while accounting for departmental differences in force tactics. There must be empirical evidence that use of force behavior varies across workgroups. If force behavior does not significantly differ across workgroups, then multilevel analyses are unnecessary. Evidence of significant variation on the force measures exists if the between-group variance components estimated by the models are significant even after accounting for clustering by department. Furthermore, similar to the ANOVA models, an ICC(1) value can be calculated to determine the amount of variation in force behavior that can be explained at the workgroup level (Hoffman et al., 2000; Raudenbush & Bryk, 2002).

Second, two-level, random intercept models are conducted to test whether workgroup-level measures explain force behavior while controlling for individual and suspect characteristics. If the results of the unconditional models indicate sufficient variation in soft hand, hard hand, and impact force between workgroups, then a two-level multilevel model can be specified to explain this variation for each force measure. Specifically, intercepts as outcome models are appropriate for this type of research question (Hoffman et al., 2000; Raudenbush & Bryk, 2002). The workgroup measures are used in the level 2 portion of the model, and all individual officer and suspect variables are used as level 1 control variables. Additionally, the models will control for the department at the workgroup level using the site dummy variables. In essence, this model tests whether workgroup perceptual measures explain force behavior while controlling for individual, suspect, and department variables.

Finally, it should be noted that the multilevel models represent hierarchical generalized linear models (HGLM) because each of the force outcomes are binary variables. Each multilevel model is a binary logistic regression model estimated using robust maximum likelihood estimation (MLR). Intercept and slope estimates represent logit coefficients from which odds ratios and predicted probabilities can be calculated (Muthen & Muthen, 2007; Raudenbush & Bryk, 2002). Since the primary interest is the effect of level 2 variables (i.e., workgroup measures) on force behavior, the level 1 officer and suspect control variables remain fixed across models. Furthermore, all level 1 variables are grand mean centered.

As with the multilevel analyses conducted in the previous chapter, grand mean centering is necessary to estimate level 2 effects while controlling for level 1 variables.

Therefore, the level 2 logit coefficients reflect the relationship between the workgroup measures and force behavior after adjusting for the effects of the level 1 control variables. Furthermore, grand mean centering allows for the assessment of any contextual effects among the workgroup attitudinal measures at level 2. For example, if distrust climate is significantly associated with force behavior while controlling for the individual officer measure of citizen distrust, then empirical support exists that officers' social environments predict behavior over and above individual officers' own views toward citizens. Again, the effect of the aggregate measure is greater than the effect of the individual responses that make it up. Grand mean centering allows for the direct determination of any potential contextual effects (Enders & Tofighi, 2007; Hoffman, 1998; Raudenbush & Bryk, 2002).

## **Results**

### *Descriptive Statistics*

Table 7.2 presents descriptive statistics for each variable used in subsequent analyses. Beginning with the force measures, there were 1,648 instances where some type of force was used by an officer across the four sites in 2007. The use of soft hand force tactics by officers was present in 52 percent of those 1,648 instances, while the use of hard hand force tactics by officers was present in 23 percent of the 1,648 instances. With respect to impact force, officers used some form of weapon tactic in 42 percent of the 1,648 instances where force was used. Two aspects should be noted about these results.

First, the application of force appears to be much higher than is reported by previous research, particularly research that has used observational data to examine force behavior (e.g., see Chapter Two). This is due to the fact that force behavior in the current

study comes from official records and therefore only includes cases where reportable force was actually used. Thus, unlike observational studies that allow for the use of a wider conceptualization of force behavior (i.e., no force, verbal force, physical force, impact force), the current study can only examine instances where reportable force was used during an encounter. Second, the 1,648 cases used for analysis represent instances where officers used some type of reportable force against a suspect. This means that in cases where multiple officers used force or a single officer used force against multiple suspects, each separate application of force was coded as a line in the data. On the other hand officers may have also used multiple force types against the same suspect (e.g., takedown, strike, and OC spray). Each force application against the same suspect was coded on the same line of data. Therefore, the 1,648 force cases do not necessarily reflect unique encounters with citizens. This is the reason the percentages associated with the means for the force measures are greater than 100 percent.

The use of force cases were nested within the fifty-three workgroups across the four sites. On average there were just over thirty-one force instances within each workgroup which suggest that there are a sufficient number of workgroup units as well as observations within units to provide for accurate tests of the proposed multilevel models (Maas & Hox, 2005). With respect to the four workgroup attitudinal measures, workgroup means and standard deviations indicated that the measures were normally distributed and that there should be sufficient variation in measures across workgroups.<sup>29</sup> On average, workgroup climates were not overly distrustful ( $\bar{x} = 4.86$ ), were generally

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<sup>29</sup> There may be some concern that the validity and reliability properties of the workgroup attitudinal measures changed as a result of having to exclude the eight KPD workgroups from analysis. To assess this, the analyses from Chapter Five were conducted without these eight workgroups. The results did not show any significant deviations from the findings discussed in Chapter Five in terms of within-group agreement, group-mean reliabilities, and between-group variability.

supportive ( $\bar{x} = 3.75$ ), and aggressive ( $\bar{x} = 3.06$ ). Workgroups also displayed rather high levels of morale ( $\bar{x} = 9.06$ ). Finally, ten workgroups were from CSPD (19%), thirteen workgroups were from PPB (24%), eighteen workgroups were from APD (34%), and twelve workgroups were from FWPB (23%).

**Table 7.2: Descriptive Statistics for Force, Workgroup, Officer, & Suspect Variables**

| <b>Variable</b>         | <b>N</b> | <b>Min.</b> | <b>Max.</b> | <b>Mean</b> | <b>Std.<br/>Deviation</b> |
|-------------------------|----------|-------------|-------------|-------------|---------------------------|
| <i>Dependent</i>        |          |             |             |             |                           |
| Soft Hand Force         | 1,648    | 0           | 1           | 0.52        | 0.50                      |
| Hard Hand Force         | 1,648    | 0           | 1           | 0.23        | 0.42                      |
| Impact Force            | 1,648    | 0           | 1           | 0.42        | 0.49                      |
| <i>Workgroup</i>        |          |             |             |             |                           |
| Distrust Climate        | 53       | 3.71        | 6.27        | 4.86        | 0.50                      |
| Unsupportive Supervisor | 53       | 2.72        | 5.00        | 3.75        | 0.56                      |
| Morale                  | 53       | 7.00        | 10.63       | 9.06        | 0.69                      |
| Aggressiveness Climate  | 53       | 2.36        | 3.67        | 3.06        | 0.30                      |
| CSPD                    | 53       | 0           | 1           | 0.19        | 0.33                      |
| PPB                     | 53       | 0           | 1           | 0.24        | 0.43                      |
| APD                     | 53       | 0           | 1           | 0.34        | 0.48                      |
| FWPB (reference site)   | 53       | 0           | 1           | 0.23        | 0.42                      |
| <i>Officer</i>          |          |             |             |             |                           |
| Male                    | 1,640    | 0           | 1           | 0.94        | 0.23                      |
| Non-white               | 1,637    | 0           | 1           | 0.15        | 0.36                      |
| Experience              | 1,643    | 0.50        | 30          | 5.22        | 4.42                      |
| Education               | 1,628    | 1           | 8           | 5.18        | 1.55                      |
| Citizen Distrust        | 1,632    | 2           | 8           | 4.90        | 1.44                      |
| Direct Supervisor       | 1,620    | 2           | 8           | 3.45        | 1.39                      |
| Job Satisfaction        | 1,616    | 3           | 12          | 9.35        | 1.68                      |
| Aggressiveness          | 1,637    | 1           | 4           | 3.24        | 0.70                      |
| <i>Suspect</i>          |          |             |             |             |                           |
| Resistance              | 1,582    | 1           | 4           | 2.31        | 0.67                      |
| Male                    | 1,635    | 0           | 1           | 0.87        | 0.33                      |
| Non-white               | 1,622    | 0           | 1           | 0.53        | 0.50                      |
| Age                     | 1,620    | 11          | 84          | 31.54       | 11.16                     |
| Alcohol/Drugs           | 1,646    | 0           | 1           | 0.55        | 0.50                      |
| Mental/Emotion          | 1,646    | 0           | 1           | 0.13        | 0.33                      |
| Weapon                  | 1,643    | 0           | 1           | 0.12        | 0.33                      |
| Arrest                  | 1,645    | 0           | 1           | 0.84        | 0.37                      |

With respect to officer variables, the majority of officers who used force were white, male, had approximately five years of experience, and had some college education. Individual officer attitudes toward citizens, supervisors, job satisfaction, and aggressive patrol were similar to what was reported in Chapter Five. Officer experience was found to be positively skewed. This variable was transformed by taking the natural log and the transformed variable is used in all subsequent analyses ( $\bar{x} = 1.33$ , s.d.=0.82). With respect to suspect characteristics, the majority of suspects who had force used against them were minority, male, and had been impaired by alcohol or drugs at the time of the encounter. The modal level of resistance involved defensive physical resistance. Few cases involved mentally or emotionally unstable suspects or suspects with weapons, while approximately eighty-four percent of cases involved an arrest.

### *Soft Hand Force Results*

Discussion of the multilevel results begins with the models for soft hand force. The results for the unconditional model are used to determine the extent to which officers' use of soft hand force varied across workgroups. Initial results indicated the presence of significant variation based upon the estimated between-groups variance component ( $\tau = 0.39$ , s.e. = 0.14,  $p < .01$ ). Additionally, the approximate amount of variation between workgroups was calculated to be eleven percent ( $ICC(1) = 0.11$ ).<sup>30</sup> This initial model, however, did not account for the department in which the force incidents occurred. After controlling for department, the between-group variance component became non-significant ( $\tau = 0.39$ , s.e. = 0.24,  $p > .05$ ).

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<sup>30</sup> The  $ICC(1)$  was calculated using the same equation employed in Chapter Five for the categorical attitudinal variables.  $ICC(1) = .39 / (.39 + \pi^2/3) = 0.11$ .



Even though a portion of the variation in soft hand force was found to exist between workgroups (i.e., 11%), this variation is likely to be accounted for by departmental factors rather than workgroup factors. Although not empirically tested, differences in officers' use of soft hand tactics may be attributed to the types of less-lethal force policies implemented across departments. Officers within the same department operate under the same policies which guide their decisions on when and how to use lower levels of force such as grips, holds, control maneuvers, and takedowns. As a result, officers working in the same department are likely to behave similarly with respect to this type of force usage. For the current inquiry, the results show that workgroup level measures are not important for explaining multilevel differences in soft hand force behavior. As such, multilevel modeling at the workgroup level is not warranted. Since the primary research question focuses on the extent to which workgroup attitudinal measures predict soft hand force behavior, no further analyses are conducted. Attention is now turned to the two remaining force measures.

### *Hard Hand Force Results*

The results of the unconditional model for hard hand force also initially indicated the presence of significant variation based upon the between-groups variance component ( $\tau = 0.62$ , s.e. = 0.15,  $p < .001$ ). The approximate amount of variation in hard hand force between workgroups was calculated to be sixteen percent ( $ICC(1) = 0.16$ ). Furthermore, significant between-group variation remained after accounting for the clustering of hard hand force by department ( $\tau = 0.62$ , s.e. = 0.27,  $p < .05$ ). These results show that workgroup-level factors can be used to explain multilevel differences in hard hand force behavior. In other words, the application of hard hand force techniques by officers

differed across workgroups even after taking into account similarities in hard hand force usage within departments. As such, further tests can be conducted to explain this variation.

Table 7.3 presents the results for two multilevel models. First, an initial model was tested to examine the impact of the four workgroup climate measures on hard hand force while controlling for officer and suspect characteristics. The purpose of this model is to gain a preliminary understanding of the effect of the workgroup measures. The results indicate that three of the four measures significantly predicted hard hand force. Hard hand force usage was significantly higher in workgroups with distrustful and unsupportive climates but significantly lower in aggressive climates. Workgroup morale was not associated with hard hand force. A second model was conducted which included the three department dummy variables as level 2 controls. Additionally, workgroup morale was dropped from this model since it contributed little explanatory power to the first model.<sup>31</sup> After controlling for officer and suspect variables as well as the department in which the encounter occurred, distrust climate, unsupportive supervisor, and aggressive climate were still found to be significantly associated with the hard hand force measure. In addition, when compared to workgroups from FWPD, officers in workgroups from PPB and APD were significantly less likely to use hard hand force techniques. Collectively, these measures explained approximately 75 percent of the level 2 variation (i.e.,  $ICC(1)=0.16$ ) in hard hand force across workgroups.

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<sup>31</sup> Multilevel researchers have stressed the importance of sample size when considering the number of variables to include at level 2 to ensure statistical power. An accepted rule of thumb is to estimate one variable for every ten level two units (Maas & Hox, 2005). Thus, morale was excluded to keep the model parsimonious.

