

EMERGENCY MANAGEMENT POLICY: PREDICTING
NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)
IMPLEMENTATION BEHAVIOR

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ABSTRACT

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This doctoral dissertation study described and explained the perceived implementation behavior of counties in the United States with respect to the National Incident Management System (NIMS). This study addressed the following research questions:

- 1) What are the current NIMS implementation behaviors of counties in the United States?
- 2) What factors best predict implementation behaviors of counties in the United States?
- 3) What are the implications of the data for the NIMS as an organizing mechanism for the national emergency management system?

Specifically, this study examined variables identified in the NIMS and policy implementation literature that might influence the behavioral intent and compliance behavior of counties.

Data were collected in two phases: 1) an internet survey was sent to a national random sample of county emergency managers and 2) a mail survey was sent to emergency managers in the sample that had not completed the internet survey. When data collection ceased, 355 randomly selected county emergency managers had participated in the study providing a nationally generalizable study.

It was discovered that NIMS may be limited in its usefulness as the foundation for our nationwide emergency management system as well as its potential for use in large-scale disaster situations because of the wide variation in the manner in which NIMS is currently being implemented in counties across the United States. This study also found, through the use of multiple regression, that three key factors limited or promoted both how counties intended to implement NIMS and how they actually implemented the system. An index variable comprised of the policy characteristics related to NIMS (i.e., underlying theory, clarity, specificity, incentives/sanctions, and capacity-building resources), an index variable comprised of implementer views (i.e., attitudes, motivations, and predispositions), and local capacity (as measured by county perceptions of whether the county had enough personnel to implement NIMS) were all predictive of implementation behavior. One additional variable, an index comprised of inter-organizational characteristics (i.e., goodness of fit with organizational cultures, inter-organizational trust, strength of working relationships, goal congruence between implementing organizations, resource interdependence, and the existence of barriers to implementation) was found to influence actual NIMS implementation behavior but not intent. The doubt cast upon the purpose and assumptions of NIMS by this study's findings challenges the notion that NIMS is currently an effective organizing mechanism for the national emergency management system because the study ultimately confirms what disaster research has long suggested—the potential for standardization in emergency management is limited.

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LIST OF ABBREVIATIONS

DHS.....	Department of Homeland Security
FEMA.....	Federal Emergency Management Agency
HSPD.....	Homeland Security Presidential Directive
IMSID.....	Incident Management Systems Integration Division
IRB.....	Institutional Review Board
NIC.....	National Integration Center
NIMS.....	The National Incident Management System
NIMSCAST.....	NIMS Compliance Assistance Support Tool

CHAPTER 1: INTRODUCTION

This study described and explained the implementation behavior of counties in the United States with respect to the National Incident Management System (NIMS). NIMS is a policy mandate designed to restructure and standardize emergency management including emergency management relevant organizations from federal, state, territory, tribal, and local government as well as the private and nongovernmental sectors.

The present study examined factors that affected the implementation behavior of local county jurisdictions. Specifically, this study measured variables identified in the NIMS and policy implementation literature that influence the behavioral intent and actual implementation behavior of counties via a survey to a national random sample of county emergency managers. The major research questions included the following:

- 1) What are the current NIMS implementation behaviors of counties in the United States?
- 2) What factors best predict implementation behaviors of counties in the United States?
- 3) What are the implications of the data for the NIMS as an organizing mechanism for the national emergency management system?

Background of NIMS

Following the September 11, 2001 terrorist attacks, the federal government attempted to make sweeping changes to both national emergency management policy and structure. As Tierney (2005) put it, “While other U.S. disasters have lead to significant institutional realignments and new laws and policies, none has brought about changes of comparable scope and scale” (p. 2). The creation of the Department of Homeland

Security (DHS), the development of the National Response Plan, currently known as the National Response Framework, the release of a series of Homeland Security Presidential Directives (HSPDs), and the development and release of a series of national initiatives intended to correct perceived weaknesses and/or failures in the national emergency management system are among the national-level changes made following the attacks (DHS, 2005, p. 3). As noted by the DHS (2008), “The September 11, 2001, terrorist attacks and the 2004 and 2005 hurricane seasons highlighted the need to focus on improving emergency management, incident response capabilities, and coordination processes across the country” (p. 5). The National Incident Management System (NIMS) was among the national initiatives after the September 11, 2001 terrorist attacks.

The Homeland Security Act of 2002 (the Act) and HSPD-5 of 2003 mandated the creation of NIMS. The Act directed the DHS to develop “a comprehensive national incident management system with Federal, State and local government personnel, agencies, and authorities to respond to such attacks and disasters” (U.S. House, Section 501, (5)). HSPD-5 was more specific than the Act; it required the DHS to

...develop, submit for review to the Homeland Security Council, and administer a National Incident Management System (NIMS). This system will provide a consistent nationwide approach for Federal, State, and local governments to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity (HSPD-5, 2003, p. 1).

All emergency management relevant government agencies and departments at the local, tribal, territory, state, and federal level have been mandated to implement NIMS.

Emergency management relevant private sector and nongovernmental organizations are also supposed to operate within the NIMS framework. As a Federal Emergency Management Agency (FEMA) document (2009a) explained

NIMS is applicable to State, tribal and local governments, private sector organizations, critical infrastructure owners and operators, nongovernmental organizations and other organizations with an active role in emergency management and incident response. Elected and appointed officials who are responsible for jurisdictional policy decisions, must also have a clear understanding of their emergency management roles and responsibilities to better serve their community (p. 3).

Within these groups, NIMS intends to standardize emergency management structures, processes, and terminology in each of the following areas: a) preparedness, b) communications and information management, c) resource management, d) command and management, and e) ongoing management and maintenance prior to, during, and after hazard-related incidents (DHS, 2008).

Therefore, NIMS is not only grand in terms of the breadth of organizations involved but also in the breadth of principles, concepts, structures, processes, and terminology the system seeks to standardize across the aforementioned organizations. In addition to trying to standardize preparedness practices (e.g., planning, drills, and exercises), NIMS requires implementation of a standardized

...set of concepts, principles, terminology, and technologies covering the incident command system; multi-agency coordination systems; unified command; training; identification and management of resources (including systems for classifying types of resources); qualifications and certification; and the collection, tracking, and reporting of incident information and incident resources (HSPD-5, 2003, p. 1).

Table 1 provides a table detailing NIMS core components; however, it is appropriate to elaborate briefly here on some of what NIMS attempts to accomplish.

NIMS strives to structure how government and emergency management relevant organizations across the United States prepare for disasters. In so doing NIMS requires (among other things) systemization of how planning is approached within jurisdictions,

Table 1. Overview of NIMS components (quoted directly from DHS, 2008, p. 7-8)

<i>Component</i>	<i>Description</i>
Preparedness	Effective emergency management and incident response activities begin with a host of preparedness activities conducted on an ongoing basis, in advance of any potential incident. Preparedness involves an integrated combination of assessment; planning; procedures and protocols; training and exercises; personnel qualifications, licensure, and certification; equipment certification; and evaluation and revision.
Communications and Information Management	Emergency management and incident response activities rely on communications and information systems that provide a common operating picture to all command and coordination sites. NIMS describes the requirements necessary for a standardized framework for communications and emphasizes the need for a common operating picture. This component is based on the concepts of interoperability, reliability, scalability, and portability, as well as the resiliency and redundancy of communications and information systems.
Resource Management	Resources (such as personnel, equipment, or supplies) are needed to support critical incident objectives. The flow of resources must be fluid and adaptable to the requirements of the incident. NIMS defines standardized mechanisms and establishes the resource management process to identify requirements, order and acquire, mobilize, track and report, recover and demobilize, reimburse, and inventory resources.
Command and Management	The Command and Management component of NIMS is designed to enable effective and efficient incident management and coordination by providing a flexible, standardized incident management structure. The structure is based on three key organizational constructs: the Incident Command System, Multiagency Coordination Systems, and Public Information.
Ongoing Management and Maintenance	<p>Within the auspices of Ongoing Management and Maintenance, there are two components: the NIC and Supporting Technologies.</p> <p><i>(1) National Integration Center</i></p> <p>Homeland Security Presidential Directive 5 required the Secretary of Homeland Security to establish a mechanism for ensuring the ongoing management and maintenance of NIMS, including regular consultation with other Federal departments and agencies; State, tribal, and local stakeholders; and NGOs and the private sector. The NIC provides strategic direction, oversight, and coordination of NIMS and supports both routine maintenance and the</p>

Table 1 (continued)

continuous refinement of NIMS and its components. The NIC oversees the program and coordinates with Federal, State, tribal, and local partners in the development of compliance criteria and implementation activities. It provides guidance and support to jurisdictions and emergency management/response personnel and their affiliated organizations as they adopt or, consistent with their status, are encouraged to adopt the system. The NIC also oversees and coordinates the publication of NIMS and its related products. This oversight includes the review and certification of training courses and exercise information.

(2) Supporting Technologies

As NIMS and its related emergency management and incident response systems evolve, emergency management/response personnel will increasingly rely on technology and systems to implement and continuously refine NIMS. The NIC, in partnership with the Department of Homeland Security Science and Technology Directorate, oversees and coordinates the ongoing development of incident management-related technology, including strategic research and development.

how drills and exercises are managed, how personnel are trained and deemed qualified to participate in emergency management, and how resources are labeled and managed.

During incidents of all scales and types, NIMS strives to standardize how response unfolds including how incidents are managed on-scene (i.e., Incident Command System), how coordination of resources and policy are managed (i.e. Multi-Agency Coordination Systems), and how communication is approached both on-scene and off (i.e.

Communications and Information Management). The task of implementing such a far-reaching system in such a large variety of organizations and jurisdictions is enormous.

NIMS Implementation

When the Department of Homeland Security (DHS) mandated the National Incident Management System (NIMS) in 2004, the DHS asked jurisdictions at all levels to

initiate the implementation process. State, territory, tribal, and local governments were informed that their implementation during the 2005 fiscal year was voluntary, but that beginning in 2006 compliance with NIMS implementation was required.

The federal government mandated both implementation of and compliance with NIMS. In fact, FEMA defines implementation in terms of compliance. As FEMA (2009a) described it, “In order to implement NIMS, State, territorial, tribal, and local governments must follow the compliance activities for the current fiscal year” (p. 12). The DHS sets forth compliance expectations to ensure jurisdictions at all levels are pursuing implementation as well as to assess which implementation activities jurisdictions are implementing. Therefore, one can think of compliance with NIMS as cooperation, or obedience, in implementing the NIMS in the manner set forth by the DHS.

The National Integration Center (NIC) in the Incident Management Systems Integration Division (IMSID) of DHS publishes compliance measures, or “specific activities designed to measure an organization or jurisdiction’s degree of implementation of NIMS” (FEMA, 2009b, p. 5). As stated in the NIMS document,

the Secretary of Homeland Security, through the National Integration Center (NIC), Incident Management Systems Integration Division (formerly known as the NIMS Integration Center), publishes the standards, guidelines, and compliance protocols for determining whether a Federal, State, tribal, or local government has implemented NIMS. Additionally, the Secretary, through the NIC, manages publication and collaboratively, with other departments and agencies, develops standards, guidelines, compliance procedures, and protocols for all aspects of NIMS (DHS, 2008, p. 3-4).

