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Emergency Preparedness and Community Policing Within Campus Law Enforcement Agencies

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Dissertation Submitted in Partial Fulfillment

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Criminal Justice

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Abstract

Campus law enforcement agencies are an essential component of the campus community, and the greater criminal justice system. While policing research has focused on the activities and organizational structure of municipal police, much less attention has been given to campus agencies. This study builds on existing research by examining the activities and organizational structures of campus law enforcement agencies. The purpose of this quantitative nonexperimental study was to analyze the variation in emergency preparedness across campus law enforcement agencies using Meyer and Rowan's institutional theory. The research questions addressed the extent to which emergency preparedness was influenced by organizational structural, agency characteristics, wider campus characteristics, and community policing. Secondary data were collected from the 2011-2012 Bureau of Justice Statistics Survey of Campus Law Enforcement Agencies, the Office of Postsecondary Education, and the National Center for Education Statistics. Findings from multiple regression analyses indicated that agency organizational structure and agency characteristics are greater influences than campus characteristics on emergency preparedness activities than campus. Findings also showed that the number of community policing activities in which an agency engages is the greatest predictor of emergency preparedness activities in campus law enforcement agencies. The findings have implications for social change by suggesting the integration of emergency preparedness with community policing initiatives. Collectively, this will create a holistic approach by campus law enforcement agencies.

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Dedication

I dedicate this work to Matt Rohacs for his unwavering love and support.

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Chapter 1: Introduction to the Study

Introduction

Institutions of higher education are extremely concerned about the potential of threats to their safety and security. Media outlets frequently report acts of violence, protests, shootings, crime, and other incidents on college campuses. Historically, campus law enforcement has implemented significant changes in policy and practice in response to such incidents. In an era focused on emergency preparedness, both on and off campus law enforcement should consider the influence of organizational structure on these changes to emergency preparedness. Additionally, as policing experts hypothesize that the philosophy of community policing is inconsistent with emergency management (de Guzman, 2002), the relationship between these two initiatives within the campus police organization calls for examination.

I developed this quantitative study to gain a greater understanding of these police initiatives in the campus environment. Specifically, I considered the influence of organizational structural variables on the implementation of emergency preparedness. The use of structural variables allowed for comparison between campus law enforcement agencies and municipal law enforcement agencies. Additionally, the inclusion of community policing contributed my discussion of the role of community policing in emergency preparedness from the campus police perspective.

The results of this study have the potential for social change by providing a better understanding of the role of police organizations' structures in its involvement in campus emergency preparedness. Additionally, enhanced comprehension of the community

policing emergency preparedness relationship can lead to integrated policies and procedures, which can produce a more holistic and community oriented approach to campus policing.

This chapter provides the introduction to the study and the background to the problem of understanding the level of emergency preparedness implemented by campus law enforcement agencies. The chapter then provides the purpose of the study, along with the research questions, and the nature of the study. Finally, the chapter addresses the study assumptions and potential limitations, along with the implications of the study. The chapter concludes with the significance and summary of the study.

Background of the Problem

The behavior of police organizations is complex (Langworthy, 1986; Maguire & Uchida, 2000; Maguire, 1997). Previous literature has shown that researchers have examined the role of emergency preparedness in campus environments in relation to national guidelines (Connolly, 2016), targeted areas such as gang activity (Shaw & Meaney, 2015) and active shooters (Fox & Savage, 2009), as well as risk management and threat assessment (Deisinger & Scalora, 2016), yet campus police studies have not examined emergency preparedness as it relates to the organizational structure. Additionally, while limited research has considered community policing within campus law enforcement (Hancock, 2016), no researchers have examined the relationship between emergency preparedness and community policing within the campus police organization. Thus, there is a gap in the literature. Therefore, empirical research is needed

to understand the influence of organizational factors and community policing on the level of emergency preparedness within campus law enforcement agencies.

Problem Statement

Campus law enforcement agencies are an essential part of the overall campus community and the greater criminal justice system. However, it is not clear whether campus law enforcement agencies should follow the organizational structure and practices of municipal agencies. Due to the changing nature of college and university campuses with respect to violence, mass shootings, and other emergencies, campus police agencies have adopted a variety of emergency preparedness strategies. While municipal police agencies are frequently researched, campus law enforcement has received comparatively less attention (Bromley, 1995; Paoline & Sloan, 2003; Wilson & Wilson, 2015). Previous research has highlighted the importance of studying campus police from an organizational perspective and in relation to community policing (Paoline & Sloan, 2003, 2013). One problem is that, although researchers have devoted efforts to studying institutional theory, municipal law enforcement, homeland security, and community policing, there is a dearth of research on the organizational influences on emergency preparedness in campus law enforcement agencies. There is also a void in the research on the relationship of community policing in campus law enforcement, particularly in its relationship to emergency preparedness. This void creates a lack of understanding of what drives the development of emergency preparedness in campus law enforcement agencies. By showing the predictors of community policing, structural variables, crime, campus characteristics, and agency characteristics, the findings provided a comparison to

municipal policing studies that identifies the implementation of emergency preparedness within the theoretical framework of institutional theory.

Purpose of the Study

The purpose of this study was to analyze the variation in emergency preparedness across campus law enforcement agencies and to examine the extent to which organizational structure, community policing, campus characteristics, and campus crime rates influenced the level of emergency preparedness within campus law enforcement agencies. The independent variables were community policing and organizational variables such as functional differentiation, occupational differentiation, vertical differentiation, and formalization. The control variables of the study were composed of a variety of agency and campus characteristics. Agency characteristics were represented by the following control variables: agency size, task scope, and professional association affiliation. Campus characteristics were represented by the following variables: public/private control, enrollment, region, urbanization, and campus crime.

Research Questions and Hypotheses

The research questions and hypotheses for the study were as follows:

RQ1: What is the relationship between emergency preparedness and the organizational structure of campus law enforcement agencies?

$H_0$1: There is no relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

H_A1: There is a relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

RQ2: What is the relationship between emergency preparedness and community policing in campus law enforcement agencies?

$H_0$2: There is no relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

H_A2: There is a relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

Theoretical Framework

DiMaggio and Powell's (1983) institutional theory served as the theoretical framework for this study. Institutional theory focuses on similarities between organizations within their institutional environment. Previous researchers have applied DiMaggio and Powell's work to a variety of areas of law enforcement such as gang units, community policing, and homeland security preparedness. While researchers have frequently used this theory when examining municipal and state law agencies, this study provided me the opportunity to research the similarities between campus and municipal law enforcement. The theory provides details on how organizations will alter their structures to assimilate to organizations within their institutional environment. In subsequent research, Crank and Langworthy (1992) further applied this framework to the law enforcement institutional environment.

Nature of the Study

Rationale

The nature of this study was quantitative. Quantitative research is consistent with the use of secondary survey data from which structural, organizational, crime, and

demographic variables are derived. My focus on structural and agency characteristics was consistent with Langworthy's (1986) and Maguire's (1997) research on organizational structures of law enforcement agencies and with subsequent research on institutional theory in both municipal and campus law enforcement (Hancock, 2016; Maguire, 1997; Maguire & Uchida, 2000; Paoline & Sloan, 2003). I completed data analyses using ordinary least squares multiple regression models.

Key Variables

The study was composed of one dependent variable, five independent variables, and sixteen control variables. The dependent variable represented the level of emergency preparedness in the law enforcement agencies. The independent variables represented the adoption and level of community policing, as well as four organizational variables: functional differentiation, occupational differentiation, vertical differentiation, and formalization. The study's control variables represented agency and campus characteristics. Agency characteristic variables were agency size, task scope, and professional association affiliation. Campus characteristic variables were composed of public/private control, enrollment, region, urbanization, and campus crime.

Methodology

The data for the study came from two government sources, the Bureau of Justice Statistics (BJS) and the U.S. Department of Education (DOE). The BJS periodically administers the Survey of Campus Law Enforcement Agencies (SCLEA) to colleges and universities in the United States. I used the most recent survey conducted during the 2011-2012 school year. Agency data were matched to institutional data available from

the DOE. I also used two DOE datasets from the National Center for Education Statistics (NCES) and the Office of Postsecondary Education (OPE). Data from the NCES included campus location and enrollment from 2010. Crime data available from the OPE included on-campus crime reported to campus law enforcement for 2010.

Definition of Terms

I have used the following terms and definitions throughout the study:

Campus law enforcement: Campus law enforcement refers to police agencies operating on the campus of a college or university. These agencies contained sworn, armed officers responsible for patrolling the campus 24 hours a day, 7 days a week.

Municipal law enforcement: Municipal law enforcement agencies are responsible for protecting and serving the local community. These police departments are controlled and funded by the local government. Their jurisdiction and authority are limited to the local municipality.

Emergency preparedness: Emergency preparedness refers to actions, activities, and provisions an agency employs in efforts to respond to an emergency situation. Emergencies could be natural disasters or human-made incidents. Emergency preparedness included items such as mass notification, specialized trainings, agreements with other agencies, as well as technological specifications (U.S. Department of Justice [DOJ], 2015).

Community policing: Community policing is a philosophical approach to law enforcement focusing on police-community partnerships, proactive practices, and a problem-solving perspective (Office of Community Oriented Policing Services, 2014).

Proper implementation of community policing requires an organizational transformation focusing on a decentralized organization, fewer specialized units, and the integration of community centered training and decision-making (Office of Community Oriented Policing Services, 2014).

Functional differentiation: Functional differentiation represents the level of specialization, or the division of tasks within a department (Langworthy, 1986; Maguire, 1997). Functional differentiation is one variable that can be used to explain structural complexity within an organization (Maguire, 1997).

Occupational differentiation: Occupational differentiation is a measure of civilianization of an organization (Langworthy, 1986; Maguire, 1997). Civilianization represented the percentage of employees who are non-sworn, or civilians (Maguire, 1997).

Vertical differentiation: The vertical differentiation of a department represented the height of the organization. This variable utilized salary data to assess the distance between the chief officer and the patrol officers (Langworthy, 1986; Maguire, 1997). As with functional differentiation, vertical differentiation also measured the complexity of an organization (Maguire, 1997).

Formalization: Formalization represents the number of formal written policies used by a campus law enforcement agency (Langworthy, 1986; Maguire, 1997)**.** Formalization is one mechanism by which the structural control of an agency can be measured (Maguire, 1997).

Assumptions

I operated under several assumptions in this research. First, using secondary data, I was not responsible for the selection of survey participants and relied on the assumption that the respondents were knowledgeable of the characteristics and operations of their respective institutions and agencies. Additionally, I assumed that the survey respondents answered accurately and without bias.

Scope and Delimitations

The scope of this quantitative study included the 2011-2012 school year. The collection of agency data occurred in 2014, with questions referencing the 2011-2012 school year. I also used campus and crime data from the 2010 calendar year. The lag between the campus and crime data to the agency data allowed for any agency changes that may have been the result of events from the previous year.

Delimitations of a study provide the boundaries of its scope (Creswell, 2014). The delimitations of this study included restricting the data to law enforcement agencies serving campuses of 5,000 or more students based on the survey distribution by the BJS. Additional delimitations included only agencies containing sworn, armed officers responsible for patrolling the campus 24 hours a day, 7 days a week to allow for comparison to municipal police agencies. Due to data collection restrictions, the study also excluded agencies that served only military, for-profit, or primarily online institutions. The scope and delimitations of the study were appropriate based on prior police studies comparing municipal and campus law enforcement. The outcomes were

generalizable to law enforcement agencies serving public and private college and universities in the United States.

Limitations

A primary concern with a nonexperimental design is its inability to establish causality; it can only establish the presence of relationships (Salkind, 2010). Comparatively, an experimental design establishes causality. Determining causality requires three components: empirical association, temporal ordering, and non-spuriousness (Shadish, Cook, & Campbell, 2002). Empirical association requires a demonstration that variables are related. This can be accomplished through bivariate tests or more complex models. This study had the ability to establish empirical association. Temporal ordering requires that the independent variable occur prior to the change in the dependent variable (Shadish et al., 2002). With nonexperimental designs, particularly cross-sectional studies and survey methods, temporal ordering is difficult, if not impossible, to establish (Salkind, 2010). Therefore, this study did not have the ability to establish temporal ordering. Last of all, causality requires that the relationship must be non-spurious, or lack any other variable that could explain the outcome (Shadish et al., 2002). The use of cross-sectional designs makes outcomes prone to confounding, which results in spurious relationships. Confounding occurs when the effects of multiple variables are indistinguishable from one another (Salkind, 2010).

Additionally, nonexperimental designs are vulnerable to threats to external and internal validity. External validity requires that the study be generalizable to other populations (Creswell, 2014). The outcomes of this study are generalizable to only to

campus law enforcement agencies. Internal validity threats to be considered in nonexperimental designs are self-selection, assignment bias, history, and maturation (Salkind, 2010). I discuss these threats in greater detail in Chapter 3.

Significance

This research helps to fill a gap researchers' understanding of campus law enforcement agencies by focusing on campus law enforcement from a theoretical perspective, rather than a descriptive perspective. This research project was unique because I focused on emergency preparedness within campus law enforcement agencies from a variety of potential influences. The results of this study contribute to the discussion of how the needs of the campus community are being, or should be, met by campus law enforcement. By addressing campus emergency preparedness from a community policing and structural policing perspective, these findings contribute to the body of campus policing knowledge.

Summary

In this chapter, I introduced the study along with the background of the problem and the problem statement. Second, I explained the purpose of the study along with the research questions and hypotheses. Additionally, I introduced the study's theoretical framework, institutional theory, and explained the nature and terms of the study, including its assumptions, scope, and limitations. The chapter concludes with the significance and summary of the study.