**Table 7.3: Multilevel Model Results for Hard Hand Force (N=1,457)**

| Variable                                    | <u>Initial Model</u> |               | <u>Full Model</u> |               |
|---------------------------------------------|----------------------|---------------|-------------------|---------------|
|                                             | <u>b (S.E.)</u>      | <u>Exp(b)</u> | <u>b (S.E.)</u>   | <u>Exp(b)</u> |
| <b>Workgroup Level</b>                      |                      |               |                   |               |
| Intercept                                   | 1.60 (0.12)***       | 4.95          | 0.80 (0.20)***    | 2.22          |
| Force Variance Comp.                        | 0.32 (0.11)**        | ----          | 0.15 (0.07)*      | ----          |
| Distrust Climate                            | 0.62 (0.29)*         | 1.86          | 0.69 (0.28)*      | 1.99          |
| Unsupportive Supervisor                     | -0.49 (0.25)*        | 0.61          | -0.68 (0.23)**    | 0.51          |
| Morale                                      | 0.01 (0.21)          | 1.01          | -----             | ---           |
| Aggressive Climate                          | -1.64 (0.40)***      | 0.19          | -0.70 (0.33)*     | 0.49          |
| CSPD                                        | -----                |               | -0.46 (0.46)      | 0.63          |
| PPB                                         | -----                |               | -0.74 (0.27)**    | 0.47          |
| APD                                         | -----                |               | -1.49 (0.28)***   | 0.23          |
| <b>Control Variables</b>                    |                      |               |                   |               |
| <i>Officer</i>                              |                      |               |                   |               |
| Male                                        | 0.92 (0.42)*         | 2.52          | 0.91 (0.41)*      | 2.49          |
| Non-white                                   | -0.21 (0.23)         | 0.81          | -0.11 (0.23)      | 0.89          |
| Experience (ln)                             | 0.09 (0.14)          | 1.10          | 0.07 (0.14)       | 1.07          |
| Education                                   | -0.03 (0.03)         | 0.97          | -0.04 (0.03)      | 0.96          |
| Citizen Distrust                            | -0.02 (0.07)         | 0.98          | -0.04 (0.07)      | 0.96          |
| Direct Supervisor                           | -0.08 (0.06)         | 0.93          | -0.08 (0.06)      | 0.93          |
| Job Satisfaction                            | 0.02 (0.01)          | 1.02          | 0.01 (0.06)       | 1.01          |
| Aggressiveness                              | -0.02 (0.09)         | 0.98          | -0.01 (0.09)      | 0.99          |
| <i>Suspect</i>                              |                      |               |                   |               |
| Resistance                                  | 0.45 (0.14)**        | 1.57          | 0.47 (0.14)**     | 1.60          |
| Male                                        | 1.84 (0.34)***       | 6.28          | 1.84 (0.33)***    | 6.31          |
| Non-white                                   | 0.27 (0.11)*         | 1.31          | 0.31 (0.11)**     | 1.37          |
| Age                                         | 0.00 (0.01)          | 1.00          | 0.00 (0.01)       | 1.00          |
| Alcohol/Drugs                               | -0.23 (0.16)         | 0.79          | -0.16 (0.16)      | 0.85          |
| Mental/Emotion                              | -0.43 (0.26)         | 0.65          | -0.43 (0.26)      | 0.65          |
| Weapon                                      | 0.14 (0.20)          | 1.16          | 0.15 (0.20)       | 1.17          |
| Arrest                                      | 0.65 (0.22)**        | 1.91          | 0.61 (0.23)**     | 1.85          |
| <b>Model Results</b>                        |                      |               |                   |               |
| Pseudo R <sup>2</sup> Level I               | 0.18                 |               | 0.18              |               |
| Pseudo R <sup>2</sup> Level II <sup>a</sup> | 0.44                 |               | 0.75              |               |
| Log Likelihood(MLR Factor)                  | -698.06 (0.97)       |               | -690.75 (1.01)    |               |

\*\*\*p<.001, \*\*p<.01, \*p<.0; <sup>a</sup>Level II R<sup>2</sup> values reflect the amount of variation explained by the models in relation to the total amount of variation that is present between workgroups (i.e., ICC(1)=0.16).

With respect to distrust climate, results of the full model show that the probability of using hard hand force techniques during encounters is elevated in workgroups with distrustful climates. In fact, the odds of using hard hand force techniques are 99 percent greater for every unit increase in the distrust climate measure based on the odds ratio estimate. In addition to the estimates reported in Table 7.3, predicted probabilities can also be calculated to better illustrate the nature of the effect of distrust climate on hard hand force usage. The predicted probabilities were calculated using the intercept estimate adjusted for the level 1 control variables (i.e., 0.80) and while holding the other level 2 variables at their sample means.

Based on the predicted probability calculations, the probability of using hard hand force in encounters in workgroups with average climates of distrust (i.e., the sample mean) was 0.21. On the other hand, the probability of using hard hand force in workgroups with low climates of distrust (i.e., the minimum sample value) or highly distrustful climates (i.e., the maximum sample value) were 0.11 and 0.42 respectively. *Thus, officers working in environments highly distrustful of citizens had a much higher likelihood of using hard hand force than officers working in less distrustful workgroup environments.* Overall, these findings indicate that officers are more likely to use aggressive forms of physical force in distrustful climates even after controlling for officer characteristics, suspect characteristics, suspect resistance, and while accounting for the department where the workgroup was located.

With respect to the unsupportive supervisor measure, a negative relationship was found. The probability of using hard hand force techniques during encounters was lower in workgroups with unsupportive supervisor climates. Furthermore, the odds of using

hard hand force are 46 percent less for every unit increase in this measure. The associated predicted probabilities also illustrate this negative association. In workgroups with average values of support (i.e., the sample mean), the probability of using hard hand force is 0.21. In more supportive climates (i.e., the minimum sample value) and in highly unsupportive climates (i.e., the maximum sample value), the probabilities of using hard hand force were calculated to be 0.35 and 0.10 respectively. *Here, officers working in highly unsupportive supervisor environments had a significantly lower likelihood of using hard hand force than officers working in more supportive supervisor environments.*

Overall, these findings indicate that officers are less likely to use aggressive forms of physical force in environments where supervisors are perceived to be unsupportive of officers' even after controlling for officer characteristics, suspect characteristics, suspect resistance, and while accounting for the department where the workgroup was located.

With respect to the aggressive climate measure, a negative relationship was also found. The probability of using hard hand force techniques during encounters decreased in aggressive workgroup environments. Furthermore, the odds of using hard hand force are 77 percent less for every unit increase in this measure. The associated predicted probabilities also illustrate this negative association. In workgroups with average values of aggressiveness (i.e., the sample mean), the probability of using hard hand force is 0.21. In less aggressive climates (i.e., the minimum sample value) and in highly aggressive climates (i.e., the maximum sample value), the probabilities of using hard hand force were calculated to be 0.31 and 0.15 respectively. *Here, officers working in highly aggressive workgroup environments had a significantly lower likelihood of using hard hand force than officers working in less aggressive environments.* Overall, these findings

indicate that officers are more likely to use aggressive forms of physical force in less aggressive environments even after controlling for officer characteristics, suspect characteristics, suspect resistance, and while accounting for the department where the encounter occurred.<sup>32</sup>

Finally, it should be noted that there were several significant findings among the level 1 control variables. In the model, hard hand force techniques were more likely to be used against male and non-white suspects as well as suspects who were not under the influence of alcohol or drugs at the time of the encounter. Hard hand force was also more likely to be used against suspects who exerted higher levels of resistance and in encounters that resulted in arrest. In terms of officer characteristics, hard hand force was more likely to be used by male officers. Overall, the officer and suspect variables explained approximately eighteen percent of the variation in hard hand force usage within workgroups (pseudo  $R^2 = 0.18$ ).<sup>33</sup>

### *Impact Force Results*

The results of the unconditional model for impact force also initially indicated the presence of significant variation based upon the between-groups variance component ( $\tau =$

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<sup>32</sup> The relationship is in the opposite direction of what was hypothesized as well as what should be expected based on the literature. Diagnostics were conducted to examine this. First, the coding of the individual-level measure was checked and was found to be coded correctly. Second, bivariate associations for the workgroup measures were examined. For example, aggressive climates were positively associated with distrust climate and morale while negatively correlated with unsupportive supervisors, all of which are in the expected direction. Third, the full model was re-run with only the aggressive climate measure to determine if multicollinearity with the other workgroup measures was an issue. The effect was also negative. Finally, different centering options were used and all produced the same negative relationship.

<sup>33</sup> Diagnostic tests for multicollinearity were conducted for the models presented in Tables 7.3 at each level using OLS regression models. At level 1, variance inflation factors (VIFs) were examined and all VIFs were 1.27 or below. At level 2, this issue was examined using the workgroup mean of hard hand force as the dependent variable. VIF values were all below 2.0. Thus, multicollinearity does not appear to be an issue.

0.48, s.e. = .15,  $p < .01$ ). The approximate amount of variation in impact force between workgroups was calculated to be thirteen percent ( $ICC(1) = 0.13$ ). After accounting for department, however, the between-group variance component was found to be only marginally significant ( $\tau = 0.48$ , s.e. = 0.29,  $p < .10$ ). Although a substantial amount of variation in impact force exists between workgroups (i.e., 13%), it is likely to be accounted for by departmental factors.

One such factor that might account for this finding involves the types of impact weapons the study departments allowed their officers to use, specifically regarding the use of the taser. For example, at the time of the study all officers were trained on and required to carry the taser while on duty in PPB and CSPD. On the other hand, APD and FWPD did not require all officers to carry the taser. Compared to PPB and CSPD, fewer APD officers carried tasers while in FWPD only about twenty-five officers in the entire department were trained on and allowed to carry the taser. Thus, one reason for the non-significant workgroup effect on impact force after accounting for department may be due to the differences in the types of impact weapons available to officers across sites. Unlike in the case of soft hand force where the tactics were at least available for officers to use across each department, different weapon restrictions, particularly with the taser, may have made the impact force measure in its' current form less comparable across departments.<sup>34</sup>

In order to investigate this possibility, the unconditional model for the impact force measure was conducted again. This time all instances involving the taser were

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<sup>34</sup> Unlike policy restrictions placed on impact force there were very few policy restrictions applied across sites in the case of soft hand force. Hence all soft hand force options are available to all officers across all sites; this is not the case, however, for impact force options.

removed from the analyses which left 1,266 observations across the 53 workgroups. After accounting for the department where the encounter occurred, the between-group variance component was found to be significant ( $\tau = 0.70$ , s.e. = 0.28,  $p < .05$ ). The approximate amount of variation in impact force between workgroups was calculated to be eighteen percent ( $ICC(1) = 0.18$ ). As such, the application of impact force by officers differed across workgroups upon excluding taser cases and further tests can be conducted to explain this variation.

Table 7.4 presents the results for two multilevel models.<sup>35</sup> First, an initial model was tested to examine the impact of the four workgroup climate measures on impact force while controlling for officer and suspect characteristics. This initial model does not account for department. The results indicate that none of the four measures significantly predicted impact force usage. Collectively, these measures explained only eleven percent of the level 2 variation in hard hand force across workgroups. Despite the non-significant findings, a second model was still conducted and included the three department dummy variables as level 2 controls. Additionally, distrust climate and aggressive climate were dropped from this model since they provided the weakest results in the initial model.

After controlling for officer and suspect variables as well as the department in which the encounter occurred, unsupportive supervisor and morale remained non-significant. In fact only the PPB dummy variable was significant at level 2: compared to workgroups in FWPD, officers in workgroups from PPB were significantly less likely to use impact force techniques. Collectively, these measures explained approximately 45

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<sup>35</sup> Diagnostic tests for multicollinearity were conducted for the models presented in Tables 7.4 at each level using OLS regression models. At level 1, all VIFs were 1.26 or below. At level 2, this issue was examined using the workgroup mean of impact force as the dependent variable. VIF values were all below 1.67. Thus, multicollinearity does not appear to be an issue.



**Table 7.4: Multilevel Model Results for Impact Force without Taser Cases**

| Variable                                    | Initial Model  |        | Full Model     |        |
|---------------------------------------------|----------------|--------|----------------|--------|
|                                             | b (S.E.)       | Exp(b) | b (S.E.)       | Exp(b) |
| <b>Workgroup Level</b>                      |                |        |                |        |
| Threshold                                   | 1.41 (0.16)*** | 4.09   | 1.54 (0.13)*** | 4.66   |
| Force Variance Comp.                        | 0.59 (0.24)*   | -----  | 0.37(0.17)*    | ----   |
| Distrust Climate                            | 0.23 (0.43)    | 1.26   | -----          | ----   |
| Unsupportive Supervisor                     | 0.38 (0.37)    | 1.45   | 0.24 (0.34)    | 1.27   |
| Morale                                      | 0.45 (0.28)    | 1.57   | -0.09 (0.29)   | 0.91   |
| Aggressive Climate                          | -0.49 (0.51)   | 0.61   | -----          | ----   |
| CSPD                                        | -----          | -----  | 0.04 (0.51)    | 1.04   |
| PPB                                         | -----          | -----  | -1.10 (0.36)** | 0.33   |
| APD                                         | -----          | -----  | 0.39 (0.37)    | 1.47   |
| <b>Control Variables</b>                    |                |        |                |        |
| <i>Officer</i>                              |                |        |                |        |
| Male                                        | -0.22 (0.42)   | 0.80   | -0.23 (0.42)   | 0.79   |
| Non-white                                   | 0.22 (0.23)    | 1.24   | 0.17 (0.23)    | 1.18   |
| Experience (ln)                             | 0.23 (0.11)*   | 1.26   | 0.24 (0.10)*   | 1.27   |
| Education                                   | -0.01 (0.05)   | 0.99   | -0.01 (0.05)   | 0.99   |
| Citizen Distrust                            | 0.08 (0.07)    | 1.09   | 0.07 (0.07)    | 1.07   |
| Direct Supervisor                           | 0.05 (0.09)    | 1.06   | 0.04 (0.09)    | 1.04   |
| Job Satisfaction                            | 0.09 (0.07)    | 1.10   | 0.10 (0.07)    | 1.11   |
| Aggressiveness                              | -0.17 (0.13)   | 0.84   | -0.19 (0.13)   | 0.82   |
| <i>Suspect</i>                              |                |        |                |        |
| Resistance                                  | 0.53 (0.14)*** | 1.69   | 0.49 (0.14)**  | 1.63   |
| Male                                        | 0.08 (0.32)    | 1.09   | 0.06 (0.32)    | 1.06   |
| Non-white                                   | -0.02 (0.17)   | 0.98   | -0.05 (0.17)   | 0.95   |
| Age                                         | -0.01 (0.01)   | 0.99   | -0.01 (0.01)   | 0.99   |
| Alcohol/Drugs                               | -0.27 (0.18)   | 0.76   | -0.27 (0.18)   | 0.76   |
| Mental/Emotion                              | 0.20 (0.24)    | 1.22   | 0.16 (0.25)    | 1.17   |
| Weapon                                      | 0.51 (0.27)†   | 1.66   | 0.54 (0.27)*   | 1.72   |
| Arrest                                      | 0.58 (0.31)†   | 1.78   | 0.48 (0.33)    | 1.62   |
| <b>Model Results</b>                        |                |        |                |        |
| Pseudo R <sup>2</sup> Level I               | 0.09           |        | 0.09           |        |
| Pseudo R <sup>2</sup> Level II <sup>a</sup> | 0.11           |        | 0.45           |        |
| Log Likelihood (MLR Factor)                 | -535.36 (1.09) |        | -529.98 (1.09) |        |

\*\*\*p<.001, \*\*p<.01, \*p<.05, †p<.06; N=1,116; <sup>a</sup>Level II R<sup>2</sup> values reflect the amount of variation explained by the models in relation to the total amount of variation that is present between workgroups (i.e., ICC(1)=0.18).

percent of the level 2 variation in hard hand force across workgroups. Again, although the level 2 pseudo  $R^2$  is 0.45 only 18% of the variation in impact force is between-workgroups. *As such, the results from both models indicate that workgroup attitudinal measures are not important predictors of officers' impact force behavior.*

When examining officer and suspect characteristics, it should be noted that there were only three significant findings among the level 1 control variables. In the model, impact force was more likely to be used against suspects who exerted higher levels of resistance during the encounter and against suspects who possessed a weapon. Impact force was also more likely to be used by more experienced officers. Overall, the officer and suspect variables explained only approximately nine percent of the variation in hard hand force usage within workgroups (pseudo  $R^2 = 0.09$ ).