The NIC determines the pace at which implementation is attempted and measures whether the required measures have been institutionalized through compliance. Jurisdictions are

not supposed to modify the system, approach implementation in a piecemeal fashion, or attempt implementation of the system at their own pace.

Since the start of the 2005 fiscal year, compliance and implementation expectations have been set forth on an annual basis and coincide with the federal fiscal year. Federal fiscal years run from October 1st to September 30th. (Please see Appendix A for a summary table of NIMS implementation objectives for fiscal years 2006-2009.)

Each fiscal year, states and territories are required to attest to their jurisdiction's compliance with the NIMS. Initially, states and territories self-certified the good faith efforts of their jurisdiction to be compliant via a letter or form; however, as of the 2007 federal fiscal year, measurement of compliance was determined by "performance-based metrics" (see example in Appendix B) tracked through the NIMS Compliance Assistance and Support Tool (NIMSCAST) (FEMA, 2009b, p. 1).

The NIMS Compliance Assistance Support Tool (NIMSCAST) is designed as the premier, web-based, self-assessment instrument for State, territorial, tribal, and local governments to evaluate and report their jurisdiction's achievement of all NIMS implementation activities released since 2004 (FEMA, 2009b, p.1).

At the local level, county emergency managers are charged with ensuring and reporting on NIMS compliance and implementation. Each fiscal year, county emergency managers are required to complete the NIMSCAST for their jurisdiction and forward it to the state once complete. The state approves each report, compiles the county jurisdiction compliance reports, prepares a state report, and forwards the report to the NIC at DHS.

While it would appear that the type of data collected by NIMSCAST would at least address this study's first research question—what is the current implementation behavior of counties toward NIMS—there are numerous challenges and shortcomings

associated with the use, or potential use, of NIMSCAST data. First, the questions associated with NIMSCAST (see Appendix B) are very specific. They do not measure broader issues such as intent to comply, an issue this proposal will address in more detail later. Second, the data collected in NIMSCAST is extensive (again, refer to Appendix B), and would be cumbersome to reformat as a set of dependent variables for the causal analysis pursued in the present study. Third, and most importantly, NIMSCAST does not include potential explanatory variables that are needed to answer this study's remaining research questions.

Furthermore, there are two primary reasons to be concerned that compliance, as currently measured by NIMSCAST, may not provide an accurate or complete picture of implementation. These issues include the following: a) whether the reported compliance information is accurate and b) whether the county emergency managers are being truthful in their reporting. With respect to accuracy, misinterpretations, political pressure, time pressure, resource constraints, and goal displacement may all lead to inaccurate reporting. For example, with respect to goal displacement, as Van Meter and Van Horn (1975) surmised, "more stringent regulations and guidelines may induce a sort of goal displacement, wherein state and local officials strive to meet federal requirements in order to obtain funds and avoid sanctions, while ignoring the basic mission of the program" (p. 469). With respect to truthful reporting, jurisdictions, private sector entities, and nongovernmental organizations may also feign compliance. Local government jurisdictions complete their own assessments, and there is no guarantee that jurisdictions will answer questions in the NIMSCAST completely or truthfully. Unfortunately, should compliance data be inaccurately reported or simply feigned by jurisdictions within the

United States, expectations for the system's performance in a large-scale incident will be misinformed (Jensen, 2009).

Beyond questions of accuracy and complete truthfulness in reporting of compliance metrics, the metrics themselves do not include important aspects of implementation such as the degree of commitment to implementing the NIMS within jurisdictions; how much jurisdictions actually know about the NIMS; the extent to which jurisdictions know how to use the system; and, whether the NIMS and ICS are actually incorporated into the day-to-day administration of jurisdictions or utilized in small-scale incidents. As Jensen (2009) determined in a recent study of NIMS,

Although the federal government attempts to monitor the progress local jurisdictions make toward complying with NIMS, its measures of compliance do not reflect the knowledge about NIMS of those involved, the commitment of those involved, their actual incorporation of NIMS into their day-to-day activities, or how appropriate NIMS is for a given jurisdiction (p. 22).

Therefore, even if jurisdictions and organization are truthfully and completely entering their compliance information in the NIMSCAST, current compliance metrics may not be fully measuring whether and how much the system is actually being used.

The extent to which NIMSCAST data might be compromised by these potential issues is unknown. Nevertheless, the concerns are reasonable considering the real-life pressures and feared consequences jurisdictions may experience in reporting compliance via NIMSCAST. The relevant point for this study is simply that a seemingly ideal choice to use in examining implementation behavior may not actually be ideal at all. In contrast, the present study measured behavioral compliance in a survey questionnaire context that is sheltered from real-life pressures.

As the preceding discussion has established, there is reason to doubt that the data gathered through current compliance measures is providing a complete understanding of the system's implementation. All of the potential issues identified merit investigation through research because what is happening in the implementation process effects the extent to which the system will achieve its intended goals and because the federal government is counting on NIMS as an organizing mechanism to address identified shortcomings of the national emergency management system. At the very least, these issues suggested the need to further explore implementation behavior. This need generated the study's first research question: What are the current NIMS implementation behaviors of counties in the United States?

The present study also explored the extent to which independent variables identified from the NIMS and policy implementation literature influence implementation behavior (variables not measured in NIMSCAST as mentioned earlier). At the start of this project it was assumed that variance in implementation behavior would be found despite several years of mandated compliance with NIMS implementation. This assumption led to the second research question: What factors explain the behavior? Past NIMS research and a larger body of policy implementation research guided the selection of an extensive list of likely explanatory factors.

Several of the independent variables tested proved to be related to this study's dependent measures of implementation behavior as anticipated. These findings led to the third research question for this study: What are the implications of the findings for the NIMS as an organizing mechanism for the national emergency management system. Furthermore, because the independent variables were identified through a combination of

NIMS and policy implementation literature, the findings also have more general implications for similar current and/or future policy mandates in emergency management—these implications are also discussed.

The unit of analysis in this study is the county and the focus is on countywide implementation behavior as reported by county emergency managers. There is a critical subtlety here that needs to be called to the reader's attention as the discussion proceeds. Just as NIMSCAST asks the county emergency manager to report on ALL aspects of county implementation and compliance so too does this study ask county emergency managers to report on their perceptions of countywide implementation behavior. Thus, in this respect, the approach of NIMSCAST and the present study are in synch. Both approaches to measuring NIMS implementation view the county emergency manager's role as pivotal. County emergency managers are what Ritchie and Lewis (2003) would refer to as "critical cases" as their perspective on and their role in NIMS implementation is key. According to Ritchie and Lewis (2003), critical cases are "chosen on the basis that they demonstrate a phenomenon or position 'dramatically' or are pivotal in the delivery of a process or operation. The logic is that these cases will be 'critical' to any understanding offered by the research" (p. 80).

Dissertation Overview

Chapter 2 reviews the empirical literature on NIMS, connects the empirical work done on NIMS to the field of policy implementation research, and develops and justifies an inductive model for examination based on a combination of the NIMS and policy implementation research. Chapter 3 introduces the research design. Chapter 4 provides the results from the research and in so doing answers both the first and second research

question for this study. Chapter 5 interprets and discusses the findings of the research on the first two questions and uses this discussion to address the third research question, implications. Chapter 6 discusses the significance of this research for emergency management and policy implementation research and provides suggestions for future research.

CHAPTER TWO: LITERATURE REVIEW

The following Literature Review discusses how the NIMS literature and policy implementation literature informed this research. The Literature Review is comprised of seven sections. The first section provides an overview of the literature that grounds this study. The second section introduces the NIMS literature. The third section develops the dependent variable used in the study. The fourth, fifth, and sixth sections describe the independent variables used in this research. Finally, the seventh section describes how the methodologies used in prior research on NIMS relate to this study.

Overview

Prior research on NIMS provided clues as to what might be found in a study of implementation behavior and how to approach research on the topic of NIMS. Specifically, the NIMS literature suggested that implementation behavior varies from location to location and that three categories of independent variables may be related to variation in implementation behavior: 1) characteristics of the NIMS policy, 2) local structural and situational characteristics, and 3) implementer views. Yet, while instructive, the NIMS literature was also limited in that there were few studies on the subject—the findings of which are not generalizable. Fortunately, this study improved upon, at least partially, the limitations of the prior research on NIMS.

There has been little empirical research conducted on NIMS. To date, there have only been two publications and one grant report based on original research on the subject: Neal and Webb (2006), Jensen (2009), and Jensen (2008), respectively. Neal and Webb (2006) conducted quick response research in the aftermath of Hurricane Katrina in 2005 to

assess the degree to which federal and local government agencies used NIMS in the hurricane response. Also conducting quick response research, Jensen (2008) gathered data on the use and usefulness of NIMS at the local level in the wake of an EF3 tornado. Finally, Jensen (2009) researched county emergency manager interpretations and implementation of NIMS during routine times in three states. However, while there have only been three studies on the subject of NIMS, the findings from the studies overlap with one another significantly. These studies exhibit overlap in three areas including the following: the dependent variable of implementation behavior; the identification of independent variables; and, methodology. The NIMS literature also exhibits overlap with the policy implementation literature in these areas.

For the purposes of this study, one should understand the term implementation as a process as opposed to an end goal. Specifically, implementation is defined here as actions taken to address a social issue through policy. Implementation would include all steps taken by all relevant policy stakeholders to address a given social issue following policy conceptualization and lasting until policy termination. Therefore, the term implementation does not simply refer to what changes occurred because of a policy or whether the policy was successful in meeting its goals.

The extensive research on policy implementation has been discussed at length and in detail in a number of literature reviews and is therefore not discussed here (see for example: Alexander, 1985; Barrett, 2004; Goggin et al. 1990; Ingram 1990; deLeon, 1990; Lester & Goggin; 1998, Linder & Peters, 1987; McLaughlin, 1987; Matland, 1995; May, 2003; O'Toole, 1986, 2000, 2004; Palumbo & Calista, 1990; Ryan, 1995; Sabatier, 1986; Saetren, 2005; Schofield, 2001; Van Horn, 1987; Winter, 1990, 2003). However,

two important general features of the implementation literature are important to discuss.

First, despite more than three decades of research a general theory of implementation has eluded the field. As May (2003) stated,

Implementation scholars have developed a better understanding over time of the relevant factors that affect policy implementation. However, the scholars fall short of providing a theory of implementation that links different elements of policy designs to different implementation challenges (p. 231).