In the following chapter, I outline the theoretical framework of institutional theory and review the literature regarding its application to emergency preparedness in police

agencies. Chapter 3 provides the methodology of the study, outlining the rationale of implementing quantitative research methods, along with a discussion of data sources and potential threats and limitations of the study. In Chapter 4, I report the results of the study, and in Chapter 5 I identify the conclusions drawn from study outcomes and subsequently provide recommendations for policy and future research.

Chapter 2: Literature Review

Introduction

The purpose of this study was to examine the relationship between campus law enforcement agencies' emergency preparedness, structure, and implementation of community policing. Emergency preparedness has become a priority on college and university campuses as a response to various high-profile threats including massacres, active shooters, bomb threats, and campus riots. In a review of the literature, I found that campus law enforcement has evolved as a response to campus crime, campus unrest, and emergency situations (Peak, 1987; Powell, 1981; Powell, Pander, & Nielsen, 1994). While the needs and community of the college environment differ from that of the general population, campus law enforcement has been modeled on the structure and function of municipal law enforcement (Powell et al., 1994). Institutional theory provides the lens by which these similarities can be studied.

I the literature review, I found no research concerning the relationship between emergency preparedness and organization structure or community policing within campus law enforcement agencies. While limited research is available on this relationship in municipal law enforcement agencies, it has primarily focused on homeland security and terrorism preparedness. This study intends to fill this gap in the literature.

This chapter begins with an explanation of my literature search strategy. Second, I discuss institutional theory as the theoretical framework for this study to consider the homogenization of similar organizations. Next, I present the history and development of campus policing is presented before moving to a discussion of the current literature on

campus police, municipal police, emergency preparedness, and community policing. The chapter concludes with a summary and conclusion of the major themes.

Literature Search Strategy

I used Walden University Library's Thoreau search engine and Google Scholar to identify pertinent literature for this study. Using Walden University Library, I accessed the following databases: EBSCOhost, ProQuest, ERIC, and SAGE Journals. Search terms included the following: *institutional theory*, *organizational theory*, *campus law enforcement*, *campus policing*, *emergency preparedness*, *homeland security*, *terrorism preparedness*, *emergency management*, *community-oriented policing*, and *community policing*. Additionally, I consulted books providing historical contexts and foundational applications of theory. Since researchers rarely apply institutional theory to campus law enforcement agencies, I collected literature concerning institutional theory, emergency preparedness, and community policing within municipal law enforcement agencies.

Theoretical Foundation

Researchers' use of various frameworks of organizational theory is an accepted approach to understanding the behavior of criminal justice agencies. Organizational theories help to examine how organizations develop, grow, and flourish. These theories also allow for the identification of factors that drive change and mold organizational structure. Since police agencies are non-profit, service-style organizations that are not measured in traditional forms of output and profit, they are a difficult type of organization to theorize and explain. This vagueness is further complicated by the stakeholders' and society's uncertainty about what they truly want from police agencies, rendering

impossible the measurement of police effectiveness or performance. One of the key theories employed to explain police organizations is institutional theory. Institutional theory is an organizational theory that attempts to explain why organizations are alike (Donaldson, 1995).

Researchers use institutional theory to study organizations in their institutional environment, recognizing the power and influence the environment has over the organization (Donaldson, 1995). Institutional theory is not a rational theory based on contingencies or resources; rather, it emphasizes that organizations become similar in efforts to obtain legitimacy and ensure their survival (Donaldson, 1995). Meyer and Rowan (1977) were among the first to discuss institutionalization of organizations, asserting that institutional theory looks at the interaction of the organization with its environment from numerous of viewpoints such as political pressures, social influences, and economic demands. Meyer and Rowan posit that organizations are forced to accept or assimilate to the pressures placed on them by the environment to survive.

Sovereigns

Meyer and Rowan (1977) described institutionalization as a social process, focusing on the interactions between the organization and its environment. This institutional environment is composed of those that have power over the organization in the form of resources, social pressure, or political influence (Meyer & Rowan, 1977). Crank and Langworthy (1992) described those with influence and power as *sovereigns*. Sovereigns are entities such as other like organizations, governing bodies, politicians, community organizations, or the media. Over time, myths develop out of the accepted

norms and expectations of the organizational field (Crank & Langworthy, 1992). As the organization interacts with its environment, institutional rules are developed that become part of the organization's formal structure. This structure is not based on the performance or goals of the organization; rather, the structure and activities of the organization are created and maintained to reflect the values and myths of the institutional environment (Meyer & Rowan, 1977). An organization has been institutionalized when it adapts to the organizations in its shared environment that have like issues, concerns, and purposes (Meyer & Rowan, 1977). Organizations do not set out to be similar, often they are established with a vision to be unique and innovative; however, in responding to problems, uncertainty, and a need for survival, they will assimilate (DiMaggio & Powell, 1983).

Myths

Institutional theory considers the external pressures that these environments place on organizations, as well as how organizations must adapt to assuage the pressures, to obtain legitimacy, and to ensure survival (Meyer & Rowan, 1977). Meyer and Rowan (1977) explained institutional theory in terms of institutionalized rules, or myths. These myths come in the form of activities, programs, or services, and are subsequently assumed by organizations which give rise to their organizational structure. As more myths are institutionalized, the organizational structures become more elaborate, and the organizational environment becomes more formal. Meyer and Rowan stated that assimilating to the social and political pressure drives the organization, rather than meeting the actual needs of the work activities. However, Meyer and Rowan were clear

that institutionalized rules are not the result of social networks, but rather an influence on the actual structure of the organization. It is the formal structure of the organization that is influenced by the institutionalized rules, not necessarily by the daily activities (Meyer & Rowan, 1977).

Isomorphism

Institutional theory posits that organizations will become homogenous to like organizations to appear legitimate and ensure their survival. The assimilation to environmental influences is called isomorphism (Meyer & Rowan, 1977). Isomorphism occurs when the organization adopts the rules and structures of like organizations to obtain legitimacy (Meyer & Rowan, 1977). An excellent example of isomorphism is an organization's assumption of the accepted organizational language, such as organizational charts and verbiage used in official communication such as mission statements, goals, policies, and procedures (Meyer & Rowan, 1977, p. 349). Proper use of terminology illustrates a structure reflective of institutionalized rules and provides legitimacy to the endeavors of the organization. The isomorphic assimilation to the institutionalized rules perpetuates the myths of formal structure (Meyer & Rowan, 1977).

DiMaggio and Powell (1983) later expanded on the isomorphic, or homogenization process, by explaining that this progress occurs through three typical mechanisms: coercive, mimetic, and normative (DiMaggio & Powell, 1983, p. 153). The coercive form of isomorphism identifies with the political environment and its pressure on the organization. Just as Meyer and Rowan (1977) stated that facets of organizations obtain legitimacy through laws and social prestige, DiMaggio and Powell (1983) posited

that organizations achieve coercive isomorphism through conforming to the regulations, structures, and demands of the government. They provided examples of coercive isomorphism occurring when the governing body enforces regulations on organizations to maintain specific policies and procedures (DiMaggio & Powell, 1983). For example, some agencies require that members maintain their standing or legitimacy in the field with accreditations or perhaps homeland security trainings for law enforcement agencies. These methods of validation may have nothing to do with the daily activities of the organization, yet to be viewed as relevant and contemporary, compliance is expected (DiMaggio & Powell, 1983).

DiMaggio and Powell's (1983) second form of isomorphism, mimetic isomorphism, occurs when the organization experiences uncertainty within itself, usually due to vagueness or lack of clarity in its organizational goals. DiMaggio and Powell described this mimetic process as organizations copying other like organizations that they consider to be legitimate, a description supported by Meyer and Rowan (1977). Mimetic isomorphism is exhibited in police organizations when smaller local departments take on the structure and activities of larger municipal, state, or federal agencies to meet the standard set by the established and easily recognizable institutions (DiMaggio & Powell, 1983). Often mimetic isomorphic changes are merely symbolic and lack proper implementation (Crank & Langworthy, 1992). Such changes can be seen with the adoption of community-based policing in agencies that do not require it or with the improper implementation of such policies (Crank, 1994).

The final isomorphic process identified by DiMaggio and Powell (1983) is the normative mechanism. The normative process focuses on attaining professionalism, primarily through educational and professional associations (DiMaggio & Powell, 1983). Normative isomorphism is evident in agencies requiring particular levels of education, specific certifications, or organizational memberships such as the International Association of Chiefs of Police (IACP). By adopting the norms or standards of established organizations, new organizations satisfy the social influences of institutional theory (Meyer & Rowan, 1977).

However, institutionalization has downsides. Meyer and Rowan (1977) highlight that organizations frequently become homogenized and adopt institutionalized rules or symbols that have little to no positive effect on the performance or outcomes of the organization, other than ensuring their legitimacy and ability to survive (Meyer & Rowan, 1977). In many cases, the institutionalization can conflict with the primary goals and efficiency of the organization, or with other institutionalized rules to create inconsistencies (Meyer & Rowan, 1977). Also, as organizations and institutions become isomorphic in their endeavor to attain legitimacy, other attributes are lost. Crank (1994) noted that adherence to institutionalized rules can result in organizational losses such as efficiency, power, and meeting individual goals.

Institutional theory provides a framework for understanding why organizations are structurally similar, regardless of their field. Institutions appear to maintain similar formal structures of missions, goals, values, and department and management hierarchies.

Similarities become even more apparent when compared to those that are of the same profession or provide similar services.

Literature Review

Campus law enforcement agencies hold numerous similarities to municipal law enforcement. To understand the current state of campus law enforcement, one must consider its beginnings and progression. Campus law enforcement was established in the United States more recently than traditional law enforcement. Modern policing in the United States began in the mid-1800s with the establishment of formal police departments in large urban locations such as New York, Chicago, Boston, and Philadelphia (Rennison & Dodge, 2018), whereas campus police were not established until 1894 (Powell, 1981). Despite the decades between their inception, campus law enforcement has evolved in the usual means of policing creation, organization, development, and specialization in reaction to events of the day. Although the function of campus police departments has evolved from merely response to calls for service to now also focusing on community needs, campus demands, and government legislation, many of the foundational elements of campus safety and security can be traced directly to various functions of municipal law enforcement. Due to the similarities between municipal and campus police, institutional theory provides a sound theoretical lens to compare and contrast the evolution and innovations of such organizations.

History of Campus Law Enforcement

The first recorded campus police department formed in the late 1800s at Yale University in response to violent conflicts between students and the surrounding

communities (Bromley, 2013). Prior to Yale's formation of a campus police department, campus criminal issues were handled by the local law enforcement, and the school administration handled student problems. Colleges and universities utilized faculty and students to patrol the properties for basic security needs such as property security and monitoring student behaviors (Powell et al., 1994). In the 1920s, many institutions utilized security officers to respond to curfew violations and alcohol use during Prohibition and to conduct maintenance and fire watches. The approach to campus policing was a "watchman" style (Powell et al., 1994).

For the majority of the twentieth century, the use of police at institutions of higher learning continued to grow; however, their main purpose remained protection of both people and property (Bromley, 2013). In the 1950s, educational institutions experienced growth in enrollment when soldiers returned from war and took advantage of the GI Bill. Universities and colleges began to formulate organized security in law-enforcement agencies on their campuses overseen by the physical plant of maintenance departments. Several campus police organizations formed began to train and hire more qualified individuals (Powell et al., 1994).

In the 1960s and 1970s, the United States was experiencing social unrest resulting from the civil rights movement and anti-war protests. These disturbances were increasingly present on college campuses and were expressed through peace and violence. In response, college administrators pushed for professional campus law enforcement, which in turn found support in the state legislatures (Bromley, 2013). This period also saw an increase in student use of illegal drugs, particularly marijuana (Powell

et al., 1994). By the late 1960's, campus police departments had taken a more professional role, beginning to answer to the college administration and take on a more administrative role. They sought to be more organized and professional to handle better the frequent social unrest on campus (Powell et al., 1994).

In 1970, President Nixon organized the President's Commission on Campus Unrest in response to student dissent. In the first six months of 1970, U.S. universities and colleges witnessed numerous protests in response to the Vietnam War and the civil rights movement. This turmoil culminated in the fatal shooting of four students at Kent State University and two students at Jackson State University. Because of an investigation, the commission recognized that campus law enforcement is the "ultimate internal resource for preventing and coping with campus disorder" (President's Commission on Campus Unrest, 1970, p. 131). The commission identified that since university and college campuses vary significantly in their composition and needs, campus law enforcement agencies are not identical and that no one model of policing to all (President's Commission on Campus Unrest, 1970, p. 132). However, the commission proceeded to recommend that campus security forces operate as municipal police departments, prepared to respond to campus disorder in a fully-trained, professional manner (President's Commission on Campus Unrest, 1970).

During this time, security departments began instituting educational requirements and selecting officers based not only on their experience but on their fit for the campus community. Powell and colleagues (1994) argued that campus policing was capable of adopting policies and procedures of industrial and traditional law-enforcement, yet the

campus law enforcement style was unique as each college campus was; therefore, security policies and procedures would likewise need to be tailored to the specific campus. Powell and colleagues also believed that training of campus law-enforcement should be conducted in-house and specialized for the unique situations encountered in campus policing. They felt that the separation from traditional law enforcement protected campus law-enforcement from adopting traditional law-enforcement philosophies (Powell et al., 1994).

In the 1980s campus law enforcement began to take on the practices and organizational structure of municipal police departments. It also mirrored them in education, training, hiring, technology, and equipment (Bromley, 2013). The major crime concerns on campus during this period were related to the high use of alcohol and drugs, mainly cocaine and crack, which led to an increase of criminal activities, particularly theft, to support drug habits (Powell et al., 1994).