## **Discussion**

The final research objective examined whether officers' collective perceptions of the workgroup environment influenced use of force behavior. Specifically, analyses sought to determine if workgroup measures of distrust climate, supervisor support, morale, and aggressive climate explained differences in officers' use of soft hand, hard hand, and impact force techniques during encounters with citizens. Although the use of soft hand force and impact force was not found to be influenced by workgroup level factors, several noteworthy results were found for hard hand force. Officers' use of hard hand force techniques (i.e., striking with the hands, body, or feet) was significantly elevated in workgroup environments that had distrustful climates toward citizens. On the other hand, hard hand force usage was significantly lower in workgroups with unsupportive supervisors and in less aggressive workgroup climates. Overall, these

findings indicate support for the notion that collective, perceptual measures of officers work environments influence use of force behavior even after controlling for suspect resistance, suspect characteristics, individual officer characteristics, and while controlling for site.

The current findings offer insight into the study of officer behavior and attitudes. First, the findings indicate that the formal organization of policing influences officers' use of force behavior, particularly at the workgroup level. This illustrates the importance of taking into account officers' organizational environments when examining discretionary behaviors. Additionally, it questions approaches that solely emphasize individual level assumptions. For example, unconditional model results showed that between 11 (soft hand force) and 18 (impact force) percent of the variation in officers' use of force tactics can be explained by the formal organization of policing. This implies that force usage among officers are not independent, but rather cluster across organizational levels (i.e., workgroups). The results reported throughout this chapter illustrate the need to heed calls made by policing scholars to incorporate the formal organization of policing into the study of officer behavior (e.g., Klinger, 1997, 2004).

Second, specific factors associated with the organizational environment should begin to be incorporated into studies of force behavior. Although, research has focused on how neighborhood characteristics influence use of force behavior (Smith, 1986; Terrill & Reisig, 2003), the importance of the organizational environment has not been adequately examined. The current results found that the application of hard hand and impact force significantly differed across workgroups. Furthermore, workgroup factors were examined and found to predict hard hand force behaviors. The findings illustrate the

importance of incorporating organizational approaches into future studies of officer behaviors.

Finally, the results build upon the study of the police attitude-behavior relationship. Officers' collective perceptions of their workgroup environments were related to differences in hard hand force usage. Historically, individual level approaches to the police attitude-behavior relationship have failed to uncover such relationships (See Chapter Two). More recently, studies that view officer attitudes as shared attributes (i.e. police culture) but treat them as individual attributes have begun to uncover significant effects (McCluskey et al., 2005; Paoline & Terrill, 2005; Terrill et al., 2003). The current study has shown that officers' occupational attitudes represent valid and reliable measures of officers' work environments at the workgroup level. Furthermore, these workgroup measures influence street-level behaviors of officers. As such, the study has extended this line of research by taking a multilevel approach that more accurately captures the shared and collective properties of the occupational attitudes of police.

Although, the results offer insight into the study of officer attitudes and behavior, they are not without limitations. First, the three separate force measures used differs from prior research. For example, recent studies place the use of force on a continuum and have used the highest level of force used in the encounter as the outcome indicator (McCluskey et al., 2005; Terrill, 2001; Terrill & Mastrofski, 2002; Terrill et al., 2003). Such a measure was difficult to construct in the context of the current study because the progression of force tactics varied across sites; similar types of force were placed at different levels of the continuum. For example, in PPB OC spray (impact force tactic) was regarded as a lower level of force than hard hand force, while in APD OC spray and

hard hand force were regarded as the same level of force. Thus, a common measure of force that captures such an ordinal progression could not be defined across sites.

Although the use of three separate measures allows insight into how each different type of force was influenced by workgroup measures, the approach does differ from recent research.

Second, upon excluding the taser cases from the impact force measure, impact force is driven largely by the use of OC spray. For example after excluding the taser, impact force was used in 282 of the 1,266 remaining force incidents. Approximately 239 (85%) of these cases involved the use of OC spray. When assessing the results for impact force, then, it is important to consider this because the use of OC spray generally represents a lower level of impact force when compared to other tactics such as the use of the baton or impact munitions. As such, it is important to note that different configurations for measuring force may impact the results.

Finally, the multilevel models associated with hard hand and impact force can be improved upon. For example, the collective contribution of the level 1 control variables explained only eighteen and nine percent of the variation in hard hand and impact force, respectively. Because the models test the impact of workgroup measures while controlling for officer and suspect variables, the presence of unexplained variation at level 1 means that there are other individual level variables missing from the models. This is a limitation of using official police data. Even though all relevant control variables that could be incorporated from the force report data were included in the models, inclusion of these unaccounted variables could alter the workgroup results. Therefore, the findings should be interpreted with this in mind.

## **CHAPTER EIGHT: CONCLUSION**

The purpose of this study was to offer and empirically test a multilevel framework for examining police officers' occupational attitudes. Early observational studies of the police identified a set of attitudes officers' developed in response to the challenges they faced in their work environment, which include distrustful views toward citizens, narrow role orientations geared toward crime-fighting, negative views toward supervision, aggressive policing tactics, and job satisfaction (Bittner, 1970; Manning, 1997; Skolnick, 1967; Westley, 1970). Not all officers hold similar dispositions, however, as research on the police has documented attitudinal differences among officers (Brown, 1988; Worden, 1995). As a result, a considerable amount of empirical research has sought to explain officers' attitudinal differences as well as examine how officers' attitudes impact their street level discretionary behaviors. Although these studies have contributed greatly to our understanding of policing, they are not without limitations. The extant literature on officers' attitudes has been heavily rooted within individual approaches that neglect the environments in which officers work (Klinger, 2004). This inhibits conceptual and methodological development of research in this area.

The current study has expanded this line of research by moving beyond individual approaches and taking a multilevel approach to the study of officers' occupational attitudes. Specifically, the current work incorporates officers' organizational context and ideas associated with police culture into a conceptual and methodological framework for understanding environmental influences on officer attitudes. Central to this framework is the importance of the formal organization of policing as it represents structural boundaries of policing (i.e., officers work in shifts, shifts are embedded within precincts,

precincts are embedded in departments). The current study identified officers' shifts as the most salient boundary that influence officers' attitudes. Defined as workgroups (i.e., shifts within precincts), officers assigned to the same workgroups are exposed to similar environmental characteristics, supervisors, and interact routinely with fellow officers. In other words, workgroups are where the daily routine of police work is carried out, and as a result, represent the most immediate and proximal level of the organization that shapes officers' occupational attitudes. In addition, based on ideas central to police culture the current framework also argued that officers within the same workgroup setting share occupational attitudes. As a result of their daily interactions and exposure to similar environments and supervisors, officers develop shared attitudes and these should be examined as collective, contextual measures of officers' workgroup environments.

Two key ideas emerge from the conceptual framework of the study. First, features of officers' organizational environment should be examined as explanations for attitudinal differences among officers. Second, if officers share attitudes then collective attitudinal measures should be examined in relation to officers' street level discretionary behaviors. In order to examine these ideas, the current study tested three research objectives. First, the study tested the influence of officers' workgroups on their occupational attitudes. It also empirically examined whether officers within workgroups shared attitudes. Second, the study tested the effect of workgroup compositional characteristics as explanations of officer attitudes. Finally, the study tested the effect of workgroup level attitudinal measures as predictors of officer use of force behavior. Thus, the study not only offered a theoretical framework but also assessed the usefulness of the framework in explaining attitudinal differences as well as extending research on the

police attitude-behavior relationship. The remainder of this chapter provides a summary of the key findings from the study, identifies the study limitations, and officers practical and future research implications based upon the results.

## **Summary of Key Findings**

### *Views toward Citizens*

Officers' views toward citizens have been a key occupational attitude since the early observational studies of police work were conducted. In order to examine the nature of officers' attitudes toward citizens, the current study asked officers the extent to which they believed that officers should be distrustful and suspicious of citizens. Responses were examined in relation to the formal organization of policing, particularly at the workgroup level. Based on the results, attitudes toward citizens provided some of the most interesting findings.

- **Officers within workgroups shared attitudes toward citizens. Further, officers' attitudes toward citizens differed across workgroups, meaning that officers within some workgroups had more distrustful views toward citizens than officers within other workgroups.**
- **Although officers' attitudes toward citizens significantly differed across workgroups, workgroup compositional characteristics offered little insight as to why these differences existed.**
- **Officers' views toward citizens represented valid, contextual measures of officers' workgroup environments. In other words, a climate of distrust was present at the workgroup level. These climates of distrust were important explanations of the use of hard hand force during officers' encounters with citizens.**

These results offer insight into the collective, multilevel nature of the police attitude-behavior relationship. Officers were found to share attitudes toward citizens and this collective perception within the workgroup setting influenced officers' behavior.



Thus, even though attitudes are held by individual officers, the current results suggest that their effects are amplified and manifest at higher organizational levels. Here, officers working in more distrustful workgroups were significantly more likely to use hard hand force tactics than officers who worked in less distrustful workgroups. Officers in workgroups with more distrustful climates were more likely to use aggressive forms of physical force (e.g., strikes) even after controlling for resistance levels, suspect characteristics, officer characteristics, and departments.

It is important to note that the purpose of the study was not to examine improper or excessive use of force. The results only suggest that officers in more distrustful climates rely on more aggressive forms of physical force at greater rates than officers in less distrustful climates. As such, whether this finding is viewed as a positive or negative one would depend on how one views the nature of this attitude. For example, if officers within workgroups stress a distrustful attitude toward citizens as a safety precaution, then these results may be viewed in a positive light. On the other hand, if distrustful attitudes result from negative byproducts of police work, such as prejudices (e.g., how citizen distrust is often described in the policing literature), then these results may not be ideal for police administrators. The current study did not uncover specific workgroup factors to explain why officers within some workgroups were more distrustful of citizens than officers within other workgroups. Additional inquiry is necessary to shed light on the underlying reasons behind the multilevel nature of this attitudinal measure.

### *Role Orientations*

Traditionally, officers are said to hold narrow attitudes toward the police role that emphasize crime-fighting rather than accepting broader roles that encompass order

maintenance type activities (e.g., Bittner, 1990; Manning, 1997). The current study asked officers about their acceptance of different job roles and examined the extent to which their attitudes were influenced by workgroups. First, officers were asked whether they believed law enforcement (i.e., crime-fighting) was their most important responsibility. Second, they were asked the extent to which officers should be required to do anything about six order maintenance activities, including public nuisances, neighbor disputes, family disputes, parents who do not control their children, litter and trash, and nuisance businesses. Examining officer role orientations in relation to their workgroups yielded several interesting results:

- **Workgroups did have an influence on both crime-fighting and order maintenance role orientations. In some workgroups, officers held more narrow orientations geared towards crime fighting while in other workgroups officers held broader role orientations. Also, officers within workgroups were found to share role orientations.**
- **Workgroup racial composition and educational levels were strong influences on role orientations. Controlling for individual and department factors, workgroups with higher proportions of white officers and higher educational levels contained officers who were less likely to accept order maintenance roles. On the other hand, workgroups with higher proportions of white officers were less likely to believe that law enforcement was the most important police role.**
- **Although officers within workgroups shared role orientations, reliability tests did not offer empirical support for treating role orientations as contextual measures of the workgroup environment.**

These results offer support for the notion that higher level, organizational factors influence officers' acceptance of job roles. At the workgroup level, racial composition and educational levels had an impact; however the nature of the results is conflicting. For example, workgroups with higher proportions of white officers may reflect ideas underlying the early observational studies of the police that took an occupational

perspective. This offers a potential explanation for why officers within these workgroups were less likely to accept order maintenance activities, but does not necessarily explain the negative crime fighting effect. Thus, the current results offer mixed results and future research could examine the effect of racial composition on role orientations with this in mind.

The finding for workgroup educational levels is also concerning. One of the arguments for higher education for officers is to expose them to viewpoints that would make them more accepting of broader police roles (e.g., Worden, 1990). The current results, however, indicate the opposite effect at an aggregate level. At the collective level, officers who are exposed to more highly educated officers within their workgroups and interact on a routine basis may conclude that the performance of order maintenance activities (particularly the types included in survey) may perceive these activities as rather menial tasks over time. Officer education as a compositional effect appears to amplify more narrow views toward order maintenance within workgroup settings.