The absence of a general theory of implementation has been widely recognized by scholars associated with implementation research (Goggin, 1986; Lester et al. 1987; O'Toole & Montjoy, 1984; O'Toole 2000, 2003, 2004). The literature suggests a variety of explanations for the lack of a general theory including the competing views of implementation held by academics conducting research on the topic (Saetren, 2005), the multiple academic disciplines involved in the study of policy implementation (Saetren, 2005; Schofield, 2001), the variety of methodologies used to study implementation phenomena (Lester et al. 1987; Goggin et al., 1990; Palumbo, 1987; Schofield, 2001), the confusion, or lack of consensus, about the best dependent variable to be investigated (O'Toole, 2004), and the myriad independent variables identified in the literature (Bali, 2003; Goggin, 1986; Matland, 1995; Meier, 1999; O'Toole, 1986, 2004). While a general theory of implementation would certainly have made it easier to have designed a study on NIMS implementation, easier for new policy researchers, and easier to accumulate generalizable findings, some academics suggest that the diversity of disciplinary approaches, methodologies, models, and variables used may be appropriate and a reflection of the context dependent nature of policy implementation (Lane, 1987; Ryan, 1995; Schofield, 2004; Yanow, 1993).

Nevertheless, some recent literature has called for both the development of statistically generalizable studies of implementation and testable causal models (Goggin et al., 1990; Hill & Hupe, 2009; Lester et al., 1987). As Meyers and Vorsanger (2003) stated, "...complexity highlights the need for more sophisticated theoretical models that recognize the contribution of hierarchical control mechanisms, organizational constraints and individual incentives" (p. 245).

The second issue—the numerous variables commonly used in implementation related studies—is important to address given the lack of a general theory of implementation. As May (2003) argued, the development of a sophisticated model is easier said than done.

research about the different design contentions has been constrained by the generality of theorizing by implementation scholars and by other methodological issues that limit the ability to tease out effects of key variables (May, 2003, p. 224).

As noted, scholars in various disciplines using many methodologies have identified a plethora of relevant variables in policy implementation research (Goggin, 1986; O'Toole, 1986, 2003). Many valiant attempts have been made to synthesize identified variables into a model (Brodkin, 1990; Cothran, 1987; Emlore, 1985; Goggin et al., 1990; Love & Sederberg, 1987; Matland, 1995; Sabatier, 1988, 1991; Winter, 1990; Yanow, 1993), but none has been backed by any consensus (Ryan, 1995; O'Toole, 2000; Schofield, 2001).

There does appear, however, to be some consensus about the categories of independent variables that one should examine when investigating implementation related issues. Lester et al. (1987) suggest, "it could be argued that the policy itself (i.e., its form and content) is the first 'critical' independent variable and the setting (i.e., the people and

organizations who are involved in implementing a policy) is the second ‘critical’ independent variable” (p. 210). Although some researchers have suggested as many as five categories of variables related to implementation research (Ewalt & Jennings, 2004; Lynn et al., 2000; Riccucci et al., 2004), the variables identified through the majority of the policy literature appear to fall into three general categories: 1) variables related to policy characteristics, 2) local structural and situational conditions, and 3) implementer views (Bali, 2003; Goggin et al., 1990; Lester & Stewart, 2000; Matland, 1995; Ryan, 1995). As noted by Ryan (1995), “despite the development of divergent models of implementation, several broad variables remain constant” (p. 67).

While policy implementation researchers have labeled the categories variously, they all essentially indicate that the same independent variable groups are worthy of investigation related to implementation issues (and this is true across dependent variables analyzed). These same groups of independent variables also naturally emerge out of the NIMS literature as factors that may be related to implementation. Therefore, this study developed a model inductively utilizing variables that have been tried and tested in the policy implementation literature. As Rainey (1990) suggested, “absent a theoretical paradigm, empirical inquiry must perforce adopt a relatively inductive posture...” (p. 91).

Utilization of a combination of the NIMS literature and the policy implementation literature strengthened the development of this study. The use of both the NIMS and policy implementation literature also ensured that both the dependent and independent variables used in this study would produce meaningful results thereby allowing the findings from this study to contribute to the emergency management body of knowledge. The small sample size and limited generalizability of the past NIMS research also

provided an opportunity for this study to contribute methodologically by using a national random sample of county emergency managers.

Implementation Behavior

Each of the NIMS studies conducted to date highlighted the importance of local level implementation for the national emergency management system. Neal and Webb (2006) focused their research on both federal and local level government use of NIMS in the response effort. Jensen (2008) focused on local level implementation of NIMS gathering data on the use of NIMS from both state and local personnel involved in the response effort; and, Jensen (2009) focused solely on the local level. Thus, the focus of the present research on the implementation behavior of counties, a local level jurisdiction, fits with the prior work on NIMS.

The fact that all three NIMS studies had similar findings related to implementation of the system while sharing a local level concentration makes their findings all the more relevant for this study of county implementation behavior. Each of the three research studies on NIMS found variation in the manner in which the system was implemented. Neal and Webb's (2006) findings indicated that NIMS was not being implemented as designed. They discovered "substantial variation in the degree to which NIMS was used by responding organizations" (Neal & Webb, 2006, p. 353). Specifically, they found that some organizations had been trained in NIMS, but used their own response system instead; that some organizations had no interest in using, or intent to use, NIMS; that some organizations used NIMS only somewhat; and, that others utilized the system in its entirety (p. 355).

Jensen's (2008) findings are similar to those of Neal and Webb (2006). Specifically, Jensen (2008) found variation in the extent to which NIMS was actually used as well as variation in local perspectives of how useful the system was in the response effort. Yet, Jensen (2008) also found that although the local jurisdiction intended to use NIMS in response to the tornado they were unable to do so because of hazard-generated conditions. In other words, the local jurisdiction's behavioral intention was different from its actual behavior. Moreover, Jensen's (2009) article found that how emergency managers and their counties intended to implement the system and whether or not they actually implemented the system in a manner consistent with the NIC's compliance measures were related, but separate issues. She noted that the majority of emergency managers adopted a "compliance mentality" choosing to view the implementation of the system as

a game that must be played or hoops through which they had to jump...this game playing was something emergency managers felt forced to do. They had to be compliant to get the funding they needed. They also had to work within the parameters set by local conditions. Certain measures of compliance were clear-cut, as with the training measure: Had those expected to complete the training done it or not? Other compliance measures were not black-and-white, and, while emergency managers could not afford to ignore them, they could and did choose how to interpret the measures (p. 22-23).

In other words, emergency managers and their counties were not committed to NIMS *per se*, but instead usually only intended to implement the policy to the extent that it would allow them to get Homeland Security Preparedness dollars.

Jensen's (2009) study also found that emergency manager and county behavior was, at times, aligned with their intent, and sometimes the behavior of emergency manager and county was in apparent contradiction to their intent. The majority of

emergency managers reported that their county selectively implemented NIMS, even while reporting that their county was fully compliant. Jensen (2009) used a toolbox analogy to explain how emergency managers and their counties selectively implemented NIMS. Jensen (2009) wrote,

The NIMS document encourages users to view NIMS as a flexible system...in essence users are encouraged to view NIMS as a toolbox. Taking the analogy further, NIMS components are intended to be like a set of tools...they know the screwdrivers, wrenches, pliers, tape measure, level, etcetera equally well. However, this is where the toolbox image fails. The NIMS “tools” are not understood or appreciated uniformly in the areas studied...The general attitude seen by emergency managers was, ‘pick and choose what works and discard the rest’ (p. 23).

The combination of a compliance mentality and selective implementation led Jensen (2009) to conclude, “substantial variation still exists among emergency management programs, not just among regions or states, but also within regions and states” (p. 24); that “variations in the perceptions of and implementation of NIMS have added to the preexisting differences between programs” (p. 24); and, further, that “...efforts to standardize—make one size fit all—may interfere with emergency management at the local level” (p. 24).

The argument that the study of implementation behavior is an important part of the implementation process that warrants research is frequently made in the policy literature. For example, Winter (2003b) “suggest[ed] that we...look for behavioral output variables to characterize the performance of implementers...our primary aim should be to explain variation in such performance” (p. 218). Winter (2003a,b) introduced a model that “integrate[s] a number of the most fruitful theoretical elements from various pieces of implementation research—regardless of their origin—into a joint model (Winter, 2003b,

p. 216). Winter (2003a) was careful to distinguish between his model and causal models.

He stated, the Integrated Implementation Model

...is not a model in the strict sense of a simple causal model. It is rather a framework of analysis presenting key factors and mechanisms that affect implementation outputs and outcomes (Winter, 2003a, p. 210).

His model depicted policy outputs/performance and policy outcomes as a function of “policy formation and policy design, interorganizational relations, street-level bureaucratic behavior in addition to target group behavior, socio-economic conditions and feedback mechanisms” (Winter, 2003a, p. 216). Winter (1990, 2003a) placed implementation behavior at the center of the policy implementation process.

Winter (1990, 2003a) is not alone in his call for a focus on implementation behavior; other researchers have also advocated a focus on implementation behavior as a key, or the key, dependent variable (Elmore, 1986; Ewalt & Jennings, 2004; Hill & Hupe, 2002, 2009; Hull & Hjern, 1987; Lester et al., 1987; Mischen, 2007; Schneider & Ingram, 1990). Ewalt and Jennings (2004) postulated that “the attributes and behaviors of program participants are client characteristics that may mitigate policy outcomes” (p. 451). After all, as Menzel (1989) put it, “intergovernmental implementation mandates prescribe, in principle, regularized and permanent patterns of behavior and interaction among implementation authorities and others...” (Menzel, 1989, p. 160). Hill and Hupe (2009) would also agree that a focus on behavior as a dependent variable is important. They stated “...researchers should ‘look for behavioral output variables to characterize the performance of implementers’ to explain variation in performance, thereby avoiding contestable questions about goal-achievement” (Hill & Hupe, 2009, p. 139).

Despite the fact that a research focus on implementation behavior has been often suggested, measurement of implementation behavior is a rarely undertaken type of policy implementation research (Ewalt & Jennings, 2004; Hill & Hupe, 2002, 2009; Schneider & Ingram, 1990; Winter, 1990, 2003a,b). As Schofield (2001) noted,

However, very little of the literature about implementation addresses behavioural or socio-psychological studies of actors... It is more the case that these issues are suggested in the analysis section of case studies as opposed to being incorporated in the research design (p. 255).

The present study was designed specifically to measure implementation behavior and identify the factors that explain implementation behavior.

Furthermore, Jensen's (2008, 2009) studies also demonstrated that two aspects of implementation behavior are important—behavioral intent and actual implementation behavior. Like Jensen (2008, 2009), the policy implementation literature also suggests that intent and compliance are two important aspects of implementation behavior (Mischen, 2007; Sorg, 1983). Sorg (1983) defined behavioral intent as “the degree to which the implementer intends to carry the policy into effect at the point in time that he or she performs the behavior” and compliance behavior as “the degree to which the behaviors conform with the goals and/or procedures expressed in the policy statement in question” (Sorg, 1983, p. 393). Based on the conceptual identification of the dimensions of implementation behavior by Jensen (2008, 2009) and Sorg (1983), county implementation behavior was separated into two dependent behavior related variables—behavioral intent and implementation behavior—and survey questions were developed to measure county emergency managers' perceptions of each for their county overall.

The two dimensions of the implementation behavior dependent variable for this study are operationalized in the methods chapter and the measurement of these dimensions served to address the first major research question in this study: What are the current NIMS implementation intent and behaviors of counties in the United States? The study's second question presupposed that there would be considerable variation in reported county implementation behavior. This expectation was supported by Neal and Webb (2006) and Jensen (2008, 2009). And, indeed, the present study found considerable variation in county implementation behavior. The critical issue was what explains this variation?