In the 1990s, the United States saw a drastic increase in the number of colleges, as well as the number of college students. Enrolling more than 50,000 students per year, several institutions began to rival small cities in size (Bromley & Reaves, 1998). With the growth of the student population came the increase of crime on campus and an increase in campus communities' expectations of campus law enforcement. These years of change were also influenced by legislative mandates regarding crime reporting and campus security policies (Bromley, 2013). Congress passed the *Student Right to Know and Campus Security Act of 1990*, requiring colleges and universities to collect and publish crime statistics to provide awareness to students about the criminal activities on campus

(Gregory & Janosik, 2013). This mandate was in response to the rape and murder of Jeanne Clery. In 1998, the act was changed to the *Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act* in her memory. It is commonly referred to as the *Clery Act* (Kiss, 2013). Peak, Barthe, and Garcia (2008) found that campus agencies utilize on average two employees, either sworn or non-sworn, depending on the agency, to maintain statistics. Surveys also indicate that campus agencies spend between one and ten hours a month filling out requests for crime information. This time does not consider what is required to train employees on reporting regulations (Peak et al., 2008).

Entering the current millennium brought new challenges for police and college campuses. The events of September 11, 2001 altered law enforcement drastically. Suddenly, concern for international terrorism was at the forefront. Until this point, campus law enforcement had a moderate concern regarding domestic terrorists, but along with local, state, and federal agencies, campus police now shifted their focus to international terrorism (Bromley, 2013). Subsequent high-profile shootings and mass murders on American college and university campuses have influenced campus law enforcement emergency response, as well as training, policy, and procedure (Elsass, Schildkraut, & Stafford, 2014).

Campus Police and Municipal Police Comparisons

Institutional theory has been applied in the comparison of campus police agencies to municipal agencies. Paoline and Sloan (2003) reviewed campus policing from the organizational perspective, finding that campus law enforcement agencies to mirror the organizational structure of their municipal counterparts. Although the majority of campus

law enforcement agencies did not come into existence until the latter half of the twentieth century, Paoline and Sloan found that agencies had primarily adopted the traditional structures of municipal police agencies even though those models had been based on reforms that preceded the advent of campus policing (Kelling & Moore, 1988; Paoline & Sloan, 2003). This adoption exemplifies Meyer & Rowan (1977) and DiMaggio and Powell's (1983) isomorphism, asserting that much of campus law enforcement had developed structures through the need to assimilate and obtain legitimacy (Paoline & Sloan, 2003).

Previous scholarship has focused on differential functions and influences of campus and municipal law enforcement. For example, Bromley (2003) identifies that while the likelihood of violent crime on college campuses is relatively small, when it does occur, the effects of it are immeasurable. As colleges continue to grow, so will their law enforcement agencies. Building on previous research likening campus law enforcement agencies to municipal law enforcement agencies, Bromley and Reaves (1998) compared the data of the 1993 Law Enforcement Management and Administrative Statistics (LEMAS) survey to the 1995 SCLEA. Findings indicated that there were several operational parallels between campus law enforcement and municipal law enforcement, particularly in the areas of investigations, equipment, as well as policies and procedures (Bromley & Reaves, 1998).

Sloan (1992) also concluded that numerous parallels existed between campus law enforcement and public police. These included similarities in department titles, symbols of authority, education, training, use of discretion, and community relations. Peak

conducted campus studies in 1986 and 2006. However, his studies focused solely on campus law enforcement, with no comparison to municipal law enforcement. These studies also utilized different data than the SCLEA. Peak (1987) stated campus crime rates were half the national average, with the majority of crimes being property offenses. He also found that higher-ranking personnel conducted the specialized responsibilities such as criminal investigations, crime prevention, and parking (Peak, 1987).

Peak et al., (2008) provided a replication showing how campus policing had changed over two decades. The research concluded that the make-up of college campuses in the areas of enrollment and number of faculty/staff had not varied. It did find that there had been a push toward a professional status by implementing agency titles such as *police department*, rather than *security*. This change was also evident with agencies moving toward law-enforcement-style duties, such as arrests, patrols, and investigations. Change was further illustrated in the crime statistics. In 1986, issuing parking violations was the highest ranked activity performed by campus law enforcement, whereas in 2006, investigation was the highest. The research also indicated an increase of campus law enforcement jurisdiction, to include larger areas outside the campus boundaries (Peak et al., 2008).

Paoline and Sloan (2003) utilized institutional theory to compare municipal campus law enforcement agencies. They identified that based on comparisons of the 1993 LEMAS data and 1995 SCLEA, campus law enforcement was continuing in its trend of copying municipal law enforcement agencies, in respect to organizational structure. And further research indicated that just as public police agencies, campus law enforcement

adopted community-oriented policing philosophies and strategies, just as public police agencies had (Hancock, 2016).

In terms of organizational structure, campus police have assumed similar paramilitary hierarchical structures, and operational and functional structures (Paoline & Sloan, 2003; Peak, 1987). Campus and municipal law enforcement share similar hiring, training, and education requirements, and utilize like technology and equipment (Bromley, 2013). Also, the two types of agencies often operate with similar policies and procedures (Bromley & Reaves, 1998). Despite the similarities, studies show that campus law police continue to be marginalized externally, and experience role uncertainty internally (Patten, Alward, Thomas, & Wada, 2016).

Campus Police and Emergency Preparedness

Emergency preparedness has increasingly become a priority in U.S. colleges and universities over the past two decades. Prior to the terrorist attacks of September 11, 2001, campus police and administrators placed moderate emphasis on domestic terrorism and even less on international terrorism (Bromley, 2013). Agencies across the country, including campus law enforcement, commenced trainings and structures developed by the Department of Homeland Security (DHS) and the National Incident Management System (NIMS). As of 2006, NIMS protocols had been instituted by 77% of campus police departments (Peak et al., 2008). Along with adopting national standards, campus law enforcement agencies were also taking advantage of available federal funding to prepare for terrorist events and campus emergencies through the implementation of policies, procedures, and training (Peak et al., 2008).

In 2007, awareness of emergencies and crises in U.S. colleges and universities was further influenced by the mass murder that occurred at the Virginia Polytechnic Institute and State University (Virginia Tech), and refocused campus safety on campus crises. After this event, many areas of campus law enforcement and preparedness changed through legislative actions and campus community expectations (Bromley, 2013). The *Clery Act*, which mandates campus crime reporting, was amended in 2008 to place requirements on institutions of higher learning to develop and publicize mass emergency notification systems and evacuation procedures (Bromley, 2013; Burke & Sloan, 2013). Compliance with the *Clery Act* often ties to institutional funding, with fines issued for failing to comply; however, actual compliance and enforcement is often low (Lipka, 2009). The Virginia Tech tragedy also influenced campus law enforcement to prioritize emergency preparedness through policies, trainings, and equipment (Bromley, 2013). In 2013, the Violence Against Women Reauthorization Act (VAWA) amended the *Clery Act* to broaden crime reporting by colleges and universities, by also requiring campus police to establish memorandums of understanding (MOUs) with local police for criminal investigations (U.S. Department of Education [DOE], 2014). The adoption of crime reporting and implementation of MOUs through government mandate is an example of coercive isomorphism.

Emphasis on critical incidents and emergency preparedness is also evident in the standards supplied by the Commission on Accreditation for Law Enforcement Agencies (CALEA). The CALEA is the "gold standard in public safety" providing accreditation to campus security entities (CALEA, 2010). This push for industry standards through

professional associations is indicative of the normative isomorphic process of institutional theory.

While college campuses are relatively safe, security and safety are often brought to the forefront in the aftermath of high-profile incidents (Elsass et al., 2014). Schafer, Heiple, Giblin, and Burruss (2010) focused on campus law enforcement changes in emergency preparedness since the Virginia Tech incident, finding that many campuses do encounter emergency events; however, these events are more commonly weather-related or accidental and not criminal incidents. Additionally, these types of incidents were reported more frequently by campus law enforcement than local law enforcement, perhaps as a result of accident and weather crises not falling under the response of municipal law enforcement as they did for campus police (Schafer et al., 2010). Of the emergency preparedness measures that had been taken, the most frequent were mass communications systems, specialized training, and threat assessment (Schafer et al., 2010). Despite the demand and focus on campus emergency preparedness, studies show campus law enforcement agencies reporting a low likelihood of emergency event occurring (Giblin, Burruss, & Schafer, 2008).

The Emergency Preparedness and Community Policing Relationship

Researchers suggest that policing in the United States has moved from Community Policing Era into the Homeland Security Era, a shift in focus to crime control and terrorism prevention (Oliver, 2006). And others have hypothesized that policing efforts to promote national security are at odds with community policing from an organizational perspective. Waxman (2009) proposes that the decentralized structure of

community-oriented policing is prohibitive to nationwide efforts to prevent terrorism. However, other studies indicate that community policing is not entirely separated from the homeland security philosophy. In a content analysis of police practitioner publications, Marks and Sun (2007) found that community policing was being implemented as a means by which police agencies could interact with the community in efforts to prevent terrorism and educate citizens.

Empirical studies have also considered the connection between emergency preparedness and community policing. Lee (2010) found an unexpected relationship between community policing and homeland security. In a study of 147 agencies, the study considered the influence of community policing practices, jurisdiction size, and organization policing styles on municipal law enforcement agencies level implementation of homeland security preparedness. The outcomes demonstrated that as community policing programs increased, so did homeland security planning (Lee, 2010). However, the population size of the agency's jurisdiction was not a predictor of preparedness. These findings were supported by Randol's (2012) research which studied the relationship between community policing and the level of terrorism response preparedness in local police departments. In a sample of 450 agencies, the level of community policing was found to be a significant and positive predictor of terrorism preparedness (Randol, 2012).

However, not all research has supported the preparedness community policing relationship. Roberts, Roberts, and Liedka (2012) studied the implementation of terrorism preparedness in municipal law enforcement agencies using several preparedness

elements: terrorism special unit, dedicated assignment of personnel, terrorism-related outreach, computerized intelligence files, and interagency-shared radio frequencies. Using a sample of 374 agencies serving jurisdictions of 100,000 or greater populations, the results found no significant relationship between community policing and any of the five terrorism preparedness variables (Roberts et al., 2012). The lack of agreement amongst these study supports the need for further research on the relationship between emergency preparedness and community policing.

Summary and Conclusion

Throughout the literature, institutional theory has been applied to explain the behavior of law enforcement organizations. Specifically, the theory has been instrumental in identifying the motivation for municipal police agencies adoption of community policing initiatives, and more recently, implementation of emergency preparedness procedures in the form of homeland security and terrorism preparedness. However, little is known about the implementation of such innovations in campus law enforcement agencies. Additionally, while the relationship between emergency preparedness and community policing has been recently considered in municipal policing, it has yet to be considered within campus law enforcement. This study helps to fill a gap in the current literature and research by extending the knowledge of emergency management and community polity to campus law enforcement.

In this chapter, I provided the search strategy employed in the development of the study's literature review. The theoretical framework described the basis for the study through the use of institutional theory. Additionally, the I have provided relevant

literature and previous research on campus police, municipal police, emergency preparedness, and community policing. In the following, I chapter will provide the methodology for the study, along with the research design and rationale. In chapter 3, I will also include a restatement of the study purpose and support for the research questions through a detailed explanation and operationalization of the study variables. I will also discuss selected data sources and appropriate data analysis strategies.

Chapter 3: Research Method

Introduction

The purpose of this quantitative study was to analyze the variation in emergency preparedness across campus law enforcement agencies, and to examine the extent to which organizational structural, community policing, agency characteristics, campus characteristics, and campus crime rates influenced the level of emergency preparedness within campus law enforcement agencies.

This chapter provides an overview of the research methods I used for the study and my rationale for employing quantitative methods. The research questions are presented along with the data sources and sample. The chapter identifies the study variables along with explanations of how they were created from the available datasets, along with their expected outcomes based on prior literature. Finally, I discuss limitations such as potential threats to validity and ethical considerations.

Research Design and Rationale

Research Design

In this study, I sought to understand the relationship between the level of emergency preparedness in campus law enforcement agencies and a variety of organizational and campus influences. The nature of this study was quantitative. Quantitative research is consistent with the use of secondary survey data that produces structural, organizational, criminal, and demographic variables. I employed a nonexperimental, or correlational, cross-sectional research design. Nonexperimental designs often involve use of an entire sample, rather than splitting the sample into

separate treatment and control groups, and lack manipulation of the independent variable (Shadish et al., 2002). Cross-sectional studies involve data gathered at a singular point in time (Shadish et al., 2002). Therefore, this study fit the criteria of nonexperimental cross-sectional research design, as I used secondary survey data from one time point in which participants were not randomly selected or assigned, nor was there a treatment applied.

Additionally, in the problem and purpose statements for the study, I discussed analyzing the data to identify the influences of organizational variables. I did not seek to determine the causality of variation, only the factors that influenced the variation of the dependent variable, emergency preparedness. The research questions reflected this intent by inquiring about the relationship between the independent and dependent variables. Based on the study intent as explained in the problem and purpose statements, combined with the selected secondary survey data, I determined that a quantitative nonexperimental research design employing a cross-sectional survey method was an appropriate choice for the study.

Data

I used secondary data from the BJS, the OPE, and the NCES. These datasets are available for public download and use. The campus law enforcement agency data were from the 2011-2012 BJS SCLEA. The Inter-University Consortium for Political and Social Research distributes this data. The dataset was accessible by the public and required no special permissions. Since 1995, the BJS has periodically distributed surveys to campus law enforcement agencies in the United States. The third wave of surveys was distributed to capture data from the 2011-2012 school year. Law enforcement agencies

serving 4-year universities and colleges of 2,500 or more students and 2-year colleges of 10,000 or more students received the SCLEA. Excluded from the survey were military, for-profit, and primarily online institutions (DOJ, 2015). The survey is similar to the LEMAS survey. The SCLEA questions respondents about agency characteristics such as the number of sworn and non-sworn agency employees, officer demographics, department education and training requirements, hiring procedures, agency policies and procedures, technology, and equipment (DOJ, 2015).