Finally, future research may benefit by further examining the collective properties of officer role orientations. The results indicated that officers within workgroups shared similar orientations, yet the reliability for treating them as measures of the workgroup environment was poor. Even though the findings suggested that workgroup level orientations would have been valid constructs, they would not represent reliable ones. This is likely due to the fact that these two measures had low ICC(1) values across workgroups. Based on these values the current study indicates that role orientations best represent individual level constructs; however these constructs are influenced by the broader organizational environment.

### *Views toward Supervision*

Within the policing literature, officers have been described as holding negative views toward two levels of supervision: direct supervisors and top management (e.g., Reuss-Ianni, 1983; Van Maanen, 1974). In order to determine the effect of the formal organization of policing on officers' attitudes toward supervision, officers were asked the extent to which they felt that direct supervisors supported their efforts as well as the extent to which they felt top management recognized their efforts and treated officers fairly. Overall, the results revealed that officers held much more positive outlooks toward direct supervisors than top management. When viewed within the context of officers' assigned workgroups several interesting findings emerged:

With respect to officers' views toward **direct supervisors**, key findings included:

- **Officers within workgroups shared attitudes toward direct supervisors. In addition, officers' attitudes toward supervisors differed across workgroups, meaning that officers within some workgroups had more negative views toward supervisors than officers within other workgroups.**
- **Differences in officers' attitudes toward direct supervisors were explained by workgroup experience and educational levels. Workgroups with higher experience and educational levels had more negative views toward supervisors.**
- **Officers' attitudes toward supervisors were found to reflect a climate of support at the workgroup level. Furthermore, these climates significantly influenced officers' use of force behavior. Officers working in unsupportive climates were significantly less likely to engage in hard hand force tactics.**

Collectively, these findings highlight two multilevel influences that are important for understanding the nature of officers' views toward supervisors. First, the results suggest that within workgroup settings, aggregate experience and educational levels lead to an

amplified effect on attitudes toward supervisors. Perhaps, the daily interactions of officers within workgroups that contain officers who have longer years of service or higher educational levels yield increased levels of frustration toward supervisors whereby officers feel that their own ideas and contributions are not supported by their supervisors.

Second, the collective, negative effect of unsupportive supervisor climates also provides important insight into officers' force behavior. In these unsupportive climates, officers were more likely to report that supervisors do not look out for their personal welfare and that their supervisors' approach discourages them from giving extra effort. The current results indicate that because of this, officers may fail to rely on hard hand force tactics. Much like the results for citizen distrust, whether this finding is viewed positively or negatively depends on how one views the nature of this attitude.

On one hand, officers may refrain from using aggressive forms of physical force because these tactics may be less likely to be approved by supervisory review measures. Although it should be noted here again that the study did not examine excessive or improper force, the use of hard hand tactics, such as strikes, are likely the types of force that lead to such allegations. Supervisors may be less inclined to support these types of tactics as a result, especially when other types of tactics are available to officers. Furthermore, since hard hand tactics may lead to potential injuries of citizens and officers, supervisors may be less inclined to support this type of behavior. In other words, this negative effect could be viewed positively through the lens of affective supervision.

On the other hand, this finding could also be viewed as a negative one. Whether officers in unsupportive climates consciously or unconsciously refrain from the use of hard hand force cannot be determined; however, this could raise potential problems if

officers feel hesitant to rely on certain force tactics that are available to them simply because they feel that supervisors will not back them up on it. Officers' may feel overly restricted in the types of force they can readily use, even when it is an appropriate option based upon the circumstances of the incident. For example, if it is the case that officers feel that they must rely on lower or alternative forms of force in encounters with higher levels of resistance, this could pose safety issues to officers.

With respect to officers' views toward **top management**, the key findings included:

- **Officers within workgroups shared views toward top management. However, after controlling for differences across departments, this measure was not found to significantly differ across workgroups.**
- **Officers' views toward top management did not reflect contextual measures of the workgroup environment.**

Initial analyses for this attitude seemed to indicate that top management would be the most strongly influenced by workgroups. However, after taking into account the clustering of these attitudes by department, the influence of workgroups became non-significant. This result does suggest that higher-level organizational factors do influence officers' views toward top management. It is just that these views are likely influenced by department level factors, such as leadership and administrative factors rather than workgroup related factors. These results are important for future studies of officers' occupational attitudes that seek to use measures of top management. The current findings suggest that future studies would need to employ a sample of officers from a larger number of different departments in order to detect and explain any attitudinal differences among officers on this measure.

## *Policing Tactics*

Two key occupational attitudes that are expected to influence officers' discretionary behaviors include two views toward policing tactics: **aggressiveness** and **selectivity**. Officer aggressiveness measures the importance of proactive patrol tactics (Brown, 1988). Officers were asked the extent to which they believed conducting stops and checking citizens out were important tactics that characterize a "good" police officer. The influence of the formal organization of policing, particularly at the workgroup level on officers' aggressiveness was tested. Several important findings emerged.

- **Officers within workgroups shared attitudes on aggressiveness. Aggressive attitudes also differed across workgroups, meaning that officers within some workgroups held more aggressive attitudes than officers in other workgroups.**
- **Differences in aggressive attitudes were explained by workgroup experience. Workgroups containing officers with more experience held less aggressive attitudes.**
- **Officer attitudes were found to reflect a workgroup climate of aggressiveness. Furthermore, this climate of aggressiveness explained officers' use of hard hand force; however, the finding was in the opposite direction of what was expected.**

Once again the results offer support for examining the influence of higher level, organizational factors on officers' occupational attitudes. Here, workgroup experience levels were related to aggressive attitudes even after controlling for individual officer experience levels. Thus, further evidence exists to support the idea that features of officers' organizational environment influence officer attitudes.

It should be noted that the negative relationship between workgroup aggressive climates and the use of hard hand force is in the opposite direction of what might be

expected. For example at the individual level, prior studies have found that officers in aggressive peer groups were more likely to use higher levels of force during citizen encounters (McCluskey et al., 2005). The multilevel result in the current study, however, indicated a negative effect. Methodologically, this could be due to measurement error since only a single item was used to measure aggressiveness. On the other hand, the negative relationship could be due to the fact that aggressiveness reflects officers' proactive views toward patrol practices rather than reflecting a more authoritative measure. Traditional depictions of aggressiveness imply that officers are aggressive as a way to minimize potential threats of violence. Perhaps, this is an important distinction to be made when conceptualizing "aggressiveness." Thus, the current results may suggest that even though aggressive environments favor proactive patrol practices, officers within them will not necessarily resort to more aggressive forms of physical force during encounters that require force to be used.

Selective enforcement measures how officers view the use of the law to perform their duties. Specifically, selectivity provides an indication as to how officers view their discretionary powers to control crime problems (Brown, 1988). Officers were asked whether they believed it was more effective to focus on felony offenses rather than spending time on more minor law violations such as traffic and misdemeanor offenses. Several findings are worth highlighting.

First, officers within workgroup settings were found to share this occupational attitude. In fact, views toward selective enforcement had the strongest within group agreement results across workgroups. Although there was evidence that officers within workgroups did share this attitude, selectivity was not influenced by the formal



organization of policing. No significant differences were found among officers across workgroups, precincts, or departments for this attitude. When examined in relation to the objectives of the current study two conclusions can be drawn:

- **Organizational factors (e.g., workgroup composition) are not viable explanations of officers' views toward selective enforcement of the law.**
- **Selectivity does not reflect a contextual measure of officers' workgroup environment.**

Across the entire sample, over eighty percent of officers disagreed with the idea that it is more effective to focus on serious offenses rather than more minor offenses. The fact that the majority of officers disagreed with selective enforcement practices explains why officers within workgroups shared this attitude, yet there were no significant differences in this attitude across workgroups (or precincts and departments). From a methodological standpoint, this could be due to the fact that only a single item was used to measure selectivity. Although, the item used was the same measure adopted by Brown (1988) who developed the concept, perhaps a better conceptualization of this construct is necessary in order to detect differences in officers' views toward enforcement practices.

From a practical standpoint, however, these findings could be the result of a broader trend in urban departments that emphasize enforcement of minor crime and disorder issues. For example, policing strategies related to broken windows theory have been implemented in departments since the 1980s. These strategies emphasize addressing minor crime problems and disorder as an effective way of preventing more serious crime problems from occurring (Wilson & Kelling, 1982). Additionally, emphasis has also been placed on efforts to enforce minor traffic offenses because they can lead officers to uncover more serious felony offenses as a result (e.g., pretextual traffic stops) (Harris,

2002). For these reasons, it may also be the case that officers' preferences for selective enforcement of the law have changed so that most patrol officers now believe that focusing on minor offenses is just as important as focusing on more serious offenses.

### *Job Satisfaction*

One final attitude concerns officers' job satisfaction. Officers were asked questions about their satisfaction in terms of whether they enjoyed their job and whether they would prefer having another job. These responses were then examined in relation to officers' workgroup environment. The following highlights some of the key findings from the study for this attitudinal measure.

- **Officers within workgroups shared levels of satisfaction. Further, officers' job satisfaction levels differed across workgroups, meaning that officers within some workgroups were more satisfied with their jobs than officers in other workgroups.**
- **Differences in satisfaction levels were explained by workgroup experience and educational levels. Workgroups containing officers with more experience and higher educational levels had lower levels of job satisfaction.**
- **Officers' satisfaction levels were found to reflect a workgroup measure of morale. Workgroup morale, however, was not found to explain officers' use of force behavior.**

These results provide support for the notion of examining how features of officers' organizational environment influence job satisfaction. Controlling for individual officer characteristics, it was found that within the workgroup setting, officers who were exposed to other officers with more experience and higher educational levels were less likely to be satisfied with their jobs. Prior research has suggested that officers with longer years of service may become more cynical about their job (e.g., Barker, 1999); however

empirical research has not found a strong effect at the individual level linking experience to satisfaction (see Chapter Two). The current results suggest that being exposed to more experienced officers and interacting with them on a routine basis may lead to increased levels of dissatisfaction. In other words, experience levels exert a stronger aggregate effect on satisfaction levels than individual officer experience levels.

Although workgroup morale was not found to be an important explanatory variable for use of force behavior, the fact that morale reflected a contextual measure of officers' workgroup environment warrants further examination in relation to other types of street level discretionary behaviors. For example, Moskos (2008) observed that officers who worked together in environments with low morale were less likely to make discretionary arrests. Thus, examining workgroup morale as a contextual influence may offer insight into the decision to arrest.

### **Study Limitations**

Although there are a number of strengths of the study, it is not without limitations. One limitation concerns the generalizability of the results to other departments. While the research design enhances generalizability of the results to departments of similar size and structure, the multilevel theoretical framework and methodology may not extend to smaller departments. Workgroups may not serve as important contexts in smaller departments because smaller agencies are more highly centralized and have fewer officers. There will likely be fewer attitudinal differences among officers within smaller agencies.

A second limitation is the cross-sectional nature of the survey design. A key component of the theoretical framework is that officers within workgroups share

occupational attitudes. This assumes that officers in workgroups have worked together long enough to have sufficient time to develop shared meanings. The cross-sectional nature of the study, however, does not allow for the assessment of the amount of time officers worked together in each workgroup. Two characteristics may serve to lessen the nature of this limitation. First, the bid systems for shift allocations across each site indicated that shift assignments should remain relatively stable over the course of the year. Second, surveys were administered in the fall of 2007 allowing most workgroups to have been formed for at least nine months prior to data collection. Despite these points, the amount of time officers were a part of each workgroup cannot be explicitly incorporated into the models. When examining the within group agreement results from Chapter Five, this might offer a partial explanation as to why some workgroups had strong levels of attitudinal agreement while others had insufficient levels of agreement.

A third limitation is also related to the cross-sectional nature of the study design. Because the study was cross-sectional, officers' prior assignments could not be incorporated. This is unfortunate because officers' prior experiences within their department could also serve as attitudinal influences. Similarly, research has examined the effect that certain assignments such as being a field training officer (Sun, 2002) or community policing officer (Paoline, 2001) has on their attitudes. Unfortunately, only patrol officers were included in the study. It would be interesting to see how the results of the study would compare to specialized units that have been described as being more homogenous with respect to their views.

A final limitation is that the study focused solely on how the formal organization of policing affected officer attitudes. This excludes examination of other informal units.

Prior research has stressed the importance of informal groupings of officers based on typology studies (e.g., Cochran & Bromley, 2003; Jermier et al., 1991; Paoline, 2001) in shaping officer attitudes. Although a limitation, focusing solely on formal organizational units was deemed necessary in the current work because the multilevel approach taken has not been applied to the study of officer attitudes. Kozlowski and Klein (2000: 13) note that when such is the case, researchers “may find it helpful to initially act as if the phenomena occur at only one level of theory and analysis,” and then extend the approach to other units when necessary. This was the approach taken here.

### **Research & Practical Implications**

The study results have important implications for future police research, particularly for research on explaining officer attitudes, police culture, and police behavior.<sup>36</sup> First, research that seeks to explain differences in officers' occupational attitudes should move beyond individual level factors and focus efforts on contextual factors. Prior studies have suggested that features of officers' organizational contexts be incorporated into research on officer attitudes (e.g., Brooks et al., 1993; DeJong, 2004; Paoline et al., 2000; Sun, 2002, 2003). The current study found officers' assigned shifts within precincts (i.e., workgroups) to influence their views toward citizens, role orientations, supervision, job satisfaction, and aggressive patrol tactics. The current inquiry also went beyond determining *if* workgroups influenced attitudes by examining *what* it is specifically about workgroups that affect attitudes by exploring the impact of workgroup compositional characteristics.

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<sup>36</sup> This section addresses research and practical implications from a broad perspective. For more specific discussion as to how this study extends research with respect to the specific research objectives of the study, refer to the discussion sections at the end of Chapters Six and Seven.