As the following section describes, the NIMS literature and policy implementation literature suggested that three categories of variables may be related to implementation issues. These categories were incorporated into the study and therefore the findings help to illuminate not only the implications of implementing a specific emergency management policy but the implications of implementing one of the most ambitious policy changes in recent emergency management history. Thus, the researcher was able to address her third research question: What are the implications of the data for the NIMS as an organizing mechanism for the national emergency management system?

Policy Characteristics

Characteristics of a policy, or as the policy implementation literature would put it, the "form and content of the policy itself" (Goggin, 1986, p. 328) have been found to influence the implementation of NIMS specifically and of policies in general. There is a wealth of literature that has discussed how policy characteristics influence implementation (Barrett & Fudge, 1981; Edwards, 1980; Ewalt & Jennings, 2004; Linder & Peters, 1987,

1990; May, 2003; Meier & McFarlane, 1996; Sabatier & Mazmanian, 1989; Schneider & Ingram, 1990; Van Meter & Van Horn, 1975). Goggin (1986) summarized the general findings of this literature as a hypothesis.

...if the legislative decision that triggers the implementation process is based on sound theory and spells out internally consistent program objectives with clarity and specificity, and includes provisions for certain rewards for compliance or punishments for non-compliance, then the policy is more likely to succeed in its implementation (Goggin, 1986, p. 332).

The above quotation from Goggin (1986) references most of the variables commonly examined in the policy literature with respect to a given policy's so-called form and content including underlying theory, clarity and specificity, incentives/sanctions, and capacity-building resources. The NIMS literature also suggests that these aspects of a policy are important to explore in relation to implementation issues.

Underlying Theory

When Goggin (1986) referred to "sound theory", he meant that the assumptions about the problems addressed by a policy and how the policy presumes to solve them are accurate. Sabatier and Mazmanian (1983) referred to this concept as the extent to which a policy is based on an "adequate causal theory". Ingram and Mann (1980) and Keiser and Meier (1996) agreed on the importance of the policy's underlying theory to implementation issues. Of course, as Thomas (1979) pointed out, not only does the policy have to be "effective", the social issue addressed by the policy also has to be perceived as a "severe" problem (p. 428).

The limited NIMS research does show perception of causal theory to be an issue. Neal and Webb (2006) discovered that some interviewees believed NIMS was only effective for certain types and scales of events counter to NIMS' underlying theory (p.

354). Similarly, Jensen (2009) found that some emergency managers took direct issue with NIMS underlying theory. Jensen (2009) wrote,

Most emergency managers said that all, or parts, of NIMS were based on a series of false assumptions about the nature of emergency management and local settings. The following three presumably faulty assumptions were commonly referred to by emergency managers: a) “it [NIMS] works;” b) NIMS will be equally effective for everybody and every disaster; and, c) people will be both willing and dedicated to adopting and implementing NIMS (p. 11).

Furthermore, Jensen (2009) noted that some emergency managers felt that NIMS did not address the most severe problems faced by their counties. For instance, she noted

Respondents also questioned the most fundamental assumption of all—that a major structural change such as NIMS was needed. Instead, the need most frequently mentioned was funding—not plans, policy, standard operating procedures, coordination, structure and organization, or command and control in disaster situations (Jensen, 2009, p. 11).

Thus, Neal and Webb (2006) and Jensen (2009) found that emergency management is lacking in full acceptance of NIMS underlying theory. The policy research suggests that such a situation would be problematic for NIMS implementation (Ingram & Mann, 1980; Keiser & Meier, 1996). However, in contrast to Neal and Webb (2006) and Jensen (2009), Jensen (2008) found the local jurisdiction thought NIMS would have helped improve the effectiveness and efficiency of the response effort had the system been fully implemented. What Jensen (2008) essentially found is that the jurisdiction believed in NIMS “underlying theory” to the extent that the jurisdiction believed full implementation would have ameliorated issues the jurisdiction encountered in its response efforts.

The fact that the findings of Neal and Webb (2006) and Jensen (2008) seem to be at odds with Jensen (2009) made it all the more important that the relationship between perceptions of NIMS underlying theory and implementation behavior were explored in

this research. Both the NIMS literature and the policy literature related to a policy's underlying theory required that this study ask questions related to whether

- a) the problems addressed by NIMS were issues the county perceived as problems;
- b) the county believed NIMS effectively addressed the problems; and,
- c) the county perceived the problems NIMS intended to correct to be severe.

The questions to assess perceptions of NIMS's underlying theory were included within the group of independent variables related to policy characteristics in the study's causal model.

Clarity and Specificity

Goggin's (1986) summary of key policy implementation factors also listed clarity and specificity. The NIMS literature did not provide any indication that perceptions of the clarity or specificity of NIMS may be related to implementation behavior—of course—there have only been three NIMS studies. There is however much support in the policy literature for the idea that policy clarity and specificity should be examined when studying implementation issues (Berman, 1978; Bullock, 1980; Helms et al., 1993; May & Winter, 2007; Ripley & Franklin, 1982; Rosenbaum, 1981; Sabatier & Mazmanian, 1983; Van Meter & Van Horn, 1975). For the purposes of this study one can understand the term policy clarity to refer to the extent to which counties believe the objectives of NIMS are apparent and the term specificity to mean the extent to which counties think that the NIMS details the tasks that would have to be completed to achieve NIMS's objectives. The literature indicated that two aspects of policy clarity and specificity should be examined: 1) the clarity and specificity in which the policy was communicated; and, 2) perceptions of the clarity and specificity of the policy itself (Berry et al., 1998; Edwards, 1980;

Goggin et al. 1990; Schultze, 1970; Van Meter & Van Horn, 1975). Therefore, this study explored the degree to which counties:

- a) perceived the objectives of NIMS to be clear for each component of NIMS;
- b) perceived that each component of NIMS appropriately detailed tasks that must be completed to achieve the policy's objectives;
- c) believed that the objectives of NIMS had been clearly communicated by the federal government; and,
- d) believed that the federal government had sufficiently detailed the tasks that must be completed to achieve the policy's objectives in each component of NIMS

These questions regarding the clarity and specificity of NIMS were included within the group of independent variables related to policy characteristics in the study's causal model.

Incentives and Sanctions

Leveraging incentives and sanctions may also be a way to affect NIMS implementation behavior positively (Goggin, 1986). The primary incentive/sanction available to the National Integration Center (NIC) to encourage compliance is the granting or withholding of Homeland Security preparedness funding. However, the effectiveness of the incentive/sanction may vary by county for two reasons: 1) the amount of preparedness funding available changes from year-to-year; and, 2) the DHS does not distribute the available funds equally among counties. Therefore, the leveraging of Homeland Security preparedness funding may not be an effective incentive or sanction for all counties.

The NIMS literature indicated that local jurisdictions are aware that there are both incentives and sanctions related to NIMS. Jensen (2009) found that counties in rural areas were motivated to attempt implementation by the incentive/sanction of preparedness funding. She wrote, "...this game playing was something emergency managers felt forced to do. They had to be compliant to get the funding they needed" (Jensen, 2009, p. 20). Yet, while the funding was an incentive for the counties she studied, the counties still selectively implemented the system. Thus, even though there was an incentive to implement NIMS, it did not result, at least in Jensen's (2009) study, in the intent to implement the system fully or in full compliance.

The role of incentives and sanctions in implementation has been often examined in the policy literature (May, 2003, 2004; Mazmanian & Sabatier, 1983; Thomas, 1979; Van Meter & Van Horn, 1975). As May (2003) noted, incentives and sanctions are intended to result in "increased commitment of intermediaries to the basic policy goals" (May, 2003, p. 224). For the purposes of this study, incentives can be understood as the extent to which counties perceive there to be inducements associated with implementing NIMS and sanctions can be understood as the extent to which counties perceive there to be penalties for failure to implement NIMS. As May (2004) pointed out, the "traditional tool-kit for obtaining compliance is through enforcement actions and imposition of sanctions for those found to be out of compliance" (May, 2004, p. 43).

However, the promise of reward and/or the threat of sanction must be credible before being effective. The policy literature indicates that while the federal government could use funding as an incentive/sanction, it often does not actually apply sanctions. As Van Meter & Van Horn (1975) pointed out,

Perhaps the most threatening form of federal influence is the power to withdraw or withhold funds from states and localities. This is the ultimate weapon in the federal government's arsenal of influence. However, this weapon is rarely used. It may cause embarrassment for all concerned and damage the only ally which the federal government has in the area—the state or local implementing agencies (p. 470).

Thus, the literature indicates that implementation behavior could vary depending on a county's perceptions of the existence of incentives/sanctions, the value of the incentives, and the likelihood that withholding of funding will be used as a sanction. Therefore, this study explored the extent to which counties perceived

- a) there were incentives for implementing NIMS;
- b) the incentives for implementing NIMS to be valuable;
- c) there would be sanctions for failing to implement NIMS; and,
- d) the likelihood of sanctions.

These questions regarding the incentives and sanctions associated with NIMS were included within the group of independent variables related to policy characteristics in the study's causal model.

Capacity-Building Resources

Funding to implement NIMS, training related to NIMS, the availability of technical support, and a realistic timeframe for implementation are resources that if provided to counties might help build their capacity to implement the system. The NIMS literature provided indications that these types of capacity-building resources for NIMS implementation may be lacking. For instance, Jensen (2009) noted that NIMS was not a "source" of funding (p. 11). And, Neal & Webb (2006), Jensen (2008), and Jensen (2009) all suggested that issues related to training (a form of technical support) may be related to

variation in NIMS implementation. In fact, Jensen (2008) suggested that the relationship between NIMS training as an independent variable and NIMS use be explored by future research.

While the NIMS literature did not explore the issue of capacity-building resources in detail, the policy literature has repeatedly examined the relationship between implementation and capacity. Edwards (1980) and Keiser & Meier (1996) found that implementation improved when resources were provided specifically for the purposes of the policy's implementation. Montjoy and O'Toole (1979) agreed; they stated, "the surest way to avoid...implementation problems is to establish a specific mandate and provide sufficient resources" (p. 473). According to May (2003) capacity-building provisions that could be present in policies include "funding...training, and technical assistance". Hill (2003), Sabatier, 1991, and Schneider and Ingram (1990) seconded the importance of all or some of these same capacity-building provisions. The provision of adequate time to institute a policy is an additional resource to consider in relation to implementation (Hogwood & Gunn, 1984; Menzel, 1989).

Even though the NIMS literature has informed the exploration of capacity-building factors in only a limited way, the policy implementation literature emphasized the importance of examining the influences of these factors on implementation. Thus, this study examined, as independent variables, the extent to which emergency managers perceived these provisions to be present in NIMS. Specifically, the study posed questions to ascertain the extent to which counties believed

- a) adequate funding had been provided for NIMS implementation;
- b) adequate NIMS training had been provided;

- c) there existed adequate technical support for NIMS implementation at the state and federal level; and,
- d) the timeline for implementing the NIMS was realistic.