I acquired campus crime data from the OPE. This dataset was readily available from the U.S. DOE Campus Safety and Security website, and no permissions were necessary. The data were collected annually from colleges and universities under the mandatory Clery Act reporting. I matched the crime data reported for 2010 to their respective institutions. Campus characteristics, such as controls and location, were obtained from the NCES for 2010 and subsequently were matched to the college and universities in the sample. These data were available to the public on the NCES website and required no special permissions for public use.

Population

The target population of this study was law enforcement agencies on colleges and universities campuses in the United States. According to the BJS, during the 2010-2011 school year, there were 905 institutions of higher education with an enrollment of 2,500 or more students operating in the United States (DOJ, 2015).

Sample

The BJS collected the 2011-2012 SCLEA in 2014. Of the 861 eligible agencies, 776 (90%) responded (DOJ, 2015). The two original versions of the survey were a long-version (64 questions), and a short-version (32 questions). Of the 537 agencies on campuses of 5,000+ students that received the long form, 85% (456) completed the long form. Of the 324 agencies serving campuses of 2,500 to 4,999 students that received the short form, 89% (289) completed the form. Agencies that initially received the long form and did not respond later received the short form. Those who did not respond to the long or short form received a third, 23-item critical questionnaire. A fourth and final basic information survey was distributed to agencies that did not respond to any previous survey requests. Of the 861 eligible agencies, 456 (58%) completed the long form; 320 (41%) completed the short form; 22 (3%) completed the critical questionnaire, and 63 (8%) completed the basic information (DOJ, 2015). In the fall of 2011, more than 9.7 million students were enrolled in one of the United States' 905 four-year universities and colleges of 2,500 or more students (Reaves, 2015). Of these 905 campuses, 95% (861) operated their own law enforcement agencies (Reaves, 2015). Based on previous literature on campus police, agencies of interest were those that are similar to local law enforcement agencies; as a result, only agencies containing sworn, armed officers responsible for patrolling the campus 24 hours a day, 7 days a week were selected (Hancock, 2016; Paoline & Sloan, 2003). Included in the long form were questions pertaining to emergency preparedness, community policing, organizational structure, and

policies/procedures. Therefore, I only selected agencies that completed the long form for the current study. As a result, 382 agencies were eligible for inclusion.

The 382 agencies were matched to the 2010 reported crime data from the U.S. DOE Clery Report (DOE, n.d. a). These reports included violent crimes such as murder, negligent manslaughter aggravated assault, and robbery (DOE, n.d. a). Property crimes reported by campus officials included arson, motor vehicle theft, and burglary (DOE, n.d. a). Campus location information was obtained and matched from the NCES. 2010 NCES information included student enrollment, campus controls, and urbanization measures (DOE, n.d. b).

Sample size. An a priori power analysis for linear regression based on the assumptions of a medium effect size ($f2 = 0.15$), an alpha of 0.05, and a power of 0.80 for 20 predictors revealed that the sufficient sample size was 157 participants (Faul, Erdfelder, Buchner, & Lang, 2009). With the available sample size of 382 agencies, this requirement will be sufficiently met.

Variables

The 2011- 2012 SCLEA contained a total of 434 variables including officer totals, demographics, hiring, training, salaries, and policies. Variables were chosen for the current study based on previous organizational, police, and campus police literature (Hancock, 2016; Langworthy, 1986; Maguire, 1997; Paoline & Sloan, 2003).

This study had one dependent variable, which I outline in the following subsection.

Emergency preparedness. Measuring the degree of emergency preparedness is difficult because law enforcement agencies lack standardized emergency preparedness measures. Researchers have used additive indices based on surveys assessing the presence of community policing (Giblin, 2006; Hancock, 2016; Maguire & Mastrofski, 2000). These researchers reviewed the number of community policing activities and policies implemented by the agencies and created an additive index, which assigned a score to the agency indicating the strength or extent to which agencies adopted community policing. Borrowing from the community policing literature, I applied this method to emergency preparedness activities and policies in campus law enforcement agencies.

To assess the degree to which agencies adopt emergency preparedness, I created an emergency preparedness continuous variable in the form of an index. Utilizing the SCLEA survey, 38 questions pertaining to emergency preparedness activities, training, and notifications were selected to assess the presence and degree of emergency preparedness adopted by the campus police agency. See Table 1 for a list of survey items included in the index. For each question, the agency responded yes or no if the activity or practice was used in the agency. The questions with a yes response were totaled to represent the agency's level of emergency preparedness (0-38). The higher the agency scored on the emergency preparedness index, the greater its degree of emergency preparedness.

Table 1

Emergency Preparedness Activities

Activities	Activities
Preparedness activities:	Memorandums of understanding:
Use technology for inter-agency information sharing	State law enforcement
Conduct intelligence-led policing	Sheriff's Office/Department
Conduct joint-patrols with local law enforcement	Local law enforcement
Disseminate information for citizen preparedness	Other campus law enforcement
Formal intelligence-sharing with other LE agencies	Other campus (non-LE) agency
Meetings with campus administrators/staff	State or local courts
Plan for emergency evacuation	Other agencies
Plan for school shooting	
Radio system interoperable w/local first responders	Mass notification:
	Cell phone calling
Active shooter training:	Siren
Mock exercise or scenario	Outdoor public-address speakers
Virtual reality	Radio announcements
Workshop or seminar	Text message alerts
Other active shooter training	Email alerts
	Voicemail alerts
Mass notification enrollment:	TV announcements
First-year students	CCTV monitor announcements
On-campus students	LCD billboard announcements
Off-campus students	College/university website
Staff	Voice-over fire alarms
Faculty/administration	Other notification

I identified four independent variables, which I describe in the following subsections.

Functional differentiation. Functional differentiation represents agency specialization (Langworthy, 1986; Maguire, 1997; Paoline & Sloan, 2003). The survey included 24 items inquiring about separated full-time units operating within the agency. These are units such as crime prevention, public education, or investigations. I created a continuous variable in the form of an index, 0-24. The higher the agency rated on the index, the greater the number of specialized units that existed within their department. According to prior research, increased functional differentiation is positively associated with terrorism preparedness in law enforcement agencies (Burruss, Giblin, & Schafer, 2010; Randol, 2012). Therefore, agencies with higher numbers of specialized units were expected to report greater levels of emergency preparedness.

Occupational differentiation. Occupational differentiation represents the percentage of non-sworn agency employees or the percentage of civilianization (Langworthy, 1986; Maguire, 1997; Paoline & Sloan, 2003). Civilianization represents the percentage of agency employees who are civilians (Maguire, 1997). This continuous variable was created by subtracting the number of non-sworn employees from the total number of employees, dividing by the total number of employees and multiplying it by 100 to produce a percentage. The greater the occupational differentiation, the greater the percentage of civilianization in the department. Based on some previous research, I found that greater occupational differentiation is associated with increased innovation and homeland security preparedness activities (Burruss et al., 2010; Damanpour, 1996). Yet

other researchers have disagreed, finding no relationship between terrorism preparedness and occupational differentiation (Randol, 2012). Therefore, the relationship campus law enforcement agencies demonstrate between occupational differentiation and emergency preparedness was unclear.

Vertical differentiation. Vertical differentiation refers to the height of the organization. This continuous variable represented the distance between the chief and the patrol officers, based on salary (Langworthy, 1986; Maguire, 1997; Paoline & Sloan, 2003). Entry-level patrol officer salary from the compensation information available from the survey was subtracted from the chief salary, and then divided by the entry-level officer salary. Higher vertical differentiation ratios represented taller organizations. Randol (2012) also assessed this relationship to terror preparedness; however, the study utilized a variable labeled hierarchical differentiation which was created in the same manner of vertical differentiation. Randol (2012) found no association between the organization's height and its level of terror preparedness. Therefore, there was no expected relationship between vertical differentiation and emergency preparedness.

Formalization. Formalization was a continuous variable composed of the number of formal written policies within an organization (Langworthy, 1986; Maguire, 1997). The SCLEA questions inquired about nineteen written policies and procedures utilized by the agencies, from which the researcher created an index. Questions regarding community policing and emergency preparedness were excluded from this index. Questions were asked in a yes/no format. The number of yes responses were totaled to create an additive index (0-19). The higher an agency ranked on the formalization index,

the greater the number of formal policies they had in place. Randol (2012) found that formalization presented a significant inverse relationship with terrorism preparedness. Therefore, agencies with fewer formal policies and procedures were expected to employ higher levels of emergency preparedness.

Community policing. Following the SCLE community policing measures used in Hancock's (2016) study of community policing adoption in campus law enforcement agencies, the researcher created an index based on survey response to assess the adoption and degree of implementation of community policing. If the agencies responded that they had not "incorporated community policing elements into campus security policy" they were assigned a community policing score of 0. Twenty-seven yes or no survey items were selected to represent the implementation of community policing. The higher the agency scored on the index (0-27), the greater their degree of community policing adoption. Studies have disagreed on the effect of community policing on terrorism or homeland security preparedness. Some researchers have found no association (Roberts et al., 2012), whereas Lee (2010) and Randol (2012) found a positive relationship. Therefore, the expected relationship between community policing and emergency preparedness by campus law enforcement agencies was unknown.

Table 2

Community Policing Activities

Agency activities:	Regular meetings for critical issues:
Encourage SARA projects for officers	Advocacy groups
Conduct on-campus citizen police academy	Business groups
Conduct ride-along program	Campus Administrators/Officials
Maintain written community policing plan	Domestic violence groups
Officers responsible for geographic area	Faculty/staff organizations
Problem solving projects included in eval.	Fraternity/sorority groups
Upgraded technology to support analysis	Local public groups
Partner with citizen groups	Neighborhood associations
Conduct environmental analysis (CPTED)	Other law enforcement agencies
	Religious groups
Training provided:	Sexual violence prevention groups
CP training for new sworn officers	Student government association
CP training for new non-sworn officers	Student housing groups
CP training for in-service sworn officers	Student organizations
CP training for in-service non-sworn officers	

Control variables.

Agency characteristics.

Agency size. Agency size has a demonstrated effect on organizational structure and activities, though often in varying directions and strengths. Previous campus law enforcement research has utilized the total number of agency employees to represent organizational size (Hancock, 2016; Paoline & Sloan, 2003). Agency size was a continuous variable represented as the total number of employees, including full-time and part-time and sworn and non-sworn employees, within the law enforcement agency. Randol (2012) found that the size of the agency jurisdiction was a predictor of terrorism preparedness. Therefore, agencies with larger agency size were expected to report greater levels of emergency preparedness.

Professional association. Organizational membership in professional accrediting associations has previously demonstrated an effect on the structure of the organization and the likelihood of their adopting police practices. Two associations for campus law enforcement are the Commission on Accreditation for Law Enforcement Agencies, Inc. (CALEA) and the International Association of Campus Law Enforcement Administrators (IACELA). The SCLEA questioned agencies accreditation through either or both associations. An association dummy variable was created. Agencies that responded yes to either, or both, were given a score of "1."

Task scope. Task scope represents the regular duties or responsibilities of the agency (Maguire, 1997; Paoline & Sloan, 2003). The researcher created a task scope index based on a list of 30 possible tasks such as investigations, building access, patrol, and parking enforcement. The questions that received a yes response were totaled together to create a continuous variable in the form of an index (0-30). A higher task scope indicated a greater number of agency responsibilities. The findings of Randol (2012) indicated that there was no significant relationship between task scope and terrorism preparedness.

Campus characteristics.

Enrollment. Police organizational structure has been found to be relate to jurisdiction population (Langworthy, 1986; Maguire, 1997). Utilizing Fall 2010 enrollment data from the NCES, a categorical variable was created by the researcher. There were five categories to represent enrollment size: 5,000 to 9,999 students, 10,000 to 19,999 students, 20,000 to 29,999 students, 30,000 to 39,999 students, and over 40,000

students. The 5,000 to 9,999 enrollment category was selected as the reference group. Transforming the variable from a continuous variable to a categorical variable was necessary to avoid multicollinearity issues in the regression model. While Hancock (2016) found there to be no relationship between campus enrollment and community policing, previous college preparedness surveys found that large schools were more likely to have emergency procedures in place (Seo, Torabi, Sa, & Blair, 2012). Randol (2012) found that the population of the agency jurisdiction was a predictor of terrorism preparedness. Therefore, agencies serving campuses with larger enrollments were expected to report greater levels of emergency preparedness.

Public/Private. Since campus law enforcement agencies operate in an environment different from municipal police, the control of the institution by public or private entities may influence the structure and activities of the agency (Bromley, 2013; Hancock, 2016; Paoline & Sloan, 2003). Public institutions are supported through public funding and managed by elected or appointed officials, whereas private institutions are not subject to the same level of political influence their campus police agencies may experience less autonomy. The campus control was dummy coded as private institutions coded "0" and public institutions coded "1". Private institutions were the designated reference group.

Urbanization. The degree of urbanization of the area in which an agency is located has been shown to influence agency structure and responsibilities (Crank & Wells, 1991). The degree of urbanization also relates to the proportion of violent crime on a college campus. (Fox & Hellman, 1985; Sloan, 1994). Campus law enforcement

agencies may participate in emergency preparedness based on their perceived risk, which can be influenced by the physical location of the institution. Just as violent crime is related to location, campus law enforcement agencies operating in rural areas may interpret the necessity of emergency preparedness, whether the type or degree of, differently. Utilizing data from the NCES, location categories of rural, town, suburban, and city were assigned to each institution. The NCES urbanization variable included four main categories (City, Suburb, Town, and Rural) with three subcategories for each. These designations were based on the population of the area where the institution is located. The NCES assigns categories according to the U.S. Census Bureau's urban-centric codes. The NCES categories were collapsed by the researcher into the four primary categories: City, Suburb, Town, and Rural. Therefore, City represented locations within an urbanized area and principal city with a population of 100,000 or more. The Suburb category represented locations within an urbanized area, but outside of a principal city with a population of 100,000 or more. Locations within an urban cluster, but outside of an urbanized area were categorized as Town. Rural locations were defined as areas outside of either an urbanized area or urbanized cluster. City was selected as the reference category.