Future research on this topic should incorporate other contextual factors associated with officers' workgroup environments. For example at the workgroup level, officers' distrust of citizens was not explained by compositional characteristics. Levels of distrust may more likely be influenced by the type of environments officers work in within their workgroup setting, such as area crime rates or the types of neighborhoods in which they patrol. These characteristics may better explain citizen distrust since they are more closely tied to this construct. In essence, future research should begin to explore other types of multilevel influences on officer occupational attitudes.

Second, current research that takes an attitudinal approach to the study of police culture is based on the notion that officers share occupational attitudes (Paoline, 2003). As Paoline (2003: 210) has noted, however, "a critical missing component of [police culture] is establishing a threshold of officer agreement in assessing cultural and subcultural attitudes, values, and norms." Based on multilevel theoretical and methodological frameworks, this study has offered an empirical approach for assessing officers' attitudinal agreement. Future research on police culture may benefit by incorporating such approaches to determine the extent to which officers do share attitudes, whether it be across various officer typologies or other officer groupings.

Furthermore, studies of police culture have combined officer attitudes into a single attribute (e.g., pro-culture, mid-culture, con-culture) and then assigned this attribute to individual officers (e.g., Paoline & Terrill, 2005; Terrill et al., 2003). Results from the current study, however, indicate that cultural attitudes may be better viewed as collective attributes, or multilevel constructs rather than individual attributes. Cultural researchers have noted that if a concept is considered to be shared by individuals, then it

is collective (or multilevel) in nature (e.g., Ostroff et al., 2003). This implies that the conceptualization and operationalization of culture should be taken from a multilevel rather than individual perspective. The current work has begun to explore the viability of such multilevel approaches by integrating officer attitudes with the organizational environment of policing (see also Hassell, 2006). This approach readily extends to the area of police culture as the two topics are closely related.

Finally, the findings from this dissertation offer insight into the police attitude-behavior relationship. Within workgroups officers shared views toward citizens, supervisors, job satisfaction, and aggressiveness indicating that multilevel climates of distrust, support, aggressiveness, and morale existed at the workgroup level. These climates were related to officers' use of hard hand force. As a result, the multilevel approach taken in this study should be examined in relation to other types of street level discretionary behaviors. For example, workgroup climates of distrust may also explain behaviors that result in complaints against officers. Officers who work in distrustful and suspicious climates may be more likely to have citizen complaints brought against them. Furthermore, officers who work in aggressive climates may be more likely to make discretionary arrests and conduct traffic stops than officers who work in less aggressive climates. Thus, one of the major strengths of this study is that it has offered an approach that supports further inquiry into research on the police attitude-behavior relationship.

The purpose of this chapter was to summarize and highlight the key findings across each occupational attitude examined in the study. When appropriate, practical implications were offered based on the results for each attitude. However, there are two overarching themes that consistently were found and serve as important practical

implications for police administrators. First, the results show that groups influence officer attitudes, particularly at the workgroup (i.e., shift level). Officers working the same shift in the same precinct share similar occupational attitudes. Furthermore, the nature of officers' attitudes is also influenced by characteristics of other officers working the same shift. Thus, police administrators may need to examine how officers are assigned to patrol in order to ensure that officer attitudes align with the department's values. If departments make patrol assignments based exclusively on bid systems that favor officer preferences or seniority, then patrol shifts may lack the diversity that would facilitate the development of different occupational outlooks among officers. For example, one of the key findings of the current study was that officers who work in shifts composed of higher proportions of white officers were less likely to accept broader job roles associated with order maintenance activities. Perhaps this lack of diversity within the shift context creates a "group think" mentality among officers. Increasing the racial diversity of shifts may facilitate broader acceptance of job roles. In essence, administrators should consider the influence that group dynamics has on officer attitudes.

Second, the findings related to the multilevel nature of the police attitude-behavior relationship have implications for police administrators. For example, police scholars have contended that features of the police organization serve to attenuate the link between individual officer attitudes and their behavior. As the National Research Council (2004: 136) surmised, "the failure to find substantial links between personal attitudes and behaviors is not necessarily bad news..., if that means that officers are behaving consistent with the organizations' goals instead of their own beliefs." However, the current study found officers to share attitudes across the workgroup context, which



suggests that characteristics of the organization serve to *amplify* rather than *attenuate* the attitude-behavior link. Thus, departmental policies, such as training and disciplinary policies, may need to be examined with this in mind.

Using the results for workgroup climates of distrust on hard hand force usage may better illustrate this point. Shifts with distrustful climates toward citizens had officers who used higher rates of hard hand force during encounters with citizens. In some instances, this may not be viewed as a favorable outcome as it could plausibly lead to allegations of improper force or excessive force complaints by citizens. When such instances occur, traditional departmental policies have focused on re-training *individual* officers or disciplinary procedures aimed at changing *individual* officer attitudes (e.g., NRC, 2004). If officers' attitudes toward citizens, however, are shared by other officers within the same shift (e.g., there is a climate of distrust), then the effectiveness of such practices are called into question because officers are placed back into a context that perpetuates a distrustful view towards citizens.

Organizational scholars have argued that practices aimed at the individual often fail to consider how group level factors impact behavior and "tend to rely on a model that assumes that attitudes and behavior would be driven by individual level considerations" (Alutto, 2002: 322). Police administrators should begin to explore how features of the organizational context undermine current policies and practices. The proposed inquiry begins to shed light on how group dynamics influence the occupational attitudes of officers, as well as how these attitudinal influences might impact officers' street-level behaviors.

## APPENDIX A

**Table A.1: Attitudinal Survey Items**

| <b>Variables*</b>                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Direct Supervisors (2 items)</b><br>My supervisor's approach tends to discourage me from giving extra effort. (S1; recoded)<br>My supervisor looks out for the personal welfare of his/her subordinates. (S2)                                                                                                                                                                                                                                               |
| <b>Top Management (3 items)</b><br>When an officer does a particularly good job, TM will publicly recognize his/her performance? (T1)<br>When an officer gets written up for minor violations of the rules, he/she will be treated fairly by TM? (T2)<br>When an officer contributes to a team effort rather than look good individually, TM will recognize it? (T3)                                                                                           |
| <b>Crime-fighting</b><br>Enforcing the law is by far a patrol officer's most important responsibility. (R1; recoded)<br><b>Order Maintenance (6 items)</b><br>Law enforcement officers should be required to do something about...<br>Public nuisances (e.g., loud parties, barking dogs, etc.). (R2)<br>Neighbor disputes. (R3)<br>Family disputes. (R4)<br>Parents who don't control their kids. (R5)<br>Litter and trash. (R6)<br>Nuisance businesses. (R7) |
| <b>Selective Enforcement (1 item; recoded)</b><br>An officer is more effective when she/he patrols for serious felony violations rather than stopping people for minor traffic violations and misdemeanors. (SE)                                                                                                                                                                                                                                               |
| <b>Aggressiveness (1 item; recoded)</b><br>A good police officer is one who patrols aggressively by stopping cars, checking out people, running license checks, and so forth. (AG)                                                                                                                                                                                                                                                                             |
| <b>Citizen Distrust (2 items; recoded)</b><br>Police officers have reason to be distrustful of most citizens. (C1)<br>Police officers have reason to be suspicious of most citizens. (C2)                                                                                                                                                                                                                                                                      |
| <b>Job Satisfaction (3 items; recoded)</b><br>I would not consider taking another job. (JS1)<br>I like my job better than the average police officer does. (JS2)<br>I find real enjoyment in my job. (JS3)                                                                                                                                                                                                                                                     |

\*Measures based on 4 point Likert scale ranging from 1 (Strongly Agree) to 4 (Strongly Disagree).

## APPENDIX B

**Table B.1: Polychoric Correlations among Attitudinal Survey Items**

|     | S1          | S2          | T1          | T2          | T3          | R1          | R2          | R3          | R4          | R5          | R6          | R7          | SE          | AG         | C1         | C2          | JS1        | JS2        | JS3 |
|-----|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|-------------|------------|------------|-----|
| S1  | 1           |             |             |             |             |             |             |             |             |             |             |             |             |            |            |             |            |            |     |
| S2  | <b>.64</b>  | 1           |             |             |             |             |             |             |             |             |             |             |             |            |            |             |            |            |     |
| T1  | <b>.30</b>  | <b>.20</b>  | 1           |             |             |             |             |             |             |             |             |             |             |            |            |             |            |            |     |
| T2  | <b>.42</b>  | <b>.36</b>  | <b>.54</b>  | 1           |             |             |             |             |             |             |             |             |             |            |            |             |            |            |     |
| T3  | <b>.39</b>  | <b>.29</b>  | <b>.67</b>  | <b>.68</b>  | 1           |             |             |             |             |             |             |             |             |            |            |             |            |            |     |
| R1  | <b>-.13</b> | <b>-.05</b> | <b>-.14</b> | <b>-.13</b> | <b>-.15</b> | 1           |             |             |             |             |             |             |             |            |            |             |            |            |     |
| R2  | <b>.15</b>  | <b>.12</b>  | <b>.06</b>  | <b>.13</b>  | <b>.14</b>  | <b>-.06</b> | 1           |             |             |             |             |             |             |            |            |             |            |            |     |
| R3  | <b>.09</b>  | <b>.07</b>  | <b>.03</b>  | <b>.12</b>  | <b>.09</b>  | <b>-.07</b> | <b>.52</b>  | 1           |             |             |             |             |             |            |            |             |            |            |     |
| R4  | <b>.19</b>  | <b>.16</b>  | <b>-.06</b> | <b>.04</b>  | <b>-.00</b> | <b>-.04</b> | <b>.33</b>  | <b>.66</b>  | 1           |             |             |             |             |            |            |             |            |            |     |
| R5  | <b>.18</b>  | <b>.09</b>  | <b>.09</b>  | <b>.15</b>  | <b>.12</b>  | <b>-.05</b> | <b>.42</b>  | <b>.42</b>  | <b>.40</b>  | 1           |             |             |             |            |            |             |            |            |     |
| R6  | <b>.12</b>  | <b>.15</b>  | <b>.06</b>  | <b>.14</b>  | <b>.09</b>  | <b>-.00</b> | <b>.28</b>  | <b>.35</b>  | <b>.29</b>  | <b>.37</b>  | 1           |             |             |            |            |             |            |            |     |
| R7  | <b>.05</b>  | <b>.08</b>  | <b>.07</b>  | <b>.12</b>  | <b>.08</b>  | <b>-.05</b> | <b>.33</b>  | <b>.35</b>  | <b>.30</b>  | <b>.38</b>  | <b>.50</b>  | 1           |             |            |            |             |            |            |     |
| SE  | <b>.06</b>  | <b>.13</b>  | <b>-.05</b> | <b>.05</b>  | <b>.02</b>  | <b>.10</b>  | <b>.07</b>  | <b>.06</b>  | <b>.07</b>  | <b>.09</b>  | <b>.01</b>  | <b>-.02</b> | 1           |            |            |             |            |            |     |
| AG  | <b>-.23</b> | <b>-.13</b> | <b>-.03</b> | <b>-.08</b> | <b>-.05</b> | <b>.41</b>  | <b>-.08</b> | <b>.02</b>  | <b>-.07</b> | <b>-.04</b> | <b>-.03</b> | <b>-.11</b> | <b>.02</b>  | 1          |            |             |            |            |     |
| C1  | <b>-.11</b> | <b>.03</b>  | <b>-.07</b> | <b>-.03</b> | <b>-.12</b> | <b>.20</b>  | <b>.08</b>  | <b>.09</b>  | <b>.10</b>  | <b>.04</b>  | <b>.07</b>  | <b>.06</b>  | <b>.14</b>  | <b>.25</b> | 1          |             |            |            |     |
| C2  | <b>-.02</b> | <b>.07</b>  | <b>-.02</b> | <b>.04</b>  | <b>-.02</b> | <b>.18</b>  | <b>.09</b>  | <b>.10</b>  | <b>.08</b>  | <b>.09</b>  | <b>.10</b>  | <b>.08</b>  | <b>.18</b>  | <b>.20</b> | <b>.76</b> | 1           |            |            |     |
| JS1 | <b>-.31</b> | <b>-.21</b> | <b>-.16</b> | <b>-.28</b> | <b>-.24</b> | <b>.19</b>  | <b>-.10</b> | <b>-.09</b> | <b>-.16</b> | <b>-.04</b> | <b>-.14</b> | <b>-.12</b> | <b>-.02</b> | <b>.20</b> | <b>.09</b> | <b>.07</b>  | 1          |            |     |
| JS2 | <b>-.21</b> | <b>.14</b>  | <b>-.05</b> | <b>-.15</b> | <b>-.13</b> | <b>.13</b>  | <b>-.09</b> | <b>-.06</b> | <b>-.06</b> | <b>-.04</b> | <b>-.04</b> | <b>-.07</b> | <b>-.05</b> | <b>.24</b> | <b>.06</b> | <b>.04</b>  | <b>.38</b> | 1          |     |
| JS3 | <b>-.41</b> | <b>-.31</b> | <b>-.12</b> | <b>-.21</b> | <b>-.24</b> | <b>.20</b>  | <b>-.18</b> | <b>-.14</b> | <b>-.18</b> | <b>-.11</b> | <b>-.14</b> | <b>-.14</b> | <b>-.19</b> | <b>.33</b> | <b>.04</b> | <b>-.04</b> | <b>.48</b> | <b>.57</b> | 1   |

Note: Coefficients in bold are significant at least at the .05 level (two-tailed tests).