The questions regarding the provision of capacity-building resources for NIMS implementation were included within the group of independent variables related to policy characteristics in the study's causal model.

So far, the NIMS and policy implementation literature suggested that a number of policy-related variables influence policy implementation. This study examined the relevance of the underlying theory, clarity and specificity, and capacity-building resources to implementation behavior by asking emergency managers to assess their county's perception of the policy's characteristics. In addition to perceptions of NIMS as a policy, both the NIMS and policy literature suggested that local structural and situational characteristics may be related to implementation.

Local Structural and Situational Characteristics

Aspects of local county structure and situation such as leadership, local capacity, interorganizational relationships, and implementer characteristics may have an influence on implementation behavior. The NIMS literature was most informative in this area—Jensen (2009) in particular. As she noted,

...local conditions present in rural counties constitute a set of factors that individually and/or collectively present impediments to NIMS implementation. In contrast to emergency managers' individual perceptions about NIMS, as discussed above, these factors are coercive on emergency managers when present. Of far more impact than the emergency managers themselves, these local conditions determine whether and to what extent NIMS compliance is undertaken and implemented as designed (Jensen, 2009, p. 15).

As will be demonstrated in the paragraphs to follow, there was again considerable overlap between the policy literature related to local characteristics and the characteristics suggested by the NIMS literature.

Leadership

Both state departments of emergency management/services and county board of commissioners/advisors can play leadership roles in NIMS implementation in county jurisdictions. State departments of emergency management/services, like county governments, are responsible for ensuring the implementation of NIMS within their state. Also like county governments, state departments of emergency management/services must comply with NIMS implementation in order to receive Homeland Security preparedness funding. Yet, given our federalist system, the state only has limited authority to compel counties within their states to implement NIMS.

Nevertheless, state departments of emergency management/services can choose the extent to which they emphasize NIMS implementation, emphasize NIMS implementation *vis a vis* other emergency management priorities, and follow-up on implementation progress. Moreover, states can vary in their awareness of NIMS and belief in the goals of the system. Jensen (2009) found that counties are often aware of where their state “stands” on NIMS and that the state influences how those counties approached implementation within their county. Jensen (2009) stopped short of stating whether state influence was a positive or negative influence on implementation. Yet, as is evidenced by the following quotation, further exploration of the influence of state leadership on county implementation behavior is warranted.

Thus, where the state acted as a buffer between the federal and local levels of government, NIMS compliance was attempted with more energy and enthusiasm. However, it was clear that NIMS was being significantly modified in the process even when there was a spirit of cooperation. It was therefore difficult to determine from this research whether or not the state's role as a buffer was a net positive influence on NIMS compliance and implementation (Jensen, 2009, p. 20).

County commissions, sometimes called county boards of advisors, can exert either a positive or a negative influence on NIMS implementation within a county in much the same manner as state governments can. County commissions can also choose the extent to which they emphasize NIMS implementation, emphasize NIMS implementation *vis a vis* other emergency management priorities, follow-up on implementation progress, and the commissions can vary in their awareness of NIMS and belief in the goals of the system. Jensen (2009) found that county commissions played a significant role in NIMS implementation. She noted,

The board of county commissioners was seen to be particularly important in NIMS compliance and implementation because not only did the board have to be trained in NIMS themselves, but also because the board had the authority to compel action within the county they represented. The support of the county commissioners was essential to NIMS success. In fact, the county commissioners could virtually halt compliance and implementation in its tracks when they did not fully support NIMS (p. 19).

In her study, Jensen (2009) found that county commissions had a negative influence on NIMS implementation.

The entrenchment of elected officials was seen, in this research, to be a condition that constrained NIMS implementation. Moreover, the data revealed that county commissions were not as concerned about fulfilling NIMS as they were with the day-to-day maintenance of their counties and the needs of their counties outside of emergency management (Jensen, 2009, p. 19).

Jensen's (2009) study was confined to three states, was not generalizable, and did not focus on the role of leadership as a central concern in her research; therefore, before any conclusions about the role of county commissions in NIMS implementation can be made, additional research must investigate the leadership of county commissions as a causal factor in NIMS implementation.

There is a significant amount of policy literature that supports the notion that leadership is an important factor in policy implementation (see for example: Fernandez et al. 2007; Hill, 2003; Keiser & Soss, 1998; Langbein, 2000; May & Winter, 2007; Mazmanian & Sabatier, 1989; Riccucci et al., 2004; Van Meter & Van Horn, 1975). In looking at the effect of leadership on implementation issues, "communications, goals, attitudes, and beliefs of administrators" have been investigated (Ewalt & Jennings, 2004, p. 451). And, as May and Winter (2007) aptly stated, "At issue is the strength and consistency of the signal that elected officials at all levels provide to implementers" (p. 4). Jennings and Ewalt (2000) and Ewalt and Jennings (2004) found a relationship between leadership and policy implementation.

While recognizing that "political and managerial influences" are oft studied and relevant to implementation, May and Winter (2007) pointed out that their influence on behavior has often been "muted" (p. 3). This finding by May and Winter (2007) made it all the more important to consider the extent to which the presumed positive role that leadership can have on implementation is supported by the data. Therefore, this study explored leadership as a concept by inquiring as to the extent to which counties believed county commissions and state departments of emergency services/management

a) were aware of NIMS;

- b) believed NIMS was important;
- c) believed NIMS was a solution to emergency management problems;
- d) perceived the goals of NIMS were consistent with local or state goals;
- e) perceived NIMS implementation as a priority for the county;
- f) perceived NIMS implementation as a priority for the jurisdiction *vis a vis* other local or state priorities; and,
- g) followed-up on NIMS implementation within the county.

The questions regarding the leadership of county commissions and state departments of emergency services/management were included within the group of independent variables related to local structural and situational characteristics in the study's causal model.

Local Capacity

The local capacity of counties is an important aspect of local structure and situation. For the purposes of this study, one can understand local capacity to refer to the financial and human resources in the county that encourage or constrain the emergency manager and the county at-large in devoting time to (i.e., human capacity) and/or investing funding (i.e., financial capacity) in NIMS implementation.

Both Jensen (2008) and Jensen (2009) had findings directly related to the potential role that local capacity can play in NIMS implementation behavior. Prior to conducting her onsite research, Jensen (2008) had hypothesized that NIMS would be fully implemented in the jurisdiction impacted by the tornado in part because of the high capacity of the local emergency management program. Jensen (2008) discovered that even though the capacity of the local emergency management program was credited with the local jurisdiction's successful response efforts, capacity alone was not enough to allow

full implementation of NIMS. In Jensen's (2009) study during routine times, she discovered that various aspects of local emergency management program capacity such as the number and status of emergency management program staff, the local emergency management program budget, time to devote to the system's implementation, and the status of first responders (i.e., volunteer or paid professional) could be related to NIMS implementation. Yet, the implementation behavior of a county is not solely a function of the local emergency management program. Even though an emergency management program might have sufficient capacity to implement the system, the county at-large may not. Because a variety of organizations and agencies within any given county are supposed to implement NIMS, the capacity of the wider county is important to consider in addition to the capacity of the local emergency management program.

The policy implementation literature also suggests that there is a relationship between resource capacity at the local level and implementation issues (Bali, 2003; Berry et al., 1998; Brodtkin, 1997; Hagen, 1987; Hill, 2003; Lipsky, 1977, 1980; Lundin, 2007b; Pessio, 1978; Van Meter & Van Horn, 1975; Winter, 2001). This study explored the relationship between local capacity and implementation behavior by asking questions designed to ascertain the extent to which counties and emergency management programs had

- a) the human and financial capacity to fulfill their needs; and,
- b) human and financial capacity to implement NIMS.

The questions regarding local capacity were included within the local structural and situational characteristics group of independent variables in the study's causal model.

Inter-organizational Characteristics

Neal and Webb (2006) found that NIMS did not map onto the organizational culture of some of the agencies and organizations responding to Hurricane Katrina and that among those agencies and organizations the system was not utilized fully. For this reason, and others, Neal and Webb (2006) concluded that NIMS is flawed as a system. Their conclusions imply that even if organizations had had less rigid organizational cultures, the system's goodness-of-fit with organizational cultures would not have been enough for the system to have been utilized as an effective management system in the response. Nevertheless, it stands to reason that organizations that perceive NIMS to have goodness-of-fit with their organization's culture might be more willing to implement the system. Exploration of whether the organizations within counties appeared to believe NIMS fits with their culture was a necessary part of this study.

Jensen's (2009) study further examines how inter-organizational factors may be related to NIMS implementation behavior. She discovered that when agencies or organizations within a county desired to preserve organizational autonomy NIMS implementation was hindered. Yet, operating within the NIMS framework does not require that organizations give up their autonomy. Instead, NIMS requires that relationships between organizations are integrated, based on trust, coordinated, and involve organizations actually working with one another. Jensen's (2009) findings related to organizational autonomy suggest that inter-organizational relationships in some areas are not conducive to implementing NIMS fully. Therefore, it was also important for this study to explore the relationship of various inter-organizational characteristics to implementation behavior.

Like the NIMS literature, the policy literature has found inter-organizational characteristics to be relevant to understanding implementation (Bardach, 1998; Lundin, 2007a,b). The relationship between inter-organizational relationships and implementation has been explored utilizing independent variables such as trust (Bardach, 1998; Lundin, 2007a), goal congruence (Ewalt & Jennings, 2004; Lundin, 2007a; Meyers et al., 2001; Powell et al., 2001; Van Meter & Van Horn, 1975), “values, priorities, resources” (Keiser & Meier, 1996, p. 347), integration of implementing agencies (Mazmanian & Sabatier, 1989), cooperation (Hill & Hupe, 2009; O’Toole, 1988), coordination (Agranoff, 1991; Grubb & McDonnell, 1996; Jennings, 1994; Jennings & Ewalt, 1998), relationships between implementing organizations (O’Toole, 1997), and resource interdependence (Benson, 1982; Lundin, 2007a; Rhodes, 1988; Scharpf, 1978). While in nearly every instance, the independent variables related to inter-organizational relationships were found to be positively related to implementation, Lundin (2007a) argued “that it is not reasonable to assume that inter-organizational cooperation will always have a positive impact on how policies are implemented” (p. 630). This study could not explore all of the independent variables identified in the policy implementation literature as relevant to organizations and/or inter-organizational relationships; however, this study did explore the relationship between inter-organizational relationships and county NIMS implementation behavior by asking questions designed to assess the extent to which there was a perception

- a) that NIMS fits with organizational cultures within the county;
- b) of inter-organizational trust within the county;
- c) of working relationships within the county;
- d) that barriers to coordination exist within the county;

- e) of goal congruence with respect to NIMS within the county; and
- f) that implementing organizations within the county were resource interdependent.

The questions regarding inter-organizational characteristics were included within the local structural and situational characteristics group of independent variables in the study's causal model.