Region. Agency location by region (East, Midwest, South, and West) has exhibited influence on organizational structure (Hancock, 2016; Maguire, 1997; Paoline & Sloan, 2003). Campus region was first determined by the state where the institution is located. Then utilizing the four census regions designated by the U.S. Census Bureau, the researcher condensed the locations into four regions. The West region was be selected as

the reference category. Prior literature has suggested that law enforcement agencies in the West tend to be more innovative (Maguire, 1997). Seo and colleagues (2012) found that North East colleges were better prepared to deal with emergency situations. However, Randol (2012) utilized the West region as the region of interest based on the premise that police agencies in the West exhibit more innovative behaviors. Randol (2012) did not find a significant relationship between the regional location of the jurisdiction and agency level of preparedness. Therefore, it was uncertain how region will influence emergency preparedness.

Campus crime. The influence of on-campus crime on emergency preparedness measures was assessed using two crime rates created by the researcher: Violent Crime Index and Property Crime Index. The Violent Crime Index was the sum of on-campus murder, negligent manslaughter aggravated assault, and robbery reported to campus law enforcement, per 1,000 students. The Property Crime Index was the sum of arson, motor vehicle theft, and burglary reported to the campus law enforcement agency, per 1,000 students.

Analysis Plan

The data analysis was conducted utilizing the IBM Statistical Package for Social Sciences (SPSS) Version 25.0 and Stata Statistical Software: Release 14. This study employed two ordinary least squares (OLS) multiple regression models. OLS regression provides the linear relationship between the dependent and independent variable, indicating the change in the dependent variable based on a one-unit change in the independent variable (Field, 2013). The survey instrument used for the development of

variables and the selected variables allowed for OLS analysis of the data. OLS is utilized when assessing the relationship between a continuous dependent variable and continuous or dummy coded independent and control variables (Field, 2013). The research questions and hypotheses followed this analytic method. The research questions and hypotheses were as follows:

RQ1: What is the relationship between emergency preparedness and the organizational structure of campus law enforcement agencies?

$H_0$1: There is no relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

H_A1: There is a relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

RQ2: What is the relationship between emergency preparedness and community policing in campus law enforcement agencies?

$H_0$2: There is no relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

H_A2: There is a relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

Statistical Tests

First, descriptive statistics are provided in a table to summarize the data and demonstrate variability in the level of preparedness of emergency management across schools. These statistics also provide variability in the independent and control variables. Descriptive statistics include the mean, standard deviation, and range.

Next, bivariate statistics are provided in a table in the form of a Pearson's correlation to illustrate the relationship between the continuous dependent variable and the continuous independent variables. A Pearson's correlation provides a measure of association, providing the strength and direction of the relationship between two continuous variables (Field, 2013).

Finally, multivariable statistics are provided in a table illustrating the relationship between the dependent variable and the independent and control variables. The analyses included two regression models, one for each research question:

Regression Model 1:

Emergency Preparedness = Functional Differentiation + Occupational Differentiation + Vertical Differentiation + Formalization + Total Agency Employees + Task Scope + Agency Professional Association + Violent Crime Rate + Property Crime Rate + Public Control + 10,000-19,999 enrollment + 20,000-29,999 enrollment + 30,000-39,999 enrollment + 40,000+ enrollment + Town Urbanization + Suburb Urbanization + Rural Urbanization + East Region + Midwest Region + South Region

Regression Model 2:

Emergency Preparedness = Community Policing + Functional Differentiation + Occupational Differentiation + Vertical Differentiation + Formalization + Total Agency Employees + Task Scope + Agency Professional Association + Violent Crime Rate + Property Crime Rate + Public Control + 10,000-19,999 enrollment + 20,000-29,999 enrollment + 30,000-39,999 enrollment + 40,000+ enrollment +

Town Urbanization + Suburb Urbanization + Rural Urbanization + East Region + Midwest Region + South Region

The regression statistics are interpreted using the unstandardized regression coefficients, the standard error, the significance value, and the 95% confidence interval. The unstandardized coefficient, or beta (B), allows for predicting the dependent variable from the independent variable (Field, 2013). The standard error (SE) represents the deviation from the normal distribution, associated with the coefficient (Field, 2013). The significance value, or the *p*-value is compared to the alpha level to test the null hypothesis; the customary alpha threshold is .05 (Field, 2013). The 95% confidence interval (CI) provides the intervals for the coefficient, comparing the coefficient to the population mean (Field, 2013).

When conducting an OLS regression analysis, there are five assumptions that must be met: normality, homoscedasticity, independence of errors, no presence of multicollinearity. Normality assumes that the error terms are normally distributed. When the error terms are non-normal, it can result in inefficiency of the standard errors (Frankfort-Nachmias & Leon-Guerrero, 2018). The homoscedasticity assumption requires that the error variance is stable at all levels of the predictor variable (Field, 2013).

The assumption of linearity looks at the relationship between the DV and the continuous IVs and requires the relationship to be represented by a straight line, where the change in y, associated with a 1-unit change in x remains constant across all values of x (Field, 2013). If the relationships are not linear, the slopes will be downwardly biased,

and there will be inefficiency in the standard errors (Field, 2013). According to Allison (1999), independence of errors is the most critical assumption, yet the most difficult to prove. Independence of observations requires that there be no serial correlation or autocorrelation. When autocorrelation is present, there will be bias in the coefficients (Field, 2013).

The fifth assumption of OLS is a lack of multicollinearity. Multicollinearity occurs when two or more of the IVs are linearly related (Field, 2013). When IVs are highly correlated, it is difficult to determine which IV is producing the effect on the DV, resulting in IVs appearing to be nonsignificant, when indeed they are. Multicollinearity creates inflation of the standard errors and possible bias in the slopes (Field, 2013). The assumptions of OLS regression will be checked to ensure that they are met.

Limitations

Every research study conducted is complex and subject to a variety of limitations. These limitations typically fall into one of three categories: external validity, internal validity, and ethical considerations. If these three areas cannot be overcome, then the research will not be legitimate or applicable. The following explanations address how each of these areas applied to the study.

External Validity

Nonexperimental designs exhibit high external validity. External validity refers to the generalizability of the study. Generalizability is the ability to generalize or apply the findings to others (Shadish et al., 2002). This study allowed for generalizability to law enforcement agencies operating on college and university campuses of 5,000 or more

students. The findings of the study may have limited generalizability to those who serve smaller campuses. The results also provide limited generalizability to agencies who do not employ 24-hour, sworn, armed officers. This study also provides generalizability and comparison to local law enforcement agencies' organizational structure, connections which are the underlying intent of applying institutional theory.

Internal Validity

Internal validity is essential to establishing cause and effect relationships (Shadish et al., 2002). There are four threats to internal validity when employing nonexperimental designs: self-selection, assignment bias, history, and maturation (Salkind, 2010). Self-selection and assignment bias are potential threats in nonexperimental studies as the researcher does not control who is in the study group, or those who may choose not to participate in a study, particularly a survey (Salkind, 2010). While the self-selection to participate or not may be random, there may feasibly be systematic reasons that individuals choose to participate or abstain (Salkind, 2010). Campbell and Stanley (1963) explain that history and maturation occur when there are changes in the sample that influence the outcome. As the researcher had no control over the assignment of the sample or the independent variable, other factors or events could occur that unknowingly influence the outcomes of the study. The use of surveys can also introduce another limitation, dependent on the distribution method, such as mail or web-based surveys, to cause low response rates (Andres, 2012).

Ethical Procedures

As this study utilized secondary data compiled by various government entities, ethical considerations are limited. The data was obtained through government-operated unrestricted access portals. The use of these secondary data sources reduces ethical concerns for permissions, recruitment, and data collection. Consent was presumed by the agency's completion and submission of the surveys and data. The datasets included institutional identifiers but not any personal or confidential information. Finally, the data is reported in aggregate form. Therefore, no specific institution or law enforcement agency has been identified in the reported findings.

Summary

In this chapter, I provided the research methods and rationale for implementing a nonexperimental cross-sectional research design. I also detailed the research questions, the suggested variables to address these questions, and the analytic plan. Additionally, I identified the data sources, the study population, and the study sample. Finally, I addressed issues of validity and ethical concerns. In the following, I will address the results from the study.

Chapter 4: Results

Introduction

The purpose of this quantitative study was to contribute to the body of knowledge regarding campus law enforcement and institutional theory. I sought to examine the relationship between the level of emergency preparedness within campus law enforcement and the agencies' level of community policing and organizational structure. The research questions and hypotheses for the study were as follows:

RQ1: What is the relationship between emergency preparedness and the organizational structure of campus law enforcement agencies?

$H_0$1: There is no relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

H_A1: There is a relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

RQ2: What is the relationship between emergency preparedness and community policing in campus law enforcement agencies?

$H_0$2: There is no relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

H_A2: There is a relationship between emergency preparedness and the organizational structure of campus law enforcement agencies.

This chapter includes information about the secondary data I used in the study. This chapter will also provide the results of the study, including all levels of analysis:

univariate, bivariate, and multivariate. Additionally, I discuss assumptions of the multivariate model as well as the results of their corresponding postestimation tests.

Data Collection

Prior to collecting the study data, I obtained approval from the Walden University Institutional Review Board (IRB# 02-22-19-0976814). The data for the study were collected according to the plan outlined in Chapter 3. The agency data for this study came from the 2011-2012 school year and was collected through surveys by the BJS in 2014. The BJS administered a variety of surveys as described in Chapter 3 (e.g., four different lengths based on institution size and agency response). Only the long form included questions pertaining to emergency preparedness and community policing. This version of the survey was sent to agencies on 537 campuses of over 5,000 students, with a response rate of 85% (n = 456).

I imported the BJS data into SPSS. Based on the findings and recommendations from literature, I further restricted the sample to include only agencies that use sworn, armed officers. The agencies included also had to report that they conducted patrol 24 hours a day, 7 days a week. Therefore, the final sample only included agencies who patrolled campus 24 hours a day, 7 days a week with sworn, armed officers (n = 447).

I then matched the BJS survey data to 2010 campus data from the DOE and the NCES. Data from 2010 were selected to provide a year between campus characteristic and crime rates and the agency surveys, this provided lag during which agency changes may have been made in response to crime or other campus events. Using the institutions' ID numbers assigned by the Integrated Postsecondary Education Data System, I matched

the data from the three sources, the BJS, NCES, and the DOE, and imported the data into SPSS. Any agency without data from all three sources was removed from the sample (n = 6). Also, any agency without data for each variable in the model was removed (n = 152).

During the analyses, three cases containing influential values were removed. For the first research question (Model 1), the final sample size included 286 agencies, which was 53.3% of the overall population for agencies serving campuses of over 5,000. For the second research question (Model 2), any agency that did not report "incorporated community policing elements into campus security policy" was removed (n = 51). The final sample size for Model 2 was 233 agencies, which is 43.4% of the overall population.

Results

I analyzed the data using OLS regression. The analyses were completed in three stages. First, univariate statistics were run to obtain the descriptive statistics for all dependent, independent, and control variables. Second, correlations were run among all the variables to ensure that the test variables were correlated and to check for collinearity issues. Finally, OLS regression equations were estimated with the dependent variable, emergency preparedness, regressed against the independent and control variables. OLS regression requires that the dependent variable be continuous, and all the independent and control variables should be continuous or dummy coded categorical variables (Frankfort-Nachmias, & Leon-Guerrero, 2018). The variables I used in this study meet those requirements. The final step allows outcomes to be predicted from a linear model, which estimates the relationship between the variables.

Univariate Results

Tables 3 and 4 provide the univariate descriptive statistics for the variables in the study. For the dependent variable, emergency preparedness, the sample included 371 institutions. Agency-reported levels of emergency preparedness fell between 11 and 33 on the index, with a mean value of 22.81 and a standard deviation of 3.83. For the independent structural variables, responding agencies fell between 0 and 20 on the functional differentiation index, with a mean of 2.58 and a standard deviation of 3.88. For occupational differentiation, agencies varied 2.15 to 100, with a mean of 50.95 and a standard deviation of 19.33. Agency vertical differentiation ranged from 0.10 to 4.48, with a mean of 1.48 and a standard deviation of 0.66. Formalization reported by agencies ranged from 0 to 19, with a mean of 16.32 and a standard deviation of 3.50. Based on the second research question, an additional independent variable, community-oriented policing (COP) was introduced into the model. Responding agencies that claimed to incorporate COP into their agency ranged from 4 to 26 activities on the COP index, with a mean of 16.65 and a standard deviation of 4.73.

I used three variables to control for agency characteristics: total agency employees, task scope, and association membership. Responding agencies average 67.54 employees (SD = 64.46, R = 8-643) and are responsible for an average 19.33 tasks (SD = 3.84, R = 9-30). Additionally, only 25.9% of agencies in the sample belong to IACLEA, CALEA or both. For the campus crime control variables, the campuses in the study reported low rates of violent crime (M = 0.22, SD = 0.27) and property crime rate (M = 1.72, SD = 1.66).

Table 3

Continuous Descriptive Statistics

Variable	Mean	*SD*	Range
Emergency preparedness index	22.95	3.743	12-31
Community policing index	16.55	4.728	5-26
Functional differentiation	2.61	3.724	0-18
Occupational differentiation	51.80	18.315	5-100
Vertical differentiation	1.49	0.669	0.1-4.48
Formalization	16.44	3.321	0-19
Total agency employees	65.77	61.488	8-643
Task scope	19.26	3.796	9-30
Violent crime rate [ab]	0.22	0.262	0-2.15
Property crime rate [ac]	1.71	1.640	0-13.07

Note. [a] Rate per 1,000 students. [b] Sum of 2010 Index Violent Crime rates. [c] Sum of 2010 Index Property Crime rates.

