Introduction

Formal organizations surround us and pervade almost every facet of our lives. We work in them, shop in them, pay our bills to them; we become angry with them and enamored by them; we are educated and nursed to health in them; we earn credentials from them, seek justice from them, fight against them, and wait in line in them; we are treated fairly and unfairly by them; we are both victimized and protected by them; and, although we might want to, we can almost never escape them. Because formal organizations are such a basic element of modern life, social scientists from a variety of disciplines have strived for many decades to understand them.

In the beginning, research usually focused on particular organizations or types of organizations. Factories were studied as factories, prisons as prisons, and government agencies as government agencies—not as organizations. Early researchers rarely made an effort to draw generalizations beyond the particular types of organizations under study (Scott, 1992). By the early 1950s, scholars began to recognize that although there are many differences between collectivities like factories, prisons, and government agencies, they share one important thing in common: they are all organizations. Many of the classics in organizational studies emerged around this period, including Weber's (trans. 1947) writings on bureaucracy and leadership, Selznick's (1949) analysis of the Tennessee Valley Authority, and Merton's collection of readings on organizations (Merton et al., 1952).

Early organizational scholars emerged from a variety of disciplines, including political science, public administration, sociology, and psychology. Most specialized in various approaches to studying organizations; these specialties often reflected the academic background of the individual. For instance, many focused on social-psychological processes among workers, managers, and other key actors, others on economic aspects of the organization, and others on sociological processes (Scott, 1992). By the late 1950s, organizational specialists from a variety of disciplines began to form schools specializing in organizational studies. A journal, *Administrative Science Quarterly*, was born in 1956 to publish

the growing number of research studies in organizational science. Several classic texts appeared, organizing the collected knowledge of the new field of study (Blau, 1955, 1956; March and Simon, 1958). Since that time, dozens of new schools and journals and hundreds of books have emerged in the organizational studies arena. Today, organizational science is a well-developed field of study, with doctoral programs around the country, annual conferences, and a specialized literature that continues to grow each year. Nearly every conceivable type of organization has been studied using a variety of methodologies. Chapter 2 will expand on this brief history of organizational studies.

One type of organization that has not been frequently subjected to rigorous analysis by organizational scholars is police agencies. Given their role in promoting public safety, responding to emergency situations, maintaining order, and fighting crime, it is surprising that organizational scholars would pay so little attention to the police. Nevertheless, a number of scholars within the policing field have applied organizational theory concepts to the police. Peter Manning's *Police Work: The Social Organization of Policing* and James Q. Wilson's *Varieties of Police Behavior* are classic books on the police that employ an organizational approach. Although these two books contributed lasting insights to the policing literature, theoretically oriented studies of police agencies as organizations are rare.

Social scientists have studied the police for nearly four decades. Yet, the majority of these studies have focused on police officers and police work, rather than police organizations. This is not surprising, given the frequently heard sentiment that it is not the organization that matters, but the people within it. In a chapter entitled "Organizations Matter," Wilson (1989) argues that although people and tasks are important, we cannot fully understand either until we understand their organizational context. The almost exclusive focus on people and tasks has left a large gap in our systematic knowledge of the police. Although reformers have described numerous schemes for reorganizing the police, scholars have echoed well-worn complaints about the paramilitary nature of the police "bureaucracy," and many have outlined the flaws of the police rank structure, there have been few empirical studies describing and explaining police organizations and their features. Duffee's (1990) advice to criminal justice scholars seems particularly appropriate—we should focus on describing and explaining what criminal justice organizations do, rather than on what they should be doing.

Unlike other Western nations, the United States has an extremely fragmented and localized "system" of policing, with a confusing array of overlapping jurisdictions and responsibilities (Bayley, 1985; Maguire

et al., 1997b). Under the American federal system of government, thousands of local governments created their own police forces (Bayley, 1992). Each of these forces is separate, distinct, and under autonomous command. Though most police agencies have informal or formal mutual aid agreements (in case of emergency) with those in neighboring communities, they are independent entities with their own unique structures, cultures, policies, and procedures (Ostrom et al., 1978a). The result of the fragmented and localized evolution of American policing is that: (1) there is a huge number of police agencies, and (2) these agencies exhibit tremendous variety in organizational form.