Emergency Manager Characteristics

As has been previously discussed, county emergency managers are charged with coordinating and reporting on NIMS implementation and compliance at the local county level. The degree to which county emergency managers influence the implementation behavior of their counties is as yet unknown. What is known however is that, as Jensen (2009) noted in her study, emergency managers frequently do not have the authority to compel organizations and agencies within the county to participate in NIMS (p. 14). Therefore, if emergency managers influence the implementation behavior of their counties (and it is assumed that they would at least attempt to do so by virtue of being tasked with the responsibility of ensuring implementation), then factors other than legal authority would have to explain the influence. Fortunately, the literature provides some clues.

In essence, county emergency managers are what the policy implementation literature refers to as a street-level bureaucrat. Street level bureaucrats can be understood to be local level implementers of policies and mandates put forth by higher levels of government (Lipsky, 1980). The policy literature has explored the relationship between street-level bureaucrat characteristics and implementation including studies of street-level bureaucrat's authority (Andrews et al., 2007), "knowledge and opportunities to learn" (Hill, 2003, p. 278), tenure, prior training, education, and age (Hedge et al., 1988).

This study explored the relevance of such characteristics as suggested by the policy implementation literature and by the work of Leifeld (2007). Leifeld (2007) suggested that the number of years the county emergency manager has been employed in their current position, whether or not they are tasked with job responsibilities outside of emergency management, their education, and their personal disaster experience may be related to implementation behavior (Leifeld, 2007, p. 73). Thus, this study gathered data on a variety of demographic factors related to a key street-level bureaucrat in NIMS implementation to assess the influence of these factors on county implementation intent and behavior.

Disaster Characteristics

So far, the issues addressed in this section on local structure and situation have emerged in the NIMS literature and frequently have been complemented by the policy literature; however, the NIMS literature contributed a unique addition to this group of variables. The NIMS literature suggested that, in the case of emergency management policy implementation, examination of local structure and situation should include the county's disaster experience or disaster characteristics. In her concluding remarks, Jensen (2008) suggested that the relevance of local disaster characteristics to implementation should be explored through further research. Leifeld (2007) also suggested that local characteristics such as disaster experience and perceived risk of disaster might be relevant to understanding NIMS implementation. Based on the NIMS literature this study explored the relationship of these variables to implementation intent and behavior within the group of variables related to local structural and situational characteristics.

Implementer Views

The final group of potentially explanatory factors focuses on implementer views. Neal and Webb (2006) indicated that implementation was impacted by the presence or absence of buy-in to the system. Research by Jensen (2008) and Jensen (2009) also lend further support to the importance of studying the relationship of buy-in to implementation intent and behavior. Thus, the NIMS literature clearly signaled the need to explore the impact of implementer views of NIMS on implementation behavior.

Similarly, the policy implementation literature has suggested that the views of those expected to implement a policy are important to consider (see for example: Bali, 2003; Berman, 1978; Bowman et al., 1987; Edwards, 1980; Elmore, 1978, 1979, 1985; Hjern et al., 1978; Lipsky, 1971; May, 1993, 1994, 1995; May & Burby, 1996; Sabatier, 1986). Furthermore, a wealth of literature suggests that the attitudes, motivations, and predispositions of implementing agencies are related to implementation-centered dependent variables (see for example: Bali, 2003; Berry et al., 1998; Bullock & Lamb, 1984; Elmore, 1987; Fernandez et al., 2007; Goggin, 1986; Goggin et al., 1990; Hedge et al., 1988; Kaufman, 1973; May 1993, 1994, 1995; May & Burby, 1996; May & Winter, 2007; Mazmanian & Sabatier, 1989; Sabatier & Mazmanian, 1979; Schneider & Ingram, 1990; Stoker, 1991; Van Meter and Van Horn 1975). As Hedge et al. (1988) pointed out,

The question of attitude-behavior linkages is central for practitioners and scholars alike since both prescriptive and explanatory models of regulation and implementation proceed on the assumption that attitudes matter (p. 324).

The implementing agency at the center of the present study is the county and all of its emergency management related organizations, governmental and otherwise. This study asked the county's emergency manager to reflect on and to report what the county's

collective attitudes were. While making such a request is risky in the sense that it is a significant reflective exercise, it is analogous to the request by NIMSCAST for county emergency managers to reflect on and report countywide implementation behavior. While these requests are risky, they are also appropriate to the pivotal role that the county emergency manager plays in NIMS implementation. Furthermore, it is equally inappropriate (if not more so) to simply ask the county emergency manager to report his or her own views.

A large and growing body of policy literature using network theory and analysis as its underlying theoretical framework indicated that the attitudes, motivations, and predispositions of *all* of the implementing agencies are relevant (Benson, 1982; Kickert et al., 1997; Klijn & Koppenjan, 2000; Koppenjan & Klijn, 2004; Rhodes, 1988; Scharph 1978). The attitudes, motivations, and predispositions of implementing agencies are three different concepts that require exploration. For the purposes of this study, one can understand attitudes toward a policy to be the extent to which implementing agencies “like” the policy in question; motivations as the underlying reason(s) implementing agencies implement the system (to the extent that they do); and, predisposition as the extent to which implementing agencies have opinions about the role of the federal government in policymaking and the appropriateness of federal policies in general.

Attitudes toward a policy are critical to ascertain to understand implementation behavior, for as McGuire (2009) stated, “implementers who are favorably disposed to a policy will seek to give its fullest force, whereas those who oppose it will engage in delay, obfuscation, or other foot-dragging strategies” (57). Attitudes would involve measurement of “...the direction of their response toward it (acceptance, neutrality,

rejection), and the intensity of that response” (Van Meter & Van Horn, 1975, p. 472).

Others have suggested that attitudes involve measurement of whether or not implementers agree with policy goals or tasks related to a given policy (May & Winter, 2007; Yin, 2000) and implementers’ level of knowledge about a policy (May & Winter, 2007). Thus, attitude could have been operationalized a variety of ways.

According to Winter and May (2001), motivations to comply with a policy or regulation can be calculated, normative, and/or social in origin (p. 676). Calculated motivations are “based on expected utility which involves choosing the option—compliance or not—that has the higher net return” (Winter & May, 2007, p. 676). Winter and May (2007) defined normative motivations as “entities’ combined sense of moral duty and agreement with the importance of a given regulation” (p. 677). Finally, the authors described social motivations as “the desire of the regulated to earn the approval and respect of significant people with whom they interact” (p. 678). Winter and May (2007) found that each type of motivation was “substantively and statistically noteworthy” in their study (p. 686).

The policy literature also has suggested that the predispositions of implementers may have an influence on implementation behavior. And yet, as Hedge et al. (1988) also point out, “...there are reasons for believing that the predispositions...need not condition their actions” (p. 324). Therefore, based on the NIMS and policy literature, this study made an attempt to ascertain implementer views through inquiring about

- a) perceived county attitudes toward NIMS;
- b) perceived county motivations toward implementing NIMS; and,
- c) perceived county predispositions to federal policies.

The questions about implementer views were included as an independent variable group within this study's causal model.

Research Design

To date there have been only three empirical studies of NIMS. As has been evidenced in the preceding pages, these studies have greatly influenced both selection of the dependent and independent variables used in this study. However, the NIMS research has not been able to generalize its findings; has not been able to pinpoint, or at least narrow down, the factors that might impact implementation behavior; has not been able to explain the relative importance of different factors; nor, has it been able to explain the cumulative influence of all of the variables on implementation. As Jensen (2008) recommended, future research must investigate “NIMS as an emergency management system, its potential for use in disaster situations, and factors that may limit or promote its usefulness” (p. 15). This study addressed an existing gap in the NIMS literature by collecting survey data from a random sample of county emergency managers. The data allowed this study to test the individual, combined, and relative influence of the independent variables that contribute to county implementation behavior. For the first time, a study has systematically and quantitatively examined NIMS implementation behavior and factors affecting implementation behavior nationwide and produced generalizable results.

Conclusion

This literature review has demonstrated that the empirical work done on NIMS to-date had considerable overlap and goodness-of-fit with the policy implementation literature. The review has discussed the variables that warranted examination in a study of

NIMS implementation behavior and justified an inductive model for data gathering and analysis. Chapter 3 will now introduce and justify the research design that among other things operationalizes the dependent and independent variables introduced and defended in Chapter 2.

CHAPTER THREE: RESEARCH METHODS

Chapter Three is comprised of six sections. The first section describes the unit of analysis and unit of data collection for this study. The second section relates the study's population and sampling procedures. The third section outlines how the study's data were collected. The fourth section reviews the survey's design and measures and the fifth section specifies the study's measures. And, finally, the sixth section summarizes the study's limitations.

Unit of Analysis and Unit of Data Collection

The unit of analysis for this study was counties in the United States. The implementation behavior of counties was clearly important, as counties are responsible for coordinating and reporting on NIMS implementation and compliance within their county. Groups within a county that should be participating in the implementation of NIMS include, among others, fire departments, law enforcement agencies, emergency medical services, nongovernmental organizations (e.g., Red Cross, Salvation Army), hospitals, and schools. Therefore, county implementation of NIMS involves a diverse array of groups all of which may a) influence the county's overall implementation efforts and b) evidence different implementation behavior.

This research did not attempt to ascertain the implementation behavior of each individual group within counties; rather, this study asked county emergency managers to characterize the overall implementation behavior of their counties. County emergency managers, therefore, were the unit of data collection for the research. As was mentioned earlier, it was considered appropriate to ask county emergency managers to make judgments about the implementation behavior of their county because county emergency

managers are tasked with the responsibility of coordinating and reporting on NIMS implementation and compliance at the county level.

Population and Sampling

The population for this study included all counties in the United States. According to the National Association of Counties, there are 3,066 counties in the United States. The sample of United States counties drawn for this study was stratified and selected through systematic random sampling. This sampling strategy was selected to permit generalizations about the implementation behavior of counties in the United States (Chambliss & Schutt, 2006).

An acceptable margin of error, or confidence interval, in the social sciences is 5% and a typical confidence level is 95% (Bernard, 2000, pp. 529-530). Using a sample size calculator, and the aforementioned tolerance for error and confidence interval, it was initially determined that a sample of 344 counties would have to be drawn; however, the survey literature notes that a much larger sample needs to be drawn to accommodate non-response and refusal by potential respondents (Bernard, 2000, Wright, 1979). Therefore, out of an abundance of caution, the researcher drew a random sample of 1,041 counties assuming a very modest response rate of roughly 33 percent.

The researcher stratified the sample population of counties by state prior to sample selection. This study assumed that hazards, disaster experience, and location in a rural or urban region may affect how any given jurisdiction perceives NIMS (Drabek, 1987, Leifeld, 2007). Stratification by state served as a rough proxy measure of the different attributes potentially related to implementation that may be exhibited by counties in different areas throughout the nation. Assuming that regional differences are related to

implementation, this stratification of the sampling frame prior to systematic random sampling presumably reduced sampling error at least somewhat. Once the researcher selected the sample of counties, contact information for county emergency managers was obtained from a combination of public sources including state emergency management websites, county government websites, and public phone directories.

Procedures

The data collection method for this study was a combination of internet and mail survey. After securing both the email addresses and physical addresses for county emergency managers in the randomly selected counties, survey design began. Initially, the researcher designed the survey for web-based delivery to be hosted by Survey Monkey.com (Appendix H). The researcher sought, and was granted, IRB approval (Appendix J). The researcher then initiated a series of contact emails in keeping with Dillman's (2007) suggested procedures to maximize survey response rates and data collection.