Considering control variables for campus characteristics, the agencies represented in the study serve primarily public institutions, as 88.5% were identified as public institutions. Of the enrollment categories, the majority (34.6%) of institutions had 5,000 – 9,999 students enrolled, of the responding agencies, 33.9% had 10,000-19,000 students enrolled on their campuses, 18.2% of institutions served 20,000-30,000 students, 9.1% of institutions had 30,000-39,000 students enrolled, and 4.2% of the agencies served campuses with 40,000 or more students. Regarding location, the majority (38.5%) of institutions were in the South, 24.1% of campuses were in the Midwest, 21.7% of the agencies were at schools in the East, and 15.7% were in schools in the West region. Campus location also demonstrated variety in respect to urbanization. The majority 55.2%) of responding agencies were located on campuses in city locations. While 18.9%

of campuses were in suburban locations, 22.0% were campuses in town areas, and 3.8% of institution locations were classified as rural areas.

Table 4

Categorical Descriptive Statistics

Variable	*n*	%
Agency professional association [a]		
No	212	74.1
Yes	74	25.9
Public control [b]		
Private	33	11.5
Public	253	88.5
Enrollment [c]		
5,000-9,999 students	99	34.6
10,000-19,999 students	97	33.9
20,000-29,999 students	52	18.2
30,000-39,999 students	26	9.1
40,000+ students	12	4.2
Urbanization [d]		
City	158	55.2
Suburb	45	18.9
Town	63	22.0
Rural	11	3.8
Region [e]		
East	62	21.7
Midwest	69	24.1
South	110	38.5
West	45	15.7

Note. [a] Dummy variable; affiliation coded "1" and no affiliation coded "0". [b] Dummy variable; public institution coded "1" and private institution coded "0". [c] Enrollment consists of 4 dummy variables, 5,000-9,999 is the reference category. [d] Urbanization consists of 3 dummy variables; City is the reference category. [e] Region consists of 3 dummy variables; West is the reference category.

Bivariate Results

Table 5 represents the bivariate statistics for Model 1. Correlations were formed to assess the strength and direction of the relationships between the dependent and independent variables. The independent variables functional differentiation ($r = .225$, $p < .001$) and formalization ($r = .348$, $p < .001$) presented significant and positive relationships with the dependent variable, emergency preparedness. However, the other two independent variables, occupational differentiation and vertical differentiation, did not present a significant relationship with emergency preparedness. This means that the height of the organization and the percentage of civilian employees are not correlated with emergency preparedness. Of the continuous control variables, total agency employees ($r = .150$, $p < .01$) and task scope ($r = .151$, $p < .01$) also presented significant positive relationships with emergency preparedness.

Table 6 represents the bivariate statistics for Model 2. Model 2 introduced community policing as predictor of emergency preparedness. Community policing ($r = .326$, $p < .001$) was also found to be significantly and positively related to emergency preparedness. It also presented a significant relationship with each of the other four structural independent variables, functional differentiation ($r = .231$, $p < .001$), occupational differentiation ($r = -.122$, $p < .05$), vertical differentiation ($r = .149$, $p < .05$), and formalization ($r = .317$, $p < .001$).

Moving from Model 1 to the inclusion of community policing in Model 2 removed 53 agencies from the sample. This altered the relationships between emergency preparedness and the other variables. Task scope and emergency preparedness no longer

demonstrated a significant relationship; however, the rest of the intercorrelations remained relatively stable. Whereas occupational and vertical differentiation were not significantly related to emergency preparedness, they did present a significant relationship with community policing.

Table 5

Model 1 Bivariate Correlations (*N* = 286)

Variable	1	2	3	4	5	6	7	8	9
1. Emergency management	1.000								
2. Functional differentiation	0.225***	1.000							
3. Occupational differentiation	0.005	-0.151**	1.000						
4. Vertical differentiation	0.012	0.195***	-0.008	1.000					
5. Formalization	0.348***	0.224***	-0.149**	0.126*	1.000				
6. Total agency employees	0.150**	0.404***	-0.422***	0.244***	0.208***	1.000			
7. Task scope	0.151**	-0.001	-0.127**	-0.044	0.131*	0.007	1.000		
8. Violent crime rate	0.022	0.084	-0.020	-0.025	0.027	0.099*	0.085	1.000	
9. Property crime rate	0.036	-0.067	0.018	0.003	0.032	0.003	0.132*	0.326***	1.000

Note. *** Correlation is significant at the 0.001 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 6

Model 2 Bivariate Correlations (*N* = 233)

Variable	1	2	3	4	5	6	7	8	9	10
1. Emergency management	1.000									
2. Community policing	0.326***	1.000								
3. Functional differentiation	0.249***	0.231***	1.000							
4. Occupational differentiation	0.080	-0.122**	-0.131**	1.000						
5. Vertical differentiation	-0.069	0.149**	0.088	0.061	1.000					
6. Formalization	0.277***	0.317***	0.198**	-0.12*	0.106	1.000				
7. Total agency employees	0.100	0.366***	0.388***	-0.411***	0.204**	0.180**	1.000			
8. Task scope	0.185**	0.183**	0.040	-0.171**	-0.023	0.165**	0.035	1.000		
9. Violent crime rate	-0.035	0.039	0.080	0.018	0.013	-0.027	0.131*	0.101	1.000	
10. Property crime rate	0.008	0.146**	-0.092	0.005	0.029	0.016	0.019	0.149*	0.299***	1.000

Note. *** Correlation is significant at the 0.001 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Multiple Linear Regression Results

Model 1. Since the outcomes at the bivariate level demonstrated that the variables were significant, the analyses could proceed to the multivariable level. I used OLS multiple regression to determine whether agency and campus factors had an impact on campus law enforcement emergency preparedness measures. The first regression model was designed to address the first research question: *What is the relationship between emergency preparedness and the organizational structure of campus law enforcement agencies?* The dependent variable, emergency preparedness, was regressed on 20 items total. The OLS results are presented in Table 7. Since the sample size was 286, there was sufficient power to proceed with the analysis. The regression model demonstrated an *F*-score (20, 265) = 3.839 that was statistically significant ($p = .000$), which indicated that the model explained a significant amount of variation in emergency preparedness; and the R^2 was .225, meaning 22.5% of the variance in the dependent variable, emergency preparedness, was being explained by the model. The R^2 provides a medium effect size of .29. The final model included 286 observations. A post-hoc power analysis showed that for 20 predictors, with observed $R^2 = .225$, an effect size of .29, $\alpha = .05$, and a sample size of 286, the observed statistical power in the analysis was 0.9999, an adequate level of observed power.

Of the four independent variables, three were significant. Functional differentiation exhibited a positive relationship with emergency preparedness, $b = 0.140$, $SE = 0.065$, $p < .05$, 95% CI [0.013, 0.268], as did occupational differentiation, $b = 0.033$, $SE = 0.013$, $p < .05$, 95% CI [0.007, 0.059], and formalization, $b = 0.309$, $SE =$

0.067, $p < .001$, 95% CI [0.178, 0.441]. This indicates that as each of these organizational variables increase within an agency, so does the level of emergency preparedness. However, the structural variable, vertical differentiation, was not a significant predictor of emergency preparedness. This is not surprising as vertical differentiation was not significantly related to either emergency preparedness or community policing. However, I included the variable based on prior research. Of the agency characteristics, both the total number of agency employees, $b = 0.010$, $SE = 0.005$, $p < .05$, 95% CI [0.000, 0.020] and task scope, $b = 0.170$, $SE = 0.060$, $p < .05$, 95% CI [0.053, 0.288] were positively and significantly related to emergency preparedness. Yet, association affiliation was not found to be a significant predictor of emergency preparedness. Additionally, neither of the two crime rates were significantly associated with emergency preparedness. Of the campus characteristic variables, only the campus control (public/private) variable was significant, finding that in comparison to private institutions, agencies serving public campuses reported greater levels of emergency preparedness, $b = 1.682$, $SE = 0.720$, $p < .05$, 95% CI [0.265, 3.100]. None of other campus demographic variables such as enrollment, urbanization, or regional location were significant predictors of agency emergency preparedness. These findings demonstrate that agency emergency preparedness is not influenced by the size, crime, or location of the institution.

Model 2. The second model addressed the second research question: *What is the relationship between emergency preparedness and community policing in campus law enforcement agencies?* The dependent variable, emergency preparedness was regressed

on 21 variables. As the sample size was 233, there was sufficient power to continue with the regression. The OLS results are also presented in Table 6. The regression model produced an *F*-score (21, 211) = 5.198 that was statistically significant ($p = .000$), which indicated that the model explained a significant amount of variation in emergency preparedness; and the R^2 is .341, meaning 34.1% of the variance in the dependent variable, emergency preparedness, was being explained by the model. The R^2 provides a large effect size of 0.52.

The inclusion of community policing increased the R^2 by 11.6% over Model 1, illustrating that community policing adds to the predictive accuracy of the model or a 11.6% increase in the explanation of variance in emergency preparedness. The effect size for community policing demonstrates that community policing alone accounts for 4.5% of the variance in the model. The final model included 233 observations. A post-hoc power analysis showed that for 21 predictors, with observed $R^2 = .341$, an effect size of .52, $\alpha = .05$, and a sample size of 233, the observed statistical power in the analysis was 1.00, an adequate level of observed power.

Community policing was a significant and positive predictor of emergency preparedness, $b = 0.206$, $SE = 0.053$, $p < .001$, 95% CI [0.102, 0.310]. This finding indicates that as the level of community policing increases within an agency, so does its level of emergency preparedness. Specifically, for each increase in community policing level, there is an expected .206 increase in level of emergency preparedness. Of the four structural variables, three exhibited significant relationships with emergency preparedness: functional differentiation, $b = 0.190$, $SE = 0.065$, $p < .01$, 95% CI [0.061,

0.319], occupational differentiation, b = 0.056, SE = 0.015, p < .001, 95% CI [0.028, 0.085], and formalization, b = 0.221, SE = 0.084, p < .01, 95% CI [0.056, 0.386]. The same three independent variables found in Model 1 were significant predictors in Model 2.

As with the previous model, of the agency characteristics, total number of agency employees and task scope were significantly related to emergency preparedness. However, while agency professional association was not significant, with the inclusion of community policing in the model, the variable was negatively and significantly related to the dependent variable, b = -1.421, SE = 0.537, p < .01, 95% CI [-2.479, -0.362]. This illustrates that in comparison to agencies that do not hold an affiliation with either IACLEA or CALEA, or both accrediting associations, agencies that do belong to an association participate in fewer emergency preparedness activities.

As with Model 1, neither violent or property campus crime rates were significantly related to emergency preparedness. Of the campus characteristic control variables, the campus control variable was significant, as was the South region. This finding illustrates that in comparison to private institutions, agencies serving public campuses participate in more emergency preparedness activities, b = 1.912, SE = 0.755, p < .05, 95% CI [0.423, 3.401]. Also, in comparison to agencies serving campuses in the West, agencies on campuses in the South to participate in fewer emergency preparedness activities, b = -1.409, SE = 0.701, p < .05, 95% CI [-2.791, -0.027].

Supplementary Models. Supplementary analyses were conducted to provide more efficient models. (See Appendix A). Variables that did were not significant in either

Model 1 or Model 2 which also exhibited p-values of .20 or higher in both models were removed. The following variables were removed: violent crime rate, property crime rate, the enrollment categories, and the urbanization categories, and then the models were then rerun. However, after removing non-significant variables, there was minimal change in either model. The only change was that one of the variables that had previously been significant was no longer significant. Agency affiliation had presented as significant in the original community policing model, but with the reduced model, it was no longer significant. The remainder of the variables coefficients and significance levels stayed relatively the same.

Table 7

	Model 1			Model 2		
Variable	*b*	*SE*	95% CI	*b*	*SE*	95% CI
Community policing	-	-	-	0.206***	0.053	[0.102, 0.310]
Functional differentiation	0.140*	0.065	[0.013, 0.268]	0.190**	0.065	[0.061, 0.319]
Occupational differentiation	0.033*	0.013	[0.007, 0.059]	0.056***	0.015	[0.028, 0.085]
Vertical differentiation	-0.237	0.341	[-0.909, 0.435]	-0.529	0.357	[-1.233, 0.175]
Formalization	0.309***	0.067	[0.178, 0.441]	0.221**	0.084	[0.056, 0.386]
Total agency employees	0.010*	0.005	[0.000, 0.020]	0.010*	0.005	[0.000, 0.020]
Task scope	0.170**	0.060	[0.053, 0.288]	0.184**	0.063	[0.060, 0.309]
Agency professional association	-0.613	0.521	[-1.639, 0.412]	-1.421**	0.537	[-2.479, -0.362]
Violent crime rate	-0.343	0.849	[-2.014, 1.328]	-1.263	0.945	[-3.126, 0.600]
Property crime rate	0.093	0.138	[-0.178, 0.365]	-0.010	0.140	[-0.286, 0.265]
Public control	1.682*	0.720	[0.265, 3.100]	1.912*	0.755	[0.423, 3.401]
Enrollment: 10,000-19,999 students	0.266	0.542	[-0.801, 1.332]	-0.252	0.562	[-1.360, 0.856]
Enrollment: 20,000-29,999 students	0.513	0.782	[-1.027, 2.054]	-0.461	0.790	[-2.018, 1.096]
Enrollment: 30,000-39,999 students	-0.307	1.040	[-2.354, 1.741]	-1.116	1.063	[-3.211, 0.979]
Enrollment: 40,000+ students	1.289	1.293	[-1.257, 3.836]	0.185	1.322	[-2.420, 2.790]
Urbanization: Town	0.200	0.576	[-0.934, 1.334]	-0.569	0.575	[-1.703, 0.564]
Urbanization: Suburb	0.270	0.569	[-0.851, 1.392]	0.268	0.611	[-0.937, 1.473]
Urbanization: Rural	0.492	1.104	[-1.682, 2.667]	0.029	1.230	[-2.396, 2.454]
Region: East	-1.047	0.837	[-2.694, 0.601]	-1.569	0.838	[-3.221, 0.083]
Region: Midwest	-0.349	0.732	[-1.790, 1.091]	-0.035	0.738	[-1.489, 1.419]
Region: South	-0.912	0.712	[-2.313, 0.489]	-1.409*	0.701	[-2.791, -0.027]
Constant	11.127***	1.863	[7.458, 14.796]	9.495***	2.061	[5.432, 13.559]
R-squared	0.225			0.341		

OLS Regression Results

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Regression Assumptions Results

As discussed in Chapter 3, OLS regression requires that five assumptions be met: normality, homoscedasticity, linearity, independence of errors, no presence of multicollinearity. To test the assumption of normality the researcher should utilize the residuals to create histograms, P-P plots, and a Shapiro-Wilk test. The histogram of the residuals should appear to be normally distributed (Frankfort-Nachmias & Leon-Guerrero, 2018). The P-P plot of the residuals should depict the dots generally following the diagonal line (Frankfort-Nachmias & Leon-Guerrero, 2018). Finally, in a Shapiro-Wilk test of the residuals, if the test is not significant, the residuals are normal (Field, 2013). The residual histograms and P-P Plots of both models illustrated that the residuals were normally distributed. Additionally, a Shapiro-Wilk test was conducted to determine if the residuals were significantly different from a normal distribution. The distribution did not significantly differ from normality for either Model 1 ($W = 0.994$, $p > .05$) or Model 2 ($W = .994$, $p > .05$). Therefore, based on the tests for normality, it can be concluded that the residuals are normally distributed.