## **APPENDIX C**

**Table C.1: Citizen Distrust**

| <b>Index Score</b> | <b>Frequency</b> | <b>Percentage</b> |
|--------------------|------------------|-------------------|
| 2                  | 71               | 7.0               |
| 3                  | 76               | 7.4               |
| 4                  | 295              | 28.9              |
| 5                  | 147              | 14.4              |
| 6                  | 291              | 28.5              |
| 7                  | 65               | 6.4               |
| 8                  | 63               | 6.2               |
| Missing            | 14               | 1.4               |
| Total              | 1,022            | 100%              |

**Table C.2: Order Maintenance**

| <b>Index Score</b> | <b>Frequency</b> | <b>Percentage</b> |
|--------------------|------------------|-------------------|
| 6                  | 10               | 1.0               |
| 7                  | 7                | 0.7               |
| 8                  | 32               | 3.1               |
| 9                  | 40               | 3.9               |
| 10                 | 54               | 5.3               |
| 11                 | 76               | 7.4               |
| 12                 | 117              | 11.4              |
| 13                 | 150              | 14.7              |
| 14                 | 136              | 13.3              |
| 15                 | 112              | 11.0              |
| 16                 | 85               | 8.3               |
| 17                 | 67               | 6.6               |
| 18                 | 47               | 4.6               |
| 19                 | 28               | 2.7               |
| 20                 | 15               | 1.5               |
| 21                 | 11               | 1.1               |
| 22                 | 10               | 1.0               |
| 23                 | 5                | 0.5               |
| 24                 | 7                | 0.7               |
| 27                 | 4                | 0.4               |
| Missing            | 13               | 1.3               |
| Total              | 1,022            | 100%              |

**C-3: Direct Supervisors**

| <b>Index Score</b> | <b>Frequency</b> | <b>Percentage</b> |
|--------------------|------------------|-------------------|
| 2                  | 287              | 28.1              |
| 3                  | 192              | 18.8              |
| 4                  | 275              | 26.9              |
| 5                  | 145              | 14.2              |
| 6                  | 69               | 6.8               |
| 7                  | 22               | 2.2               |
| 8                  | 22               | 2.2               |
| Missing            | 10               | 1.0               |
| <b>Total</b>       | <b>1,022</b>     | <b>100%</b>       |

**C-4: Top Management**

| <b>Index Score</b> | <b>Frequency</b> | <b>Percentage</b> |
|--------------------|------------------|-------------------|
| 3                  | 15               | 1.5               |
| 4                  | 16               | 1.6               |
| 5                  | 25               | 2.5               |
| 6                  | 133              | 13.0              |
| 7                  | 132              | 12.9              |
| 8                  | 145              | 14.2              |
| 9                  | 190              | 18.6              |
| 10                 | 135              | 13.2              |
| 11                 | 102              | 10.0              |
| 12                 | 106              | 10.4              |
| Missing            | 23               | 2.3               |
| <b>Total</b>       | <b>1,022</b>     | <b>100%</b>       |

**C-5: Job Satisfaction**

| <b>Index Score</b> | <b>Frequency</b> | <b>Percentage</b> |
|--------------------|------------------|-------------------|
| 3                  | 6                | 0.6               |
| 4                  | 9                | 0.9               |
| 5                  | 14               | 1.4               |
| 6                  | 51               | 5.0               |
| 7                  | 86               | 8.4               |
| 8                  | 176              | 17.2              |
| 9                  | 237              | 23.2              |
| 10                 | 173              | 16.9              |
| 11                 | 161              | 15.8              |
| 12                 | 88               | 8.6               |
| Missing            | 21               | 2.1               |
| <b>Total</b>       | <b>1,022</b>     | <b>100%</b>       |

**C-6: Aggressiveness**

| <b>Agreement</b>      | <b>Frequency</b> | <b>Percentage</b> |
|-----------------------|------------------|-------------------|
| [1] Disagree Strongly | 28               | 2.7               |
| [2] Disagree Somewhat | 156              | 15.3              |
| [3] Agree Somewhat    | 511              | 50.0              |
| [4] Agree Strongly    | 321              | 31.4              |
| Missing               | 6                | 0.6               |
| Total                 | 1,022            | 100%              |

**C-7: Selective Enforcement**

| <b>Agreement</b>      | <b>Frequency</b> | <b>Percentage</b> |
|-----------------------|------------------|-------------------|
| [1] Disagree Strongly | 291              | 28.4              |
| [2] Disagree Somewhat | 549              | 53.7              |
| [3] Agree Somewhat    | 139              | 13.6              |
| [4] Agree Strongly    | 30               | 2.9               |
| Missing               | 13               | 1.3               |
| Total                 | 1,022            | 100%              |

**C-8: Crime-fighting**

| <b>Agreement</b>      | <b>Frequency</b> | <b>Percentage</b> |
|-----------------------|------------------|-------------------|
| [1] Disagree Strongly | 31               | 3.0               |
| [2] Disagree Somewhat | 225              | 22.0              |
| [3] Agree Somewhat    | 544              | 53.2              |
| [4] Agree Strongly    | 217              | 21.2              |
| Missing               | 5                | 0.5               |
| Total                 | 1,022            | 100%              |

## APPENDIX D

**Table D.1:  $r_{wg}$  and  $r^*_{wg(j)}$  Values by Workgroup**

| <b>Group ID</b> | <b>N</b> | <b>Cit. Dis.</b> | <b>Order Maint.</b> | <b>Dir. Sup.</b> | <b>Top Man.</b> | <b>Job Sat.</b> | <b>Aggress.</b> | <b>Select.</b> | <b>Crime-fight</b> |
|-----------------|----------|------------------|---------------------|------------------|-----------------|-----------------|-----------------|----------------|--------------------|
| <u>1</u>        | 19       | <b>0.49</b>      | <b>0.61</b>         | <b>0.58</b>      | <b>0.54</b>     | <b>0.62</b>     | <b>0.64</b>     | 0.34           | 0.39               |
| <u>2</u>        | 10       | 0.25             | 0.41                | <b>0.60</b>      | 0.39            | <b>0.56</b>     | <b>0.64</b>     | <b>0.81</b>    | <b>0.64</b>        |
| <u>3</u>        | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>4</u>        | 23       | <b>0.37</b>      | <b>0.60</b>         | <b>0.62</b>      | <b>0.46</b>     | <b>0.40</b>     | <b>0.35</b>     | <b>0.57</b>    | <b>0.50</b>        |
| <u>5</u>        | 23       | <b>0.50</b>      | <b>0.42</b>         | <b>0.52</b>      | <b>0.35</b>     | <b>0.45</b>     | <b>0.54</b>     | <b>0.77</b>    | <b>0.64</b>        |
| <u>6</u>        | 16       | 0.36             | <b>0.41</b>         | <b>0.42</b>      | <b>0.42</b>     | <b>0.47</b>     | <b>0.76</b>     | <b>0.82</b>    | <b>0.52</b>        |
| <u>7</u>        | 20       | <b>0.38</b>      | <b>0.42</b>         | 0.19             | <b>0.56</b>     | 0.28            | <b>0.33</b>     | <b>0.70</b>    | <b>0.66</b>        |
| <u>8</u>        | 23       | <b>0.33</b>      | <b>0.45</b>         | <b>0.42</b>      | <b>0.34</b>     | <b>0.51</b>     | <b>0.30</b>     | <b>0.42</b>    | <b>0.47</b>        |
| <u>9</u>        | 14       | 0.35             | <b>0.54</b>         | 0.36             | <b>0.52</b>     | <b>0.62</b>     | <b>0.70</b>     | <b>0.53</b>    | <b>0.68</b>        |
| <u>10</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>11</u>       | 13       | 0.35             | 0.29                | 0.21             | <b>0.54</b>     | <b>0.45</b>     | <b>0.82</b>     | <b>0.81</b>    | <b>0.58</b>        |
| <u>12</u>       | 15       | 0.35             | 0.28                | 0.05             | <b>0.42</b>     | <b>0.57</b>     | <b>0.66</b>     | <b>0.83</b>    | <b>0.56</b>        |
| <u>13</u>       | 24       | <b>0.34</b>      | <b>0.49</b>         | <b>0.42</b>      | <b>0.48</b>     | <b>0.44</b>     | <b>0.56</b>     | <b>0.49</b>    | <b>0.42</b>        |
| <u>14</u>       | 23       | <b>0.56</b>      | <b>0.40</b>         | <b>0.60</b>      | <b>0.51</b>     | <b>0.75</b>     | <b>0.73</b>     | <b>0.61</b>    | <b>0.59</b>        |
| <u>15</u>       | 15       | 0.36             | 0.23                | <b>0.50</b>      | <b>0.45</b>     | <b>0.48</b>     | <b>0.56</b>     | 0.29           | <b>0.95</b>        |
| <u>16</u>       | 19       | <b>0.36</b>      | <b>0.61</b>         | <b>0.44</b>      | 0.34            | 0.28            | <b>0.65</b>     | <b>0.66</b>    | <b>0.79</b>        |
| <u>17</u>       | 17       | <b>0.65</b>      | <b>0.52</b>         | <b>0.63</b>      | <b>0.47</b>     | <b>0.58</b>     | <b>0.51</b>     | <b>0.71</b>    | 0.29               |
| <u>18</u>       | 13       | 0.29             | <b>0.57</b>         | <b>0.72</b>      | <b>0.53</b>     | <b>0.46</b>     | <b>0.68</b>     | <b>0.82</b>    | <b>0.67</b>        |
| <u>19</u>       | 9        | <b>0.62</b>      | <b>0.73</b>         | 0.27             | <b>0.58</b>     | 0.52            | <b>0.83</b>     | <b>0.77</b>    | 0.10               |
| <u>20</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>21</u>       | 8        | <b>0.72</b>      | <b>0.68</b>         | 0.54             | 0.58            | <b>0.69</b>     | 0.37            | 0.54           | 0.31               |
| <u>22</u>       | 19       | <b>0.56</b>      | <b>0.39</b>         | <b>0.49</b>      | <b>0.61</b>     | <b>0.62</b>     | <b>0.38</b>     | <b>0.72</b>    | <b>0.53</b>        |
| <u>23</u>       | 25       | <b>0.57</b>      | <b>0.45</b>         | <b>0.36</b>      | <b>0.51</b>     | <b>0.50</b>     | <b>0.52</b>     | <b>0.75</b>    | <b>0.62</b>        |
| <u>24</u>       | 16       | <b>0.50</b>      | 0.17                | <b>0.43</b>      | <b>0.47</b>     | <b>0.44</b>     | <b>0.59</b>     | <b>0.68</b>    | <b>0.59</b>        |
| <u>25</u>       | 13       | <b>0.56</b>      | 0.33                | 0.08             | <b>0.48</b>     | 0.40            | <b>0.75</b>     | 0.00           | <b>0.71</b>        |
| <u>26</u>       | 20       | <b>0.63</b>      | <b>0.54</b>         | <b>0.63</b>      | <b>0.47</b>     | <b>0.44</b>     | <b>0.44</b>     | <b>0.74</b>    | <b>0.42</b>        |
| <u>27</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>28</u>       | 13       | <b>0.45</b>      | <b>0.68</b>         | 0.00             | <b>0.49</b>     | <b>0.49</b>     | 0.27            | <b>0.71</b>    | 0.40               |
| <u>29</u>       | 17       | <b>0.56</b>      | <b>0.43</b>         | <b>0.47</b>      | 0.34            | <b>0.56</b>     | <b>0.59</b>     | <b>0.52</b>    | 0.31               |
| <u>30</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>31</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>32</u>       | 16       | 0.37             | 0.32                | 0.27             | <b>0.51</b>     | 0.23            | <b>0.63</b>     | <b>0.42</b>    | <b>0.68</b>        |
| <u>33</u>       | 21       | <b>0.32</b>      | <b>0.35</b>         | <b>0.70</b>      | 0.30            | <b>0.66</b>     | <b>0.72</b>     | <b>0.59</b>    | <b>0.50</b>        |
| <u>34</u>       | 8        | 0.21             | <b>0.61</b>         | 0.55             | 0.50            | 0.57            | 0.56            | 0.54           | <b>0.67</b>        |
| <u>35</u>       | 23       | 0.25             | <b>0.55</b>         | <b>0.62</b>      | <b>0.47</b>     | <b>0.59</b>     | <b>0.59</b>     | <b>0.49</b>    | <b>0.60</b>        |
| <u>36</u>       | 21       | <b>0.62</b>      | <b>0.61</b>         | <b>0.55</b>      | <b>0.47</b>     | <b>0.49</b>     | <b>0.85</b>     | <b>0.56</b>    | <b>0.61</b>        |
| <u>37</u>       | 17       | <b>0.42</b>      | <b>0.58</b>         | <b>0.62</b>      | 0.14            | <b>0.57</b>     | <b>0.39</b>     | 0.29           | <b>0.61</b>        |
| <u>38</u>       | 7        | 0.66             | 0.65                | 0.66             | 0.57            | 0.70            | 0.50            | 0.62           | 0.62               |
| <u>39</u>       | 19       | <b>0.54</b>      | <b>0.52</b>         | <b>0.73</b>      | <b>0.48</b>     | <b>0.49</b>     | <b>0.81</b>     | 0.03           | <b>0.52</b>        |
| <u>40</u>       | 17       | <b>0.35</b>      | <b>0.51</b>         | <b>0.53</b>      | <b>0.66</b>     | <b>0.50</b>     | <b>0.85</b>     | <b>0.45</b>    | <b>0.68</b>        |
| <u>41</u>       | 15       | <b>0.42</b>      | <b>0.54</b>         | <b>0.47</b>      | 0.28            | <b>0.64</b>     | <b>0.81</b>     | <b>0.43</b>    | <b>0.60</b>        |
| <u>42</u>       | 5        | 0.56             | 0.65                | 0.72             | 0.73            | 0.47            | 0.44            | 0.44           | 0.76               |