According to the 1992 Directory Survey of Law Enforcement Agencies conducted by the U.S. Census Bureau (Reaves, 1993), there are 17,344 publicly funded state and local law enforcement agencies in the United States. Of these, 12,444 are classified as municipal police departments. The majority of these are quite small, with over 11,000 (over 90%) serving communities of fewer than 25,000 people, and nearly 12,000 (over 95%) serving communities of fewer than 50,000 people. These smaller municipal agencies employ a mean of 12 full-time sworn officers—half employ 5 or fewer officers. Although the remaining 529 agencies serving populations greater than 50,000 constitute only 4.2% of all municipal police agencies, they employ 58% of the sworn officers—a mean of 383 officers per department.[1]

While small police agencies exhibit less variation in formal organizational structure than larger agencies, there is still some structural variation among smaller agencies (Ostrom, Parks, and Whitaker, 1978b). However, larger agencies have more people, more resources, and more tasks. One method for improving coordination and control as organizations grow is to institute formal structures. The largest municipal police agencies in the country exhibit staggering variety in the way they are organized, both in terms of the complexity of their structural arrangements, and the modes of structural coordination and control that they employ. Some have 4–5 rank levels, whereas others have 10–12; some operate out of a single headquarters facility, whereas others have dozens of precinct houses; some are staffed by generalists who respond to nearly every conceivable situation, whereas others are staffed by specialists in dozens of areas, from missing children to traffic accident reconstruction; some are heavily decentralized administratively, with front-line supervisors empowered to make strategic decisions, whereas others are highly centralized, with decision making authority granted only to the chief or a few selected deputies; some have hundreds of forms, rigid rules, and written policies covering almost every imaginable contingency, whereas others rely on more informal mechanisms for maintaining order; some

employ large administrative staffs to keep the organization under control and running smoothly, whereas others maintain lean administrative units to focus their resources "on the streets." What factors explain this tremendous variation in the structure of large American municipal police agencies? That is the focus of this study—to empirically examine the determinants of formal organizational structure in large municipal police agencies.

To do so, I rely extensively on the large body of theory and research which has emerged in the sociology of organizations and structural organization theory over the last four decades. Several hundred studies have examined the factors which influence the structures of nearly every type of organization: manufacturing and service, professional and nonprofessional, public and private, profit and nonprofit, large and small. Police organizations, however, have received very little attention in these studies.

Only one scholar has imported the accumulated knowledge of structural organization theory into policing in a comprehensive fashion. Robert Langworthy examined for the first time the determinants of structure in large municipal police agencies (1983b). He followed the dissertation with several articles (Langworthy, 1983a; 1985a; 1985b), and a book (Langworthy, 1986). What research into the determinants of police organization structure that has been done since has been at least partly based on Langworthy's work.

Langworthy's work forged a new road in the study of the police. Langworthy argued persuasively that nearly all scholarly attention to police organizations as a unit of analysis was based on normative theories and prescriptions, leaving a large empirical gap of unexplored territory. His analysis was the first comparative empirical examination to treat the structure of police organizations as a dependent variable. Since his work appeared, a few empirical articles on the subject have been published, but, in general, the examination of police organizational structures has not progressed in an orderly fashion.

This study will update, expand, and improve upon the prior literature on police organization structures, making four contributions. First, the entire study process—from the development of a theoretical model, to variable selection, measurement issues, and methodology—will be more firmly rooted in the broad sociological literature on organizational structures. Second, the cross-sectional data set used for this analysis contains information from approximately 400 large municipal police agencies, far more than in prior studies. Third, because some of the data used in the analysis were collected specifically for this study, I will be able to measure some concepts (such as centralization of com-

mand) that have been unavailable in other data sets. Finally, the statistical analysis that will be used in this study will be more concise, cohesive, and powerful than prior analyses. Most studies have used bivariate correlations and other similar techniques to infer relationships among a dozen or more variables. This study tests a series of multivariate theoretical models using structural equation modeling techniques. With these four contributions, this study picks up where Langworthy and others left off.