Recalling that homoscedasticity requires that the residuals be uncorrelated with the independent variables, the assumption of homoscedasticity can be established through the Breusch-Pagan postestimation test. If the test is not significant, the residuals are homoscedastic (Field, 2013). A Breusch-Pagan test was employed to determine if the residuals were homoscedastic. The test was not positive for either model (Model 1 p=0.809; Model 2 p=0.326), indicating that the assumption was met.

The assumption of linearity can be assessed through a scatterplot. The scatterplot should demonstrate no pattern, yet have uniform scatter points, indicating that the regression line fits the data well. The researcher should be aware of any outliers that may be pulling on the line (Field, 2013). A visual inspection of each model's scatterplot confirmed that the assumption was met. The assumption of independence of errors can be assessed through knowledge of the data. As the survey was distributed to separate agencies serving individual campuses, there should be an independence of errors. Linearity is important to ensure that the model is producing accurate slope coefficients and standard errors (Field, 2013).

OLS requires that the independent variables not be multicollinear, or that the relationship between the two predictors not be too strong which can cause inflation of the variance and the standard error and a bias in the coefficients (Field, 2013). To identify the presence of multicollinearity, the researcher should look at the correlations and Variation Inflation Factors (VIF) of the variables. If independent variables exhibit correlations of 0.7 or higher, they may suggest high collinearity (Field, 2013). Based on the correlation matrix provided in Tables 4 and 5 the bivariate relationship between each of the factors was checked for collinearity. Model 1 Pearson's correlation ranged from 0.001 to 0.422 and Model 2 Pearson's correlation ranged from 0.005 to 0.411; therefore, no factors were highly correlated. Likewise, independent variables with VIFs greater than 10.0 should be considered highly collinear (Frankfort-Nachmias & Leon-Guerrero, 2018). Collinearity diagnostics were assessed to assure none of the factors were highly correlated. All VIFs were under 10.0 (Range = 1.3 to 2.8) which indicated that multicollinearity was not a

problem. However, the variable for enrollment was transformed into a categorical variable to overcome collinearity issues.

Summary

This chapter provided answers to the two research questions proposed in the current study. The first model considered the relationship between emergency preparedness and organizational variables to answer the research question: *What is the relationship between emergency preparedness and the organizational structure of campus law enforcement agencies?* The outcomes demonstrate that several organizational structural variables influence the level of emergency preparedness in campus law enforcement agencies, specifically their functional differentiation, occupational differentiation, and formalization. Community policing was introduced in Model 2, to address the second research question: *What is the relationship between emergency preparedness and community policing in campus law enforcement agencies?* The findings illustrated that the prior structural variables remained significant; however, community policing became the strongest predictor of emergency preparedness within campus law enforcement agencies.

Further, the study identified that agency size and task influence emergency preparedness, as well the public control of the institution. Agency association and regional location were only predictors in the community policing emergency preparedness relationship. In chapter 5, I will identify the conclusions drawn on the outcomes of the study and subsequently provide recommendations for policy and future research.

Chapter 5: Discussion

Introduction

The importance of both emergency preparedness and community policing on college and university campuses is well documented in prior research (Bromley, 2003; Giblin et al., 2008; Hancock, 2016; Paoline & Sloan, 2013; Schafer et al., 2010; Seo et al., 2012). Police literature has shown that emergency preparedness and community policing initiatives may be incompatible (Waxman, 2009). However, institutional theory allows for comparisons between like organizations such as municipal and campus law enforcement agencies. In this quantitative study, I used institutional theory to examine emergency preparedness in campus law enforcement agencies serving U.S. college campuses of 5,000 or more students for the 2011-2012 school year.

Given the lack of studies on emergency preparedness from an organizational structural perspective, the purpose of this quantitative study was to analyze the variation in emergency preparedness across campus law enforcement agencies and to examine the extent to which organizational structure, community policing, campus characteristics, and campus crime rates influence the level of emergency preparedness within campus law enforcement agencies. This study also accounted for a variety of campus characteristics frequently utilized in campus police research, campus controls (public/private and religious/secular) and campus location (regional and urbanization). Prior researchers studying campus law enforcement agencies have applied organizational variables to identify agency structures in comparison to municipal agencies, particularly in community policing. This study extends that research to include emergency preparedness

measures in campus law enforcement. The findings of the study demonstrated that some organizational variables such as functional differentiation, occupational differentiation, and formalization are positively related to emergency preparedness; however, community policing is the strongest predictor of emergency preparedness in campus law enforcement agencies.

Interpretation of the Findings

Emergency Preparedness and Organizational Structure

Prior studies have shown that law enforcement agencies with increased functional differentiation reported greater terrorism preparedness (Burruss et al., 2010; Randol, 2012). The results of this study support previous findings showing that campus law enforcement agencies with higher numbers of specialized units were positively associated with greater levels of emergency preparedness. Although previous researchers have noted inconsistent conclusions regarding the relationship between differentiation and preparedness, the results of this study support the findings of Burruss et al. (2010) and Damanpour (1996), which show that greater occupational differentiation, or civilianization of an agency, was positively associated with campus police agency emergency preparedness.

In this study, I also found campus law enforcement agencies did not present a relationship between emergency preparedness and the height of an agency, just as Randol (2012) found in his study of municipal agencies. Whereas Randol's (2012) study showed an inverse relationship between formalization and terrorism preparedness, this study

showed the opposite outcome. Campus law enforcement agencies with a larger number of formal policies participate in higher levels of emergency preparedness.

Similar to Randol's (2012) study, this study showed that the size of the agency was a predictor of preparedness, since larger agencies reported higher levels of emergency preparedness. While Randol (2012) did not find significant relationship between task scope and preparedness, I found that agencies who participate in a greater number of tasks also participate in greater levels of emergency preparedness. Although, previous studies have shown that enrollment size and population size were positive predictors of preparedness, I did not find campus enrollment to be significantly related to emergency preparedness. This difference may result from campus agencies approaching emergency preparedness based primarily on protection of the campus, regardless of its size.

Previous researchers have found mixed results regarding regional location and agency preparedness. The outcomes of this study were similarly mixed. The campus location was not a significant predictor of agency preparedness; however, with community policing introduced into the model, agencies in the South region were found to participate in few emergency preparedness measures, in comparison to campuses in the West. While this supports Maguire's (1997) assertion that law enforcement agencies in the West tend to be more innovative, the outcome is inconsistent with the findings of other studies (Randol, 2012).

The similarities in the findings of this study with those that employed data from municipal police agencies demonstrates that campus law enforcement agencies exhibit

many of the structural and agency characteristics of their municipal counterparts. Despite the fact that the needs, characteristics, crimes, and community of a campus vary greatly from those policed in the greater community, campus law enforcement as a whole has taken on the structure and activities of more traditional policing agencies as expected through applications of institutional theory.

Emergency Preparedness and Community Policing

As I discussed previously in Chapter 2, several researchers have attempted to address the question of compatibility between community policing and forms of emergency preparedness (Lee, 2010; Marks & Sun, 2007; Randol, 2012; Roberts et al., 2012). They have explored the relationship between community policing and terrorism preparedness or homeland security preparedness with inconsistent outcomes. When considering this relationship in the context of campus policing, I found that community policing was the strongest predictor of emergency preparedness. This finding indicates that indeed community policing and emergency preparedness initiatives are not at odds with one another, but instead are compatible processes.

Emergency Preparedness and Institutional Theory

In this study, I made comparisons between similar organizations, municipal law enforcement and campus law enforcement agencies. The similarities in the findings between campus law enforcement and municipal law enforcement illustrate that they share many of the same organizational structures. Additionally, institutional pressures, such as accrediting/professional associations, were found to be significant predictors of emergency preparedness in the model containing community policing. These findings

illustrate that some component of agency affiliation with association influences the agency's adoption of community policing/emergency preparedness initiatives.

Limitations of the Study

This study was limited in scope because I used secondary survey data. The fact that the emergency preparedness portion of the SCLEA survey was issued only to schools with enrollments over 5,000 students eliminated this study's generalizability and comparison to smaller campuses. This limitation may explain the lack of an enrollment effect in the current study, when other research has found that student enrollment matters (Seo et al., 2012). Additionally, since campus crime rates are based on crimes reported to campus officials, researchers have speculated that many crimes on campus are not reported to authorities (Sloan, Fisher, & Cullen, 1997). Comparing campus emergency preparedness to municipal emergency preparedness, terrorism preparedness, and/or homeland security preparedness may prove difficult since each of these agency types possess different responsibilities within their unique communities, just as each of these categories of preparedness comes with differing expectations and preparedness focuses.

Recommendations

Future research on campus law enforcement agencies should include variables used in municipal police research not available in this data set. Examining funding provided specifically for emergency preparedness initiatives would provide insight to agency dependency on resources. Additionally, utilizing qualitative studies to assess campus administration/chief perceptions of campus risk for critical incidents would allow researchers to identify if emergency preparedness stems from a real or perceived risk of

an incident, as well as a recent event or legislative/administrative mandate. As Stozer (2010) suggested, campus law enforcement agencies are influenced by the actions and trainings of local police departments. Exploring the campus agency relationship to or reliance on local police departments would assist in further identification of factors influencing campus law enforcement agencies' adoption of emergency preparedness, specifically in relation to the location of the campus. Finally, subsequent researchers should develop measures to better isolate the roles and functions of community policing and emergency preparedness from one another. As activities such as meetings with stakeholders, relationships with outside agencies, and community education tend to overlap in these two areas, they are also difficult to untangle in attempts to categorize as solely a community policing or an emergency preparedness activity.

Implications

This study provides greater insight into the involvement that campus police structure has in an institution's emergency preparedness. Additionally, this enhanced comprehension of the community policing emergency preparedness relationship suggests that agencies could integrate the two areas to produce policies and procedures which can serve both emergency preparedness and community policing functions. In turn, this integrated approach would create a more holistic and community perspective of campus policing.

Conclusion

This was the first quantitative study to examine the relationship between emergency preparedness and community policing from an organizational perspective.

These findings contribute to the scholarly understanding of campus law enforcement agencies, particularly the relationship between emergency preparedness activities and agency organizational structure. I found that emergency preparedness has been adopted by the majority of campus law enforcement agencies on the campuses of larger colleges and universities in the United States. The extent to which emergency preparedness has been instituted within agencies is influenced by the extent to which the agencies have adopted community policing strategies, as well as several other agency and campus characteristics. The study of emergency preparedness activities influenced by various organizational structures such as occupational differentiation and agency size highlights an area in which campus law enforcement continues to operate similarly to municipal law enforcement. This similarity illustrates principles of institutional theory; however, the key finding—community policing as the greatest predictor of emergency preparedness in campus law enforcement agencies—refutes the argument that emergency preparedness and community policing are incompatible policing priorities.

References

Allison, P. D. (1999). *Multiple regression: A primer.* Thousand Oaks, CA: Pine Forge Press.

Andres, L. (2012). *Designing & doing survey research.* London, England: SAGE Publications, Ltd. doi:10.4135/9781526402202

Bromley, M. L. (1995). Analyzing campus crime and police resources: Implications for policy-makers. *Criminal Justice Policy Review, 7*(2), 185-200. doi:10.1177/088740349500700204

Bromley, M. L. (2003). Comparing campus and municipal police community policing practices. *Journal of Security Administration, 26*(2), 37-50. Retrieved from Proquest Central Database.

Bromley, M. L. (2013). The evolution of campus policing: An update to "different models for different eras". In B. S. Fisher, & J. J. Sloan, III (Eds.), *Campus crime: Legal, social, and policy perspectives* (3rd ed., pp. 293-323). Springfield, IL: Charles C. Thomas Publisher, Ltd.

Bromley, M. L., & Reaves, B. A. (1998). Comparing campus and city police operational practices. *Journal of Security Administration, 21*(2), 41-54. Retrieved from Proquest Central Database

Burke, J. M., & Sloan, J. J. (2013). State-level Clery Act initiatives: Symbolic politics or substantive policy? In B. S. Fisher, & J. J. Sloan, III (Eds.), *Campus crime: Legal, social, and policy perspectives* (3rd ed., pp. 119-136). Springfield, IL: Charles C. Thomas Publisher, Ltd.