**Table D.1:  $r_{wg}$  and  $r^*_{wg(j)}$  Values (cont.)**

| <b>Group ID</b> | <b>N</b> | <b>Cit. Dis.</b> | <b>Order Maint.</b> | <b>Dir. Sup.</b> | <b>Top Man.</b> | <b>Job Sat.</b> | <b>Aggress.</b> | <b>Select.</b> | <b>Crime-fight</b> |
|-----------------|----------|------------------|---------------------|------------------|-----------------|-----------------|-----------------|----------------|--------------------|
| <u>43</u>       | 24       | <b>0.49</b>      | <b>0.56</b>         | <b>0.54</b>      | 0.28            | <b>0.64</b>     | <b>0.66</b>     | <b>0.54</b>    | 0.17               |
| <u>44</u>       | 24       | <b>0.61</b>      | <b>0.37</b>         | <b>0.46</b>      | 0.30            | <b>0.39</b>     | <b>0.45</b>     | <b>0.41</b>    | <b>0.32</b>        |
| <u>45</u>       | 14       | 0.33             | <b>0.70</b>         | <b>0.55</b>      | <b>0.62</b>     | <b>0.62</b>     | <b>0.49</b>     | <b>0.82</b>    | <b>0.51</b>        |
| <u>46</u>       | 5        | 0.08             | 0.29                | 0.44             | 0.60            | 0.63            | 0.76            | 0.76           | 0.60               |
| <u>47</u>       | 25       | <b>0.48</b>      | <b>0.44</b>         | <b>0.63</b>      | <b>0.42</b>     | <b>0.69</b>     | <b>0.47</b>     | <b>0.50</b>    | 0.25               |
| <u>48</u>       | 15       | <b>0.70</b>      | <b>0.60</b>         | <b>0.48</b>      | <b>0.67</b>     | <b>0.69</b>     | <b>0.49</b>     | <b>0.88</b>    | <b>0.68</b>        |
| <u>49</u>       | 14       | <b>0.47</b>      | 0.41                | 0.22             | <b>0.52</b>     | <b>0.55</b>     | <b>0.43</b>     | <b>0.70</b>    | <b>0.67</b>        |
| <u>50</u>       | 17       | <b>0.44</b>      | <b>0.60</b>         | 0.25             | <b>0.73</b>     | <b>0.45</b>     | <b>0.35</b>     | <b>0.62</b>    | <b>0.79</b>        |
| <u>51</u>       | 17       | <b>0.43</b>      | <b>0.49</b>         | 0.24             | 0.27            | <b>0.48</b>     | <b>0.49</b>     | <b>0.51</b>    | <b>0.49</b>        |
| <u>52</u>       | 20       | <b>0.49</b>      | <b>0.54</b>         | <b>0.44</b>      | <b>0.70</b>     | <b>0.63</b>     | <b>0.64</b>     | <b>0.67</b>    | <b>0.79</b>        |
| <u>53</u>       | 20       | <b>0.58</b>      | <b>0.59</b>         | <b>0.50</b>      | <b>0.67</b>     | <b>0.50</b>     | <b>0.67</b>     | <b>0.88</b>    | <b>0.71</b>        |
| <u>54</u>       | 11       | 0.32             | <b>0.65</b>         | 0.35             | <b>0.64</b>     | <b>0.49</b>     | 0.16            | 0.45           | <b>0.78</b>        |
| <u>55</u>       | 15       | <b>0.48</b>      | <b>0.74</b>         | <b>0.56</b>      | <b>0.50</b>     | <b>0.69</b>     | <b>0.47</b>     | <b>0.71</b>    | <b>0.72</b>        |
| <u>56</u>       | 10       | 0.45             | 0.45                | <b>0.64</b>      | 0.30            | 0.49            | <b>0.63</b>     | <b>0.74</b>    | <b>0.60</b>        |
| <u>57</u>       | 12       | <b>0.56</b>      | 0.39                | 0.32             | <b>0.70</b>     | <b>0.50</b>     | <b>0.50</b>     | <b>0.66</b>    | <b>0.81</b>        |
| <u>58</u>       | 17       | <b>0.80</b>      | <b>0.45</b>         | 0.25             | <b>0.53</b>     | <b>0.47</b>     | <b>0.55</b>     | <b>0.50</b>    | 0.25               |
| <u>59</u>       | 14       | <b>0.71</b>      | <b>0.46</b>         | <b>0.63</b>      | <b>0.68</b>     | <b>0.60</b>     | <b>0.68</b>     | <b>0.73</b>    | <b>0.79</b>        |
| <u>60</u>       | 24       | <b>0.60</b>      | <b>0.45</b>         | <b>0.31</b>      | <b>0.48</b>     | 0.29            | <b>0.68</b>     | <b>0.40</b>    | <b>0.46</b>        |
| <u>61</u>       | 22       | <b>0.43</b>      | <b>0.55</b>         | <b>0.64</b>      | <b>0.51</b>     | <b>0.58</b>     | <b>0.72</b>     | <b>0.32</b>    | <b>0.47</b>        |
| <u>62</u>       | 17       | <b>0.41</b>      | <b>0.48</b>         | <b>0.71</b>      | <b>0.40</b>     | <b>0.61</b>     | <b>0.79</b>     | <b>0.58</b>    | 0.19               |
| <u>63</u>       | 11       | <b>0.58</b>      | <b>0.70</b>         | <b>0.56</b>      | <b>0.78</b>     | <b>0.60</b>     | <b>0.68</b>     | <b>0.82</b>    | <b>0.64</b>        |
| <u>64</u>       | 16       | <b>0.51</b>      | <b>0.59</b>         | <b>0.43</b>      | <b>0.51</b>     | <b>0.68</b>     | <b>0.69</b>     | <b>0.52</b>    | <b>0.68</b>        |
| <u>65</u>       | 15       | 0.27             | <b>0.55</b>         | <b>0.88</b>      | <b>0.49</b>     | <b>0.64</b>     | <b>0.67</b>     | <b>0.72</b>    | <b>0.44</b>        |
| <u>66</u>       | 8        | 0.23             | 0.32                | <b>0.78</b>      | 0.50            | <b>0.63</b>     | 0.56            | <b>0.77</b>    | 0.56               |
| <u>67</u>       | 7        | 0.00             | 0.57                | <b>0.85</b>      | 0.62            | 0.24            | <b>0.77</b>     | <b>0.79</b>    | 0.55               |
| <b>Mean</b>     | 16.2     | 0.45             | 0.50                | 0.49             | 0.49            | 0.53            | 0.59            | 0.60           | 0.58               |
| <b>Median</b>   |          | 0.46             | 0.52                | 0.50             | 0.50            | 0.54            | 0.61            | 0.62           | 0.61               |

Values in bold indicate statistical significance at the .05 level or greater.



**Table D.2: AD<sub>M</sub> and AD<sub>M(J)</sub> Values**

| <b>Group ID</b> | <b>N</b> | <b>Cit. Dis.</b> | <b>Order Maint.</b> | <b>Dir. Sup.</b> | <b>Top Man.</b> | <b>Job Sat.</b> | <b>Aggress.</b> | <b>Select.</b> | <b>Crime-fight</b> |
|-----------------|----------|------------------|---------------------|------------------|-----------------|-----------------|-----------------|----------------|--------------------|
| <u>1</u>        | 19       | <b>0.56</b>      | <b>0.53</b>         | <b>0.53</b>      | <b>0.63</b>     | <b>0.53</b>     | <b>0.58</b>     | <b>0.70</b>    | <b>0.70</b>        |
| <u>2</u>        | 10       | 0.82             | 0.67                | <b>0.49</b>      | 0.64            | <b>0.52</b>     | <b>0.56</b>     | <b>0.42</b>    | <b>0.56</b>        |
| <u>3</u>        | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>4</u>        | 23       | <b>0.73</b>      | <b>0.54</b>         | <b>0.53</b>      | <b>0.70</b>     | <b>0.69</b>     | <b>0.71</b>     | <b>0.56</b>    | <b>0.56</b>        |
| <u>5</u>        | 23       | <b>0.67</b>      | <b>0.70</b>         | <b>0.62</b>      | <b>0.72</b>     | <b>0.64</b>     | <b>0.53</b>     | <b>0.45</b>    | <b>0.48</b>        |
| <u>6</u>        | 16       | 0.71             | <b>0.67</b>         | <b>0.65</b>      | <b>0.69</b>     | <b>0.66</b>     | <b>0.41</b>     | <b>0.43</b>    | <b>0.53</b>        |
| <u>7</u>        | 20       | 0.74             | <b>0.66</b>         | 0.77             | <b>0.56</b>     | 0.75            | <b>0.73</b>     | <b>0.48</b>    | <b>0.52</b>        |
| <u>8</u>        | 23       | 0.77             | <b>0.64</b>         | <b>0.62</b>      | 0.77            | <b>0.60</b>     | <b>0.72</b>     | <b>0.65</b>    | <b>0.62</b>        |
| <u>9</u>        | 14       | 0.74             | <b>0.58</b>         | <b>0.64</b>      | <b>0.63</b>     | <b>0.49</b>     | <b>0.51</b>     | <b>0.61</b>    | <b>0.55</b>        |
| <u>10</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>11</u>       | 13       | 0.74             | 0.77                | 0.78             | <b>0.62</b>     | <b>0.65</b>     | <b>0.43</b>     | <b>0.28</b>    | <b>0.59</b>        |
| <u>12</u>       | 15       | <b>0.68</b>      | 0.78                | 0.90             | 0.69            | <b>0.55</b>     | <b>0.40</b>     | <b>0.25</b>    | <b>0.46</b>        |
| <u>13</u>       | 24       | <b>0.72</b>      | <b>0.65</b>         | <b>0.63</b>      | <b>0.66</b>     | <b>0.68</b>     | <b>0.58</b>     | <b>0.52</b>    | <b>0.67</b>        |
| <u>14</u>       | 23       | <b>0.63</b>      | <b>0.70</b>         | <b>0.45</b>      | <b>0.62</b>     | <b>0.44</b>     | <b>0.43</b>     | <b>0.45</b>    | <b>0.57</b>        |
| <u>15</u>       | 15       | 0.71             | 0.80                | <b>0.63</b>      | <b>0.66</b>     | <b>0.64</b>     | <b>0.64</b>     | 0.75           | <b>0.12</b>        |
| <u>16</u>       | 19       | <b>0.64</b>      | <b>0.54</b>         | <b>0.64</b>      | 0.75            | 0.74            | <b>0.47</b>     | <b>0.54</b>    | <b>0.37</b>        |
| <u>17</u>       | 17       | <b>0.54</b>      | <b>0.63</b>         | <b>0.59</b>      | <b>0.69</b>     | <b>0.51</b>     | <b>0.62</b>     | <b>0.53</b>    | 0.79               |
| <u>18</u>       | 13       | 0.76             | <b>0.55</b>         | <b>0.54</b>      | <b>0.62</b>     | <b>0.55</b>     | <b>0.53</b>     | <b>0.43</b>    | <b>0.43</b>        |
| <u>19</u>       | 9        | <b>0.49</b>      | <b>0.42</b>         | 0.75             | 0.58            | 0.58            | <b>0.37</b>     | <b>0.50</b>    | 0.87               |
| <u>20</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>21</u>       | 8        | <b>0.42</b>      | <b>0.49</b>         | <b>0.50</b>      | 0.54            | <b>0.44</b>     | 0.62            | <b>0.50</b>    | 0.75               |
| <u>22</u>       | 19       | <b>0.62</b>      | <b>0.71</b>         | <b>0.59</b>      | <b>0.55</b>     | <b>0.54</b>     | <b>0.63</b>     | <b>0.49</b>    | <b>0.65</b>        |
| <u>23</u>       | 25       | <b>0.59</b>      | <b>0.66</b>         | <b>0.60</b>      | <b>0.58</b>     | <b>0.67</b>     | <b>0.54</b>     | <b>0.42</b>    | <b>0.59</b>        |
| <u>24</u>       | 16       | <b>0.63</b>      | 0.84                | <b>0.66</b>      | <b>0.64</b>     | <b>0.67</b>     | <b>0.62</b>     | <b>0.56</b>    | <b>0.62</b>        |
| <u>25</u>       | 13       | <b>0.62</b>      | <b>0.73</b>         | 0.92             | 0.68            | 0.68            | <b>0.39</b>     | 0.99           | <b>0.47</b>        |
| <u>26</u>       | 20       | <b>0.42</b>      | <b>0.63</b>         | <b>0.44</b>      | <b>0.70</b>     | <b>0.66</b>     | <b>0.62</b>     | <b>0.49</b>    | <b>0.64</b>        |
| <u>27</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>28</u>       | 13       | 0.67             | <b>0.51</b>         | 0.99             | <b>0.63</b>     | <b>0.51</b>     | 0.72            | <b>0.39</b>    | 0.72               |
| <u>29</u>       | 17       | <b>0.61</b>      | <b>0.66</b>         | <b>0.62</b>      | 0.74            | <b>0.58</b>     | <b>0.55</b>     | <b>0.59</b>    | <b>0.70</b>        |
| <u>30</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>31</u>       | N/A      | N/A              | N/A                 | N/A              | N/A             | N/A             | N/A             | N/A            | N/A                |
| <u>32</u>       | 16       | 0.74             | 0.73                | 0.81             | <b>0.65</b>     | 0.78            | <b>0.47</b>     | <b>0.59</b>    | <b>0.37</b>        |
| <u>33</u>       | 21       | <b>0.70</b>      | <b>0.73</b>         | <b>0.51</b>      | 0.76            | <b>0.54</b>     | <b>0.51</b>     | <b>0.61</b>    | <b>0.57</b>        |
| <u>34</u>       | 8        | 0.81             | 0.53                | 0.59             | 0.54            | 0.58            | 0.62            | <b>0.50</b>    | <b>0.44</b>        |
| <u>35</u>       | 23       | 0.77             | <b>0.61</b>         | <b>0.59</b>      | <b>0.65</b>     | <b>0.59</b>     | <b>0.50</b>     | <b>0.61</b>    | <b>0.50</b>        |
| <u>36</u>       | 21       | <b>0.59</b>      | <b>0.53</b>         | <b>0.62</b>      | <b>0.68</b>     | <b>0.64</b>     | <b>0.26</b>     | <b>0.59</b>    | <b>0.44</b>        |
| <u>37</u>       | 17       | <b>0.70</b>      | <b>0.56</b>         | <b>0.59</b>      | 0.90            | <b>0.59</b>     | 0.75            | 0.79           | <b>0.52</b>        |
| <u>38</u>       | 7        | 0.55             | 0.49                | 0.55             | 0.58            | 0.52            | 0.65            | 0.49           | 0.49               |
| <u>39</u>       | 19       | <b>0.64</b>      | <b>0.60</b>         | <b>0.46</b>      | <b>0.62</b>     | <b>0.62</b>     | <b>0.44</b>     | 0.96           | <b>0.65</b>        |
| <u>40</u>       | 17       | 0.75             | <b>0.59</b>         | <b>0.45</b>      | <b>0.45</b>     | <b>0.59</b>     | <b>0.36</b>     | <b>0.56</b>    | <b>0.48</b>        |
| <u>41</u>       | 15       | 0.70             | <b>0.62</b>         | <b>0.64</b>      | 0.78            | <b>0.50</b>     | <b>0.44</b>     | <b>0.53</b>    | <b>0.50</b>        |
| <u>42</u>       | 5        | 0.60             | 0.47                | <b>0.32</b>      | 0.40            | 0.53            | 0.64            | 0.64           | 0.48               |