The results of this study will be directly applicable to ongoing debates about how police organizations ought to be structured during the community policing era. Despite three decades of normative prescriptions urging police agencies to modify their structures, police administrators may not be entirely free to design their organizations as they see fit. Police organizations exist in certain contexts—they have different histories and traditions, they come in a variety of sizes, they approach the job of policing in different ways, and they are located in different environments. For decades, organizational theorists have studied the impact of these contextual features on how organizations are structured. Put simply, certain organizational forms may simply "go with" certain contexts. Langworthy (1986, p. 2) explored this possibility by examining the "extent to which the structure of police agencies is constrained by factors beyond managerial control, including city size, composition of the population, and agency size, or by more basic decisions, such as how the job of policing is to be done." This study will extend Langworthy's analysis by testing for the possibility that these and other social forces constrain the way that police organizations are structured. Although the primary goal of this study is to develop and test a theoretical model of formal structure in police organizations, the results of this exercise will have implications for policy, reform, and practice in policing.

Outline of the Work

Chapter 2 examines the definition of organizational structure, delineates the various components of structure, and reviews the different strategies for measuring structural variation. Organizational structures have two primary dimensions: complexity and control. Structural complexity is a cluster of attributes that gives the organization its shape. Vertical, functional, and spatial differentiation are the individual components of structural complexity. Structural control and coordination mechanisms are tools that an organization uses to control and coordinate its work and its

workers. Formalization, centralization, and administrative density are the individual components of structural control and coordination.

Chapter 3 discusses the "context" of organizational structure. The four broad components that comprise an organization's context are its size, age, technology, and environment. This chapter reviews the various conceptual and methodological issues in each of these four areas, and summarizes the research evidence on the effects of these factors on organizational structures.

Chapter 4 briefly reviews the specific literature on police organizational structure. Although the literature that explicitly examines police structures is quite small, certain empirical and theoretical works have implicitly touched on structural issues. I first discuss the frequent uncritical use of structural concepts and variables in prior theory and research on the police. I then try to extract from the policing literature any works or ideas that may be useful for developing and testing a theoretical model of police organizational structure.

Chapter 5 develops a new contextual theory of police organizational structure. This chapter briefly reviews the role of theory in prior studies of police structure, and then outlines a basic theory that assumes a causal order between context, complexity, and control in large municipal police organizations. Next, this chapter outlines the details of the contextual theory of police organizational structure by expanding the concepts of technology and environment as they pertain to police agencies. In all, this chapter outlines more than fifty hypotheses about the direct effects between individual elements of context, complexity, and control in large municipal police organizations.

Chapter 6 first describes the sample and the various data sources that will be used to test the theory developed in the prior chapter. Next, this chapter describes all of the variables used to measure the theoretical concepts. Finally, this chapter provides descriptive statistics for all of the variables in the model. Since there is a twenty year gap in our descriptive knowledge of how large police organizations are structured, the discussion of structural dimensions provided in this chapter represents the state-of-the-art.

Chapter 7 first describes in detail the methods used to test the theory outlined in chapter 5, and then reports the results. This chapter improves on prior tests that relied on simplistic measures of association by estimating a series of comprehensive multivariate models. Structural equation modeling techniques are used to simultaneously estimate the measurement and structural portions of each model. Following the results of the analysis, this chapter summarizes the evidence for and against a contextual theory of police organizational structure.

Chapter 8 summarizes the findings from the previous two analytical chapters, and then assesses the utility of these results in three areas: (1) implications for future theories of police organizational structure; (2) implications for future research on police organizations, including studies of police behavior that use organizational variables; and finally, (3) implications for policy and reform in large municipal agencies.