From the start of the data collection via Survey Monkey.com, respondents brought a series of issues to the researcher's attention. The issues centered primarily around the Survey Monkey.com software although there was one issue related to the survey instrument itself. The researcher, in conjunction with her advisor, made the decision to stop collecting data through Survey Monkey.com and to switch to a mail survey using the same random sample (minus those counties whose emergency managers had already completed the survey through Survey Monkey.com). Data collection was then pursued through a mail survey. The following sub-sections recount the steps taken in the data collection process.

Step One: Initial Contact

Once the survey design was finalized and IRB approval secured, the researcher sent an email to all county emergency managers within the sample informing them that they were selected at random to participate in a national survey on NIMS; that a link to a survey would arrive in the next two weeks; and that their response would be appreciated within a specified timeframe (Appendix C). The researcher received a number of mailer demons (i.e., automatic, server-generated messages that indicate when an email cannot be delivered to a provided email address) upon her distribution of the notification email. Unfortunately, the researcher was unable to locate the correct email address for 68 of the 1,041 email addresses. The sample contacted for the survey was thus limited to 973.

Step Two: Formal Survey Invitation

Approximately two weeks after the researcher made contact with a notification email, the researcher sent a formal invitation email containing a link to the internet survey to all county emergency managers within the sample (Appendix D). When a county emergency manager followed the link provided, they first encountered an IRB Information Sheet about the study and a short set of instructions. To establish trust as Dillman (2007) recommends, the researcher attempted to increase rewards of participation for county emergency managers by “showing positive regard”, “saying thank you”, “asking for advice”, and “supporting group values” in both the Invitation Letter and Information Sheet (p. 15-16).

Step Three: Internet Survey Issues

As emergency managers completed the survey, the researcher crossed off the county that the emergency manager represented on a master list. However, from the

beginning of data collection, and through the first two weeks of data collection using Survey Monkey.com, respondents brought a number of issues to the attention of the researcher.

- Numerous respondents sent emails to the researcher indicating that they had progressed to various stages in the survey (i.e., from 5% to 95% completed) and were kicked back to the start of the survey without the software preserving the responses they had entered to survey questions. In many of the emails, emergency managers indicated they were frustrated and discontinuing the survey.
- Respondents sent emails to the researcher indicating that they were having trouble responding to the survey from their preferred Blackberry, cellphone, or other handheld electronic device and were therefore discontinuing the survey.
- Many emergency managers sent an email to the researcher indicating that they could not move past certain pages in the survey despite repeated attempts and that they were discontinuing the survey.
- The researcher received a number of emails indicating that emergency managers within certain states (5 states are known of specifically) were sending emails throughout their state describing issues with the survey and recommending that other county emergency managers within the state who received the survey link choose not to complete the survey.
- Finally, the researcher realized after the first week that a page of the Survey Monkey.com survey had been either deleted by the researcher or the Survey Monkey.com support staff or had never been uploaded prior to the start of data collection.

The multiple issues encountered using Survey Monkey.com hindered data collection substantially.

The researcher took two steps to attempt to resolve the issues encountered in the initial data collection. First, throughout the initial, two-week period of data collection the researcher was in contact, multiple times a day, with Survey Monkey.com support staff to attempt to resolve the reoccurring issues with the survey software. At the end of the two-week period the researcher, and her advisor, were assured by Survey Monkey.com staff that the problems with the software had been resolved. Second, the day the researcher realized there was a page missing from the online survey (i.e., a total of eight statements from the policy characteristics group of independent variables), she was able to upload the page into the survey immediately so that all respondents who returned to the survey or began the survey after that day would have the opportunity to complete the entire survey as designed. The researcher also created a new survey with only the eight missing questions and sent a link to the new survey with a short explanation (Appendix E) that asked emergency managers who had already responded to the survey to consider completing the additional eight-question survey. Approximately half of the emergency managers contacted chose to complete the eight-question survey. At the end of the two-week period, with assurances from Survey Monkey.com staff that all of the survey issues had been resolved, and after inserting the eight missing questions into the online survey, a reminder email was sent to all county emergency managers who had not yet completed a survey on behalf of their jurisdiction (Appendix F). Less than one hour after the researcher sent the reminder email, she was bombarded by emails indicating that the Survey Monkey.com software issues persisted.

Step Four: Termination of Internet Survey Data Collection

The researcher consulted with her advisor and the decision was made to cease collecting data through Survey Monkey.com. To that point, 169 emergency managers had participated in the study (17.4% of those contacted by email). The researcher sent an update email to all of the county emergency managers who had received the reminder email just hours before indicating 1) that the problems related to Survey Monkey.com were persisting; 2) her regret and appreciation for their time; 3) that data collection through Survey Monkey.com would cease immediately; and, 4) that they would receive a mail version of the survey with a small, token gift in January 2010 (Appendix G).

Step Five: Mail Survey

The researcher revised the internet survey to be suitable for mailing, and wrote a cover letter to accompany the survey (Appendix I). The researcher filed an amendment to the original research protocol with IRB and IRB granted approval (Appendix K). The researcher coordinated with NDSU's Printing Office to ensure the copying and mailing of the survey to all of the emergency managers in the original sample who had not yet been identified as having completed a survey on behalf of their jurisdiction. The mail survey packets were sent to emergency managers the last week of January 2010.

Step Six: Follow-up and Data

After two weeks, the researcher sent a reminder email to all emergency managers who should have received a survey packet in the mail. Additional survey packets were sent to any emergency managers who contacted the researcher indicating that he/she had not received the survey packet.

The researcher processed mail survey returns until the second week of March 2010. To that point, the mail survey resulted in an additional 186 surveys. The combination of the internet survey and the mail survey resulted in a participation rate of 36.5% or 355 out of the 973 county emergency managers contacted. The data from the 355 surveys are used for analysis in this study. Surveys were completed by representatives of counties from 46 states.

Step Seven: Combining Datasets

The question of whether the two different methods of data collection resulted in two different audiences completing the survey was addressed prior to any other statistical analysis. It was discovered using paired sample t-tests that the mean values to questions completed through the internet survey and the mean values to questions completed through the mail survey demonstrated no statistically significant differences ($p \leq .05$). Therefore, it was determined that it was appropriate to use one data set comprised of both the internet and mail survey data to analyze descriptive statistics, correlations between variables, and basic relationship testing between the study's independent variables and dependent variables.

Survey Design

The researcher designed the survey instrument in keeping with Dillman (2007). While similar, there are slight differences in recommendations for the design of surveys for mail and internet distribution (Dillman, 2007). In both cases, every effort was made to adhere to the design recommendations made by Dillman (2007).

Measures

Several guidelines for the development of survey questions—irrespective of method of delivery—are listed in Table 2. The researcher designed the measures presented in the pages to follow with these guidelines in mind.

Table 2. Guidelines for developing survey questions

<i>Avoid</i>	<i>Ensure</i>
Requiring people to get more information to answer questions (Babbie, 2001)	Equal number of positive and negative response choices (Dillman, 2007, p. 57)
Threatening questions (Nachmias & Nachmias, 1987)	Specific instructions (Nachmias & Nachmias, 1987)
Questions that allow different interpretations (Babbie, 2001; Dillman, 2007)	Possible contingencies accounted for (Babbie, 2001; Nachmias & Nachmias, 1987)
Double-barreled questions (Babbie, 2001)	Choices are mutually exclusive (Dillman, 2007)
Double negatives (Babbie, 2001)	Vocabulary is simple (Babbie, 2001; Dillman, 2007; Jones, 1985)
Requiring too much precision (Dillman, 2007)	Questions short (Babbie, 2001; Dillman, 2007)
Vague quantifiers (Dillman, 2007, p. 54)	Ordering effects accounted for (Babbie, 2001; Nachmias & Nachmias, 1987)
Using biased words (Babbie, 2001; Nachmias & Nachmias, 1987)	Question has a “ready-made” answer (Dillman, 2007, p. 35; Nachmias & Nachmias, 1987)
Vague terms or categories (Dillman, 2007; Jones, 1985)	People will be motivated to answer (Dillman, 2007; Jones, 1985)
Leading questions (Jones, 1985; Nachmias & Nachmias, 1987)	Justification for each question asked (Babbie, 2001)
	Clear about whether seeking information about attitudes, beliefs, behavior, or attributes (Jones, 1985)

The construction of the measures that follow were directed by three additional considerations. First, the development of the measures was guided by the desire to create one or more indices as an overall measure for each independent variable group discussed in the Literature Review (i.e., policy characteristics, local structural and situational

characteristics, and implementer views). Second, to increase the reliability of each index the researcher developed paired statements for each item within indexes. Third, the researcher operationalized variables as precisely as possible (e.g., with Likert scales) to allow multivariate regression analysis on the data.

Multivariate regression is a powerful and useful statistical test. The test can:

- reveal the combined explanatory power of two or more independent variables and/or independent variable groups on a dependent variable;
- examine the relative explanatory power of each independent variable and/or independent variable group on a dependent variable; and,
- allow the researcher to test the influence of each of the independent variables and/or independent variable groups on the dependent variable while controlling for the influence of the other independent variables. (Blaikie, 2003, p. 46-147)

However, several assumptions underlie a multivariate regression test. It is assumed that 1) “the dependent variable...is ... a function of a number of independent variables” (Wright, 1979, p. 147); 2) the model is a reflection of the real world (Wright, 1979, p. 149); 3) the survey instrument is unbiased (Wright, 1979, p. 157); 3) the survey instrument precisely measures the phenomena under study (Blaikie, 2003, p. 147); 4) the distribution of the variables being tested is equal to or greater than standard normal; and, 5) that linear relationships between variables exist (Blaikie, 2003, p. 147).

There are also several data measurement-related criteria that must be met in order to run a multivariate regression test. For instance, a survey instrument must measure the dependent variable (i.e., behavioral intent and compliance behavior) and each independent variable as either a continuous interval measure, an interval-proxy (e.g. a 5-point Likert

scale), or a dichotomous nominal measure (i.e., dummy variable). In this study, the survey was designed to be conducive, as much as reasonably possible, to all of the above noted assumptions. As noted earlier, the researcher validated the assumptions that can only be addressed with actual data once data were collected.

Dependent Variable Measures

As discussed in the Introduction Chapter, NIMS implementation involves multiple facets. Counties are supposed to implement NIMS on a daily basis, in small-scale events, and implement specific aspects of NIMS related to each of the system's four primary components (i.e., preparedness, resource management, communication and information management, and command and management). Therefore, examination of NIMS implementation should include multiple facets. The researcher's goal was to analyze NIMS implementation as a single concept by converting the statements into an index during data analysis. Of course, the assumption underlying the development of these statements was that they would hold together as an index and demonstrate reliability. The validation of this assumption is discussed later.