**Table D.2: AD<sub>M</sub> and AD<sub>M(J)</sub> Values (cont.)**

| <b>Group ID</b> | <b>N</b> | <b>Cit. Dis.</b> | <b>Order Maint.</b> | <b>Dir. Sup.</b> | <b>Top Man.</b> | <b>Job Sat.</b> | <b>Aggress.</b> | <b>Select.</b> | <b>Crime-fight</b> |
|-----------------|----------|------------------|---------------------|------------------|-----------------|-----------------|-----------------|----------------|--------------------|
| <u>43</u>       | 24       | <b>0.68</b>      | <b>0.57</b>         | <b>0.60</b>      | <b>0.75</b>     | <b>0.52</b>     | <b>0.58</b>     | <b>0.56</b>    | <b>0.56</b>        |
| <u>44</u>       | 24       | <b>0.58</b>      | <b>0.69</b>         | <b>0.67</b>      | 0.76            | <b>0.71</b>     | <b>0.68</b>     | <b>0.64</b>    | <b>0.75</b>        |
| <u>45</u>       | 14       | 0.73             | <b>0.46</b>         | <b>0.65</b>      | <b>0.52</b>     | <b>0.58</b>     | <b>0.56</b>     | <b>0.26</b>    | <b>0.29</b>        |
| <u>46</u>       | 5        | 0.84             | 0.70                | 0.64             | 0.51            | 0.47            | 0.48            | 0.48           | 0.72               |
| <u>47</u>       | 25       | <b>0.67</b>      | <b>0.67</b>         | <b>0.60</b>      | 0.73            | <b>0.48</b>     | <b>0.59</b>     | <b>0.69</b>    | <b>0.64</b>        |
| <u>48</u>       | 15       | <b>0.53</b>      | <b>0.56</b>         | <b>0.58</b>      | <b>0.54</b>     | <b>0.45</b>     | <b>0.62</b>     | <b>0.14</b>    | <b>0.62</b>        |
| <u>49</u>       | 14       | <b>0.62</b>      | 0.68                | 0.71             | <b>0.61</b>     | <b>0.58</b>     | 0.69            | <b>0.51</b>    | <b>0.56</b>        |
| <u>50</u>       | 17       | <b>0.71</b>      | <b>0.54</b>         | 0.73             | <b>0.53</b>     | <b>0.57</b>     | <b>0.69</b>     | <b>0.58</b>    | <b>0.50</b>        |
| <u>51</u>       | 17       | <b>0.69</b>      | <b>0.61</b>         | 0.80             | 0.80            | <b>0.64</b>     | <b>0.67</b>     | <b>0.52</b>    | <b>0.48</b>        |
| <u>52</u>       | 20       | <b>0.68</b>      | <b>0.61</b>         | <b>0.66</b>      | <b>0.49</b>     | <b>0.53</b>     | <b>0.51</b>     | <b>0.45</b>    | <b>0.28</b>        |
| <u>53</u>       | 20       | <b>0.63</b>      | <b>0.60</b>         | <b>0.58</b>      | <b>0.53</b>     | <b>0.64</b>     | <b>0.45</b>     | <b>0.19</b>    | <b>0.48</b>        |
| <u>54</u>       | 11       | 0.76             | <b>0.49</b>         | 0.67             | <b>0.58</b>     | <b>0.61</b>     | 0.88            | <b>0.51</b>    | <b>0.33</b>        |
| <u>55</u>       | 15       | <b>0.63</b>      | <b>0.43</b>         | <b>0.51</b>      | <b>0.60</b>     | <b>0.48</b>     | <b>0.67</b>     | <b>0.49</b>    | <b>0.25</b>        |
| <u>56</u>       | 10       | 0.68             | 0.65                | <b>0.56</b>      | 0.73            | 0.58            | <b>0.56</b>     | <b>0.36</b>    | <b>0.48</b>        |
| <u>57</u>       | 12       | <b>0.50</b>      | <b>0.64</b>         | 0.72             | <b>0.44</b>     | <b>0.61</b>     | <b>0.47</b>     | <b>0.56</b>    | 0.75               |
| <u>58</u>       | 17       | <b>0.48</b>      | <b>0.68</b>         | 0.77             | <b>0.60</b>     | <b>0.61</b>     | <b>0.45</b>     | <b>0.47</b>    | <b>0.48</b>        |
| <u>59</u>       | 14       | <b>0.42</b>      | <b>0.63</b>         | <b>0.53</b>      | <b>0.52</b>     | <b>0.52</b>     | <b>0.55</b>     | <b>0.45</b>    | <b>0.49</b>        |
| <u>60</u>       | 24       | <b>0.57</b>      | <b>0.67</b>         | <b>0.64</b>      | <b>0.67</b>     | <b>0.74</b>     | <b>0.56</b>     | <b>0.65</b>    | <b>0.69</b>        |
| <u>61</u>       | 22       | <b>0.65</b>      | <b>0.58</b>         | <b>0.59</b>      | <b>0.62</b>     | <b>0.57</b>     | <b>0.54</b>     | 0.73           | <b>0.47</b>        |
| <u>62</u>       | 17       | <b>0.66</b>      | <b>0.60</b>         | <b>0.52</b>      | 0.72            | <b>0.59</b>     | <b>0.48</b>     | <b>0.50</b>    | <b>0.55</b>        |
| <u>63</u>       | 11       | <b>0.48</b>      | <b>0.37</b>         | <b>0.58</b>      | <b>0.41</b>     | <b>0.56</b>     | <b>0.36</b>     | <b>0.40</b>    | <b>0.45</b>        |
| <u>64</u>       | 16       | <b>0.62</b>      | <b>0.52</b>         | <b>0.56</b>      | <b>0.61</b>     | <b>0.47</b>     | <b>0.55</b>     | <b>0.66</b>    | <b>0.55</b>        |
| <u>65</u>       | 15       | 0.75             | <b>0.56</b>         | <b>0.28</b>      | <b>0.54</b>     | <b>0.57</b>     | <b>0.57</b>     | <b>0.37</b>    | <b>0.43</b>        |
| <u>66</u>       | 8        | 0.75             | 0.72                | <b>0.48</b>      | 0.62            | 0.53            | 0.62            | <b>0.50</b>    | 0.62               |
| <u>67</u>       | 7        | 0.83             | 0.53                | <b>0.33</b>      | 0.54            | 0.62            | 0.49            | 0.44           | 0.49               |
| <b>Mean</b>     | 16.2     | 0.65             | 0.61                | 0.61             | 0.63            | 0.58            | 0.56            | 0.52           | 0.54               |
| <b>Median</b>   |          | 0.63             | 0.61                | 0.59             | 0.62            | 0.58            | 0.56            | 0.51           | 0.53               |

Values in bold indicate statistical significance at the .05 level or greater; Even if values are statistically significant, values that are above 0.67 are not considered to be of practical significance. Also, non-bold values that are 0.67 or below are considered to be practically significant even though they are not statistically significant.

## APPENDIX E

**Table E.1: Correlations among Officer Attitudes, Demographics, & Workgroup Composition**

|            | CD          | OM          | DS          | JS          | AG          | CF          | Male       | White       | Exp<br>(ln) | Educ        | Pro.<br>Male | Pro.<br>White | Avg.<br>Exp. | Avg.<br>Educ. | CSPD        | PPB         | APD         | FYPD        | KPD |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|--------------|---------------|--------------|---------------|-------------|-------------|-------------|-------------|-----|
| CD         | 1           |             |             |             |             |             |            |             |             |             |              |               |              |               |             |             |             |             |     |
| OM         | <b>.12</b>  | 1           |             |             |             |             |            |             |             |             |              |               |              |               |             |             |             |             |     |
| DS         | -.00        | <b>.17</b>  | 1           |             |             |             |            |             |             |             |              |               |              |               |             |             |             |             |     |
| JS         | <b>.06</b>  | <b>-.17</b> | <b>-.33</b> | 1           |             |             |            |             |             |             |              |               |              |               |             |             |             |             |     |
| AG         | <b>.20</b>  | -.04        | <b>-.16</b> | <b>.26</b>  | 1           |             |            |             |             |             |              |               |              |               |             |             |             |             |     |
| CF         | <b>.18</b>  | -.04        | <b>-.09</b> | <b>.19</b>  | <b>.34</b>  | 1           |            |             |             |             |              |               |              |               |             |             |             |             |     |
| Male       | -.01        | -.04        | .02         | .04         | .05         | .05         | 1          |             |             |             |              |               |              |               |             |             |             |             |     |
| White      | .01         | .03         | .00         | -.03        | <b>.10</b>  | .01         | .04        | 1           |             |             |              |               |              |               |             |             |             |             |     |
| Exp (ln)   | <b>-.16</b> | .01         | <b>.22</b>  | <b>-.25</b> | <b>-.20</b> | <b>-.08</b> | -.01       | .03         | 1           |             |              |               |              |               |             |             |             |             |     |
| Educ.      | <b>-.10</b> | <b>.10</b>  | <b>.12</b>  | <b>-.17</b> | -.02        | <b>-.11</b> | -.05       | <b>.14</b>  | .04         | 1           |              |               |              |               |             |             |             |             |     |
| Pro. Male  | .05         | -.03        | -.02        | .03         | .01         | <b>.25</b>  | <b>.25</b> | .03         | .01         | -.05        | 1            |               |              |               |             |             |             |             |     |
| Pro. White | -.03        | <b>.15</b>  | <b>.07</b>  | <b>-.11</b> | -.04        | <b>-.08</b> | .02        | <b>.39</b>  | <b>.18</b>  | <b>.18</b>  | <b>.07</b>   | 1             |              |               |             |             |             |             |     |
| Avg.       | <b>-.16</b> | <b>.07</b>  | <b>.21</b>  | <b>-.26</b> | <b>-.23</b> | <b>-.11</b> | .00        | <b>.10</b>  | <b>.52</b>  | <b>.14</b>  | .00          | <b>.26</b>    | 1            |               |             |             |             |             |     |
| Exp.       | <b>-.18</b> | <b>.15</b>  | <b>.18</b>  | <b>-.20</b> | -.05        | <b>-.17</b> | -.02       | <b>.14</b>  | <b>.23</b>  | <b>.48</b>  | <b>-.10</b>  | <b>.36</b>    | <b>.30</b>   | 1             |             |             |             |             |     |
| Avg. Educ. | -.04        | <b>.11</b>  | <b>.11</b>  | -.04        | -.03        | -.01        | .01        | .03         | <b>.10</b>  | <b>.15</b>  | .02          | <b>.08</b>    | <b>.18</b>   | <b>.32</b>    | 1           |             |             |             |     |
| CSPD       | <b>-.16</b> | .04         | <b>.07</b>  | <b>-.16</b> | .01         | <b>-.14</b> | -.03       | <b>.12</b>  | <b>.11</b>  | <b>.31</b>  | <b>-.13</b>  | <b>.32</b>    | <b>.21</b>   | <b>.64</b>    | <b>-.25</b> | 1           |             |             |     |
| PPB        | <b>.08</b>  | <b>-.14</b> | <b>-.12</b> | <b>.16</b>  | <b>.09</b>  | <b>.08</b>  | -.03       | <b>-.29</b> | <b>-.24</b> | <b>-.25</b> | <b>-.12</b>  | <b>-.75</b>   | <b>-.45</b>  | <b>-.51</b>   | <b>-.30</b> | <b>-.35</b> | 1           |             |     |
| APD        | -.03        | -.02        | .06         | -.02        | <b>-.21</b> | -.05        | .05        | <b>.07</b>  | <b>.14</b>  | -.06        | <b>.21</b>   | <b>.17</b>    | <b>.25</b>   | <b>-.11</b>   | <b>-.22</b> | <b>-.25</b> | <b>-.30</b> | 1           |     |
| FYPD       | <b>.18</b>  | .04         | <b>-.12</b> | .05         | <b>.14</b>  | <b>.14</b>  | .02        | <b>.14</b>  | <b>-.08</b> | <b>-.16</b> | <b>.06</b>   | <b>.35</b>    | <b>-.15</b>  | <b>-.34</b>   | <b>-.17</b> | <b>-.20</b> | <b>-.24</b> | <b>-.18</b> | 1   |

Note: Coefficients in bold are significant at least at the .05 level (two-tailed tests). CD = Citizen Distrust, OM = Order Maintenance, DS = Direct Supervisor, JS = Job Satisfaction, AG = Aggressiveness, CF = Crime-fighting.

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