Burruss, G. W., Giblin, M. J., & Schafer, J. A. (2010). Threatened globally, acting locally: Modeling law enforcement homeland security practices. *Justice Quarterly, 27*(1), 77-101. doi:10.1080/07418820902763053

Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research.* Boston, MA: Houghton Mifflin Company.

Connolly, M. (2016). *Campus emergency preparedness: Meeting ICS and NIMS compliance.* Boca Raton, FL: CRC Press.

Crank, J. P. (1994). Watchman and community: Myth and institutionalization in policing. *Law and Society Review, 28*(2), 325-351. doi:10.2307/3054149

Crank, J. P., & Langworthy, R. (1992). An institutional perspective of policing. *Journal of Criminal Law and Criminology, 83*(2), 338-363. doi:10.2307/1143860

Crank, J. P., & Wells, L. E. (1991). The effects of size and urbanism on structure among Illinois police departments. *Justice Quarterly, 8*(2), 169-185. doi:10.1080/07418829100090981

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: SAGE Publications, Ltd.

Damanpour, F. (1996). Organizational complexity and innovation: Developing and testing multiple contingency models. *Management Science, 42*(5), 693-716. doi:10.1287/mnsc.42.5.693

de Guzman, M. (2002, September/October). The changing roles and strategies of the police in time of terror. *ACJS Today, 22*(3), 8-13. Retrieved from https://www.acjs.org/page/ACJSToday

Deisinger, E. R., & Scalora, M. (2016). Threat assessment and management in higher education in the United States: A review of the 10 years since the mass casualty incident at Virginia Tech. *Journal of Threat Assessment and Management, 3*(3-4), 186. doi 10.1037/tam0000074

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147-160. doi:10.2307/2095101

Donaldson, L. (1995). *American anti-management theories of organization: A critique of paradigm proliferation.* Cambridge, England: Cambridge University Press.

Elsass, J. H., Schildkraut, J., & Stafford, M. C. (2014). Breaking news of social problems: Examining media consumption and student beliefs about school shootings. *Criminology, Criminal Justice Law & Society, 15*(2), 31-42. Retrieved from https://ccjls.scholasticahq.com/

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods,* 1149-1160. doi:10.3758/BRM.41.4.1149

Field, A. (2013). *Discovering statistics using IBM SPSS Statistics* (4th ed.). Thousand Oaks, CA: SAGE Publications Inc.

Fox, J. A., & Hellman, D. A. (1985). Location and other correlates of campus crime. *Journal of Criminal Justice, 13*(5), 429-444. doi:10.1016/0047-2352(85)90043-1

Fox, J. A., & Savage, J. (2009). Mass murder goes to college: An examination of changes on college campuses following Virginia Tech. *American Behavioral Scientist,*

52(10), 1465-1485. doi:10.1177/0002764209332558

Frankfort-Nachmias, C., & Leon-Guerrero, A. (2018). *Social statistics for a diverse society.* (8th ed.). Thousand Oaks, CA: Sage Publications.

Giblin, M. J. (2006). Structural elaboration and institutional isomorphism: The case of crime analysis units. *Policing: An International Journal of Police Strategies & Management, 29*(4), 643-664. doi:10.1108/13639510610711583

Giblin, M. J., Burruss, G. W., & Schafer, J. A. (2008). *Critical incident preparedness and response on campus: Examining the relationship between local law enforcement and post-secondary institutions in Illinois and the United States.* Illinois Criminal Justice Information Authority, Center for the Study of Crime, Delinquency & Corrections. Carbondale, IL: Southern Illinois University. Retrieved from http://www.icjia.state.il.us/assets/pdf/ResearchReports/CIPRCampusReport122008.pdf

Gregory, D. E., & Janosik, S. M. (2013). Research on the Clery Act and crime reporting: Its impact on the literature and administrative practice in higher education. In B. S. Fisher, & J. J. Sloan, III (Eds.), *Campus crime: Legal, social, and policy perspectives* (3rd ed., pp. 46-62). Springfield, IL: Charles C. Thomas Publisher, Ltd.

Hancock, K. (2016). Community policing within campus law enforcement agencies. *Police Practice and Research, 17*(5), 463-476. doi:10.1080/15614263.2015.1108194

Kelling, G. L., & Moore, M. H. (1988). *The evolving strategy of policing.* Washington,

DC: National Institute of Justice. Retrieved from https://www.ncjrs.gov/pdffiles1/nij/114213.pdf

Kiss, A. (2013). The Jeanne Clery Act: A summary of the law and its evolution in higher education. In B. S. Fisher, & J. J. Sloan, III (Eds.), *Campus crime: Legal, social, and policy perspectives* (3rd ed., pp. 33-45). Springfield, IL: Charles C. Thomas Publisher, Ltd.

Langworthy, R. H. (1986). *The structure of police organizations.* New York, NY: Praeger.

Lee, J. V. (2010). Policing after 9/11: Community policing in an age of homeland security. *Police Quarterly, 13*(4), 347-366. doi:10.1177/1098611110384083

Lipka, S. (2009, January 30). In campus-crime reports, there's little safety in the numbers. *Chronicle of Higher Education*, *55*(21). Retrieved from http://www.chronicle.com/article/In-Campus-Crime-Reports/30058

Maguire, E. R. (1997). *Organizational structure in American police agencies: Context, complexity, and control.* Albany, NY: State University of New York Press.

Maguire, E. R., & Mastrofski, S. D. (2000). Patterns of community policing in the United States. *Police Quarterly, 3*(1), 4-45. doi:10.1177/1098611100003001001

Maguire, E. R., & Uchida, C. (2000). Measurement and explanation in the comparative study of American police organizations. In D. Duffee (Ed.), *Measurement and Analysis of Crime and Justice* (pp. 491-557). Washington, DC: National Institute of Justice.

Marks, D. E., & Sun, I. Y. (2007). The impact of 9/11 on organizational development

among state and local law enforcement agencies. *Journal of Contemporary Criminal Justice, 23*(2), 159-173. doi:10.1177/1043986207301364

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology, 83*(2), 340-362. doi:10.1086/226550

Office of Community Oriented Policing Services. (2014). *Community policing defined*. Washington, DC: Department of Justice, Office of Community Oriented Policing Services. Retrieved from https://cops.usdoj.gov/pdf/vets-to-cops/e030917193-CP-Defined.pdf

Oliver, W. M. (2006). The fourth era of policing: Homeland security. *International Review of Law Computers & Technology, 20*(1-2), 49-62. doi:10.1080/13600860600579696

Paoline, E. A., & Sloan, J. J. (2003). Variability in the organizational structure of contemporary campus law enforcement agencies: A national-level analysis. *Policing: An International Journal of Police Strategies & Management, 26*(4), 612-639. doi:10.1108/13639510310503541

Paoline, E. A., & Sloan, J. J. (2013). Community-oriented policing (COP) on college campuses: New directions? In B. S. Fisher, & J. J. Sloan, III (Eds.), *Campus crime: Legal, social, and policy perspectives* (3rd ed., pp. 324-342). Springfield, IL: Charles C. Thompson Publisher, Ltd.

Patten, R., Alward, L., Thomas, M., & Wada, J. (2016). The continued marginalization of campus police. *Policing: An International Journal of Police Strategies &*

Management, 39(3), 566-583. doi:10.1108/PIJPSM-04-2016-0055

Peak, K. (1987). Campus policing in America: The state of the art. *Police Chief, 54*(6), 22-24. Retrieved from http://www.ncjrs.gov/App/publications/abstract.aspx?ID=105580

Peak, K., Barthe, E. P., & Garcia, A. (2008). Campus policing in America: A twenty year perspective. *Police Quarterly, 11*(2), 239-260. doi:10.1177/1098611107306840

Powell, J. W. (1981). *Campus security and law enforcement* (1st ed.). Boston, MA: Butterworth.

Powell, J. W., Pander, M. S., & Nielsen, R. C. (1994). *Campus security and law enforcement* (2nd ed.). Newton, MA: Buttersworth-Heinemann.

President's Commission on Campus Unrest. (1970). *The report on the President's Commission on Campus Unrest.* Washington, DC: Superintendent of Documents, U.S. Government Printing Office. Retrieved from http://files.eric.ed.gov/fulltext/ED083899.pdf

Randol, B. M. (2012). The organizational correlates of terrorism response preparedness in local police departments. *Criminal Justice Policy Review, 23*(3), 304-326. doi:10.1177/0887403411400729

Reaves, B. A. (2015). *Bureau of Justice Statistics special report: Campus law enforcement, 2011–12.* U.S. Department of Justice, Office of Justice Programs, Washington, DC. Retrieved from https://bjs.gov/content/pub/pdf/cle1112.pdf

Rennison, M. C., & Dodge, M. (2018). *Introduction to criminal justice: Systems, diversity, and change.* Thousand Oaks, CA: SAGE Publications.

Roberts, A., Roberts, J. M., & Liedka, R. V. (2012). Elements of terrorism preparedness in local police agencies, 2003-2007: Impact of vulnerability, organizational characteristics, and contagion in the post-9/11 era. *Crime & Delinquency, 58*, 720-747. doi:10.1177/0011128712452960

Salkind, N. J. (2010). *Encyclopedia of research design.* Thousand Oaks, CA: SAGE Publications, Inc. doi:10.4135/9781412961288

Schafer, J. A., Heiple, E., Giblin, M. J., & Burruss, G. W. (2010). Critical incident preparedness and response on post-secondary campuses. *Journal of Criminal Justice, 38*(3), 311-317. doi:10.1016/j.jcrimjus.2010.03.005

Seo, D. C., Torabi, M. R., Sa, J., & Blair, E. H. (2012). Campus violence preparedness of US college campuses. *Security Journal, 25*(3), 199-211. doi:10.1057/sj.2011.18

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference.* Belmont, CA: Wadsworth.

Shaw, M., & Meaney, S. (2015). Gang activity on campus: A crisis response case study. *Journal of Cases in Educational Leadership, 18*(8), 365-373. doi:10.1177/1555458915609096

Sloan, J. J. (1992). The modern campus police: An analysis of their evolution, structure, and function. *American Journal of Police, 11*(2), 85-104. Retrieved from https://www.emeraldinsight.com/journal/ajp

Sloan, J. J. (1994). The correlates of campus crime: An analysis of reported crimes on college and university campuses. *Journal of Criminal Justice, 22*(1), 51-62. doi:10.1016/0047-2352(94)90048-5

Sloan, J. J., Fisher, B. S., & Cullen, F. T. (1997). Assessing the Student Right-to-Know and Campus Security Act of 1900: An analysis of victim reporting practices. *Crime and Delinquency, 43*(2), 148-168. doi:10.1177/0011128797043002002

Stozer, R. L. (2010). Sexual orientation-based hate crimes on campus: The impact of policy on reporting rates. *Sexuality Research and Social Policy, 7*, 147-154. doi:10.1007/s13178-010-0014-1

U.S. Department of Education. (2014, October 20). Violence Against Women Act. *Federal Register*, *79*(202). Retrieved from https://www.gpo.gov/fdsys/pkg/FR-2014-10-20/pdf/2014-24284.pdf

U.S. Department of Education. (n.d. a). *Campus safety and security*. Retrieved from Office of Postsecondary Education: http://ope.ed.gov/campussafety/#/

U.S. Department of Education. (n.d. b). *Integrated Postsecondary Education Data System*. Retrieved from National Center for Education Statistics: http://nces.ed.gov/ipeds/?src=ft

U.S. Department of Justice. Office of Justice Programs. Bureau of Justice Statistics. (2015). *Survey of Campus Law Enforcement Agencies, 2011-2012. ICPSR36217-v1.* Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor]. doi:10.3886/ICPSR36217.v1

Waxman, M. C. (2009). Police and national security: American local law enforcement and counter-terrorism after 9/11. *Journal of National Security Law & Policy, 3*(2), 377-408. Retrieved from http://jnslp.com/

Wilson, C. P., & Wilson, S. A. (2015). Evaluating legitimacy and marginalization:

Campus policing in the state of Rhode Island. *CoGent Social Sciences, 1*(1), 1-15. doi:10.1080/23311886.2015.1006091

Appendix: Supplementary Models

	Model 3			Model 4		
Variable	*b*	*SE*	95% CI	*b*	*SE*	95% CI
Community policing	-	-	-	0.210***	0.050	[0.111, 0.308]
Functional differentiation	0.140*	0.061	[0.021, 0.259]	0.177**	0.060	[0.057, 0.296]
Occupational differentiation	0.034**	0.013	[0.009, 0.059]	0.053***	0.014	[0.025, 0.081]
Vertical differentiation	-0.242	0.324	[-0.879, 0.395]	-0.530	0.342	[-1.203, 0.143]
Formalization	0.320***	0.065	[0.191, 0.448]	0.229**	0.080	[0.072, 0.385]
Total agency employees	0.011*	0.004	[0.002, 0.019]	0.007	0.004	[-0.001, 0.016]
Task scope	0.158**	0.056	[0.047, 0.269]	0.176**	0.058	[0.061, 0.291]
Agency professional association	-0.659	0.490	[-1.624, 0.305]	-1.429**	0.502	[-2.418, -0.44]
Public control	1.765**	0.677	[0.433, 3.097]	1.810**	0.708	[0.415, 3.204]
Region: East	-0.935	0.731	[-2.374, 0.503]	-1.418	0.733	[-2.861, 0.026]
Region: Midwest	-0.170	0.669	[-1.487, 1.146]	0.217	0.674	[-1.111, 1.544]
Region: South	-0.838	0.641	[-2.100, 0.424]	-1.358*	0.632	[-2.603, -0.113]
Constant	11.343***	1.818	[7.764, 14.923]	9.169***	2.000	[5.227, 13.111]
R-squared	0.215			0.325		

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.