As discussed in the Literature Review, two aspects of implementation behavior are important to assess—behavioral intent and actual behavior. Therefore, the statements designed to measure NIMS implementation were developed as two series—one series related to behavioral intent and one series related to actual implementation behavior. The only difference between the statements in each series were the phrases *intends to implement* and *actually implements* at the start of each statement. The survey listed the statements related to behavioral intent and those related to actual implementation on separate pages and each series of statements was preceded by detailed instructions in the

hopes that emergency managers would think about the two issues separately. For each statement, county emergency managers were provided with a 6-point Likert scale with values from 0-5 with “0” labeled as “Not at All”, “1” labeled as “Minimally”, “3” labeled “With Modification”, “5” labeled as “As Designed”, “NA” for “Not Applicable” and “DK” for “Do Not Know”. The statements, that all began with the lead-in “My county...”, are presented in Table 3.

Table 3. Measures of implementation intent and behavior

<i>Aspect of NIMS</i>	<i>Statements</i>
General	• ... <i>intends to implement</i> NIMS...
Daily Basis	• ... <i>intends to implement</i> NIMS on a daily basis...
Small-scale Events	• ... <i>intends to utilize</i> NIMS in small-scale events...
Preparedness	• ... <i>intends to implement</i> all of the mandated compliance measures related to the <i>Preparedness Component</i> ...
Resource Management	• ... <i>intends to implement</i> all of the mandated compliance measures related to the <i>Resource Management Component</i> ...
Communication and Information Management	• ... <i>intends to implement</i> all of the mandated compliance measures related to the <i>Communication and Information Management Component</i> ...
Command and Management	• ... <i>intends to implement</i> all of the mandated compliance measures related to the <i>Command and Management Component</i>

Independent Variable Measures

The following pages describe the independent variable measures for this study. Based on the Literature Review independent variables measures are developed in three groups, or blocks, including policy characteristics, local structural and situation characteristics, and implementer views. Prior to presenting the measures for each of these groups however the reader must be informed that immediately preceding the measurement of each group of variables within the survey respondents were reminded to consider the

statements for their county overall. An example of the instructions provided to respondents is as follows:

The first section asks you to evaluate the extent to which ***your county or equivalent entity*** would agree or disagree with the provided statements. In other words, how would you ***characterize the OVERALL perception*** of all of the groups in your county that are supposed to implement NIMS (e.g., law enforcement, fire services, emergency medical services, public works, hospitals, schools, Red Cross, Salvation Army, etcetera)?

Policy Characteristics

The first group of the three key groups of explanatory factors specified in the Literature Review is the block of policy characteristics. The policy characteristics assessed as part of an overall index designed to measure county perceptions of the NIMS policy included the following: a) validity of underlying theory (i.e., whether counties believed NIMS solved a real and severe problem and whether the system did so effectively), b) the extent to which NIMS is perceived to be clear and specific, c) the communication of policy objectives and tasks, d) perceptions of the incentives and sanctions associated with NIMS (i.e., the existence and value of incentives and the existence and likelihood of sanctions), and d) perceptions of capacity-building resources associated with NIMS (i.e., the provision of training, funding, technical support, and time to implement the system). For each statement, county emergency managers were provided with a 5-point Likert scale with values from 1-5 with “1” designated as “Strongly Disagree”, “3” designated as “Neither Agree or Disagree”, and “5” designated as “Strongly Agree”. County emergency managers were also provided the option to choose “NA” for “Not Applicable” or “DK” for “Do Not Know”.

Each characteristic within the index was measured with two similarly worded statements. This approach was taken to enhance the likelihood of ultimately obtaining a reliable index. These paired questions were haphazardly distributed throughout the policy characteristics section of the questionnaire so the matched pairs were generally not next to each other. Table 4 presents the policy characteristics that were measured and their respective measures.

Table 4. Policy characteristics measures

<i>Concept</i>	<i>Statements</i>
Underlying Theory	
<i>Problems</i>	<ul style="list-style-type: none"> • Our county has experienced similar issues to those associated with the communication and coordination in the response to the September 11, 2001 terrorist attacks at the World Trade Centers. • NIMS helps our county address issues we are having related to emergency management.
<i>Severity</i>	<ul style="list-style-type: none"> • Prior to NIMS our county thought its problems related to managing disasters were severe. • There is a great need for NIMS.
<i>Effectiveness</i>	<ul style="list-style-type: none"> • NIMS helps our county address emergency management issues effectively. • Without NIMS emergency management in our county would suffer.
Clarity and Specificity	
<i>Clarity</i>	<ul style="list-style-type: none"> • The objectives of NIMS in each component are clear. • The objectives of NIMS in each component are difficult to understand.
<i>Specificity</i>	<ul style="list-style-type: none"> • The tasks that must be completed in our county related to each component of NIMS are clear. • Our county understands what tasks we must complete to achieve the objectives of each component of NIMS.
Communication of Policy	
<i>Objectives</i>	<ul style="list-style-type: none"> • The federal government has communicated the objectives of the NIMS for each component clearly. • When the federal government communicated the objectives of NIMS they were difficult to understand.
<i>Tasks</i>	<ul style="list-style-type: none"> • The compliance measures issued by the National Integration Center have been specific for each NIMS component. • The federal government has not clearly identified the tasks that

Table 4 (continued)	
	must be completed to achieve compliance in each component of NIMS.
Incentives/Sanctions	
<i>Incentives</i>	<ul style="list-style-type: none"> • There are incentives to implement NIMS. • There are rewards for achieving NIMS compliance.
<i>Value of Incentives</i>	<ul style="list-style-type: none"> • The incentives provided for achieving NIMS compliance are highly valued. • It is worth implementing NIMS just because of the incentives provides for compliance.
<i>Sanctions</i>	<ul style="list-style-type: none"> • There are consequences for failure to implement NIMS fully in our county. • There are consequences for failure to implement NIMS.
<i>Likelihood of Sanctions</i>	<ul style="list-style-type: none"> • It is likely that we will be caught if we do not implement NIMS. • The federal government will withhold preparedness funding if we fail to implement NIMS.
Capacity Building Resources	
<i>Training</i>	<ul style="list-style-type: none"> • Adequate training in NIMS has been available. • The training we have received in NIMS helps us to implement the system.
<i>Funding</i>	<ul style="list-style-type: none"> • The federal government has provided funding to implement NIMS. • We have received enough funding to implement NIMS.
<i>Technical Support</i>	<ul style="list-style-type: none"> • Technical support is available if we have questions about NIMS implementation. • Any issues or concerns we have about implementing NIMS are answered by the National Integration Center, FEMA Regional NIMS Coordinators, and/or our state's NIMS Point-of-Contact.
<i>Timeline</i>	<ul style="list-style-type: none"> • Since NIMS was first mandated, the implementation activities that had to be completed for compliance with NIMS each fiscal year have been realistic. • There has been enough time to implement NIMS and achieve compliance.

Local Structural and Situational Characteristics

The second group of three key groups of independent variables specified in the Literature Review is the group of local structural and situational characteristics. The first set of characteristics assessed in this section of the survey included an index measuring the perceptions of state department of emergency management/services leadership and an index measuring the perceptions of local elected leadership. The survey measured the

concept of leadership with a series of statements with the request that respondents indicate on a 5-point Likert scale the extent to which they agree or disagree with each statement. The scales' labels were identical to those previously described. All statements began with the lead in "state department of emergency services..."

The same statements were utilized to assess county perceptions of the leadership of state department of emergency management/services leadership and their assessment of the leadership of their local elected officials. The only notable difference between the statements was that the phrase "the elected official(s) in my jurisdiction with authority over emergency management" was inserted in place of "state department of emergency management/services". The statements related to the independent variable of leadership are presented in Table 5.

Table 5. Leadership measures

<i>Concept</i>	<i>Statements</i>
Leadership	<ul style="list-style-type: none"> • Our state department of emergency management/services is aware of NIMS. • Our state department of emergency management/services believes NIMS is important. • Our state department of emergency management/services believes NIMS is a solution to emergency management problems. • Our state department of emergency management/services perceives the goals of NIMS as consistent with state goals. • Our state department of emergency management/services perceives NIMS implementation as a priority for our state. • Our state department of emergency management/services perceives NIMS implementation as a priority for the state <i>vis a vis</i> other state priorities. • Our state department of emergency management/services follows-up on NIMS implementation within the state.

To assess local capacity a series of fill-in-the-blank and multiple-choice questions were asked regarding the county's emergency management program and the broader

county. To determine county emergency management program capacity, emergency managers were asked to fill in the number of staff their local emergency management program employs, identify the status of their staff (i.e., Full-time, Half-time, Less than half-time), and identify whether the majority of their fire and emergency medical services in the county are provided by volunteers (1=Yes, 2=No, 3=Other). To determine county emergency management program financial capacity, emergency managers were asked to provide the dollar amount of their emergency management budget and the amount of preparedness funding their county has or will receive during the current fiscal year.

In addition to the questions specifically focused on local program capacity, it was also important to measure the emergency manager's perception of the county's capacity as a whole including NIMS related governmental and nongovernmental agencies. The overall human capacity of the county was measured by asking county emergency managers the extent to which they agree or disagree with two statements including 1) "My county has enough personnel to fulfill its needs"; and, 2) "My county has enough personnel to implement NIMS". And, the financial capacity of the county was measured by 1) "My county generates enough funds to pay for its needs"; and, 2) "My county generates enough funds to pay for implementing NIMS". Emergency managers were presented with Likert scales in the same manner as described earlier.

The survey's assessment of inter-organizational characteristics, again presented emergency managers with a series of statements and asked them the extent to which they agreed or disagreed. The series of statements was designed to become an index. Within the index format, emergency managers were asked about 1) NIMS goodness-of-fit with organizational cultures, 2) trust between organizations, 3) the existence of working

relationships between organizations, 4) the existence of barriers to coordination, 5) goal congruence, and 6) resource interdependence. The inter-organizational measures are presented in Table 6.

Table 6. Inter-organizational characteristics measures

<i>Concept</i>	<i>Statements</i>
Culture	<ul style="list-style-type: none"> • NIMS fits with the culture of the emergency management relevant organizations in our county. • The way the emergency management relevant organizations within our county normally operate conflicts with NIMS.
Trust	<ul style="list-style-type: none"> • All of the emergency management relevant organizations within our county trust each other. • Some of the emergency management relevant organizations in our county do not trust one another.
Working Relationships	<ul style="list-style-type: none"> • The emergency management relevant organizations in our county work well with one another. • Some of the emergency management relevant organizations in our county do not have good working relationships.
Barriers to Coordination	<ul style="list-style-type: none"> • Some emergency management relevant organizations within our county that refuse to participate in NIMS. • There are some organizations within our county that do not want to change how they traditionally have done things in order to implement NIMS.
Goal Congruence	<ul style="list-style-type: none"> • Implementing NIMS is a common goal the emergency management relevant organizations in our county share. • The emergency management relevant organizations in our county agree that implementing NIMS is a priority.
Resource Interdependence	<ul style="list-style-type: none"> • Emergency management relevant organizations in our county depend on one another for resources. • Some of the emergency management relevant organizations in our county need the resources of other organizations in the county to participate effectively in emergency management.

To study emergency manager characteristics, emergency managers were asked to provide some basic information about themselves. Emergency managers were asked 1) “How old are you”; 2) “What is your sex (1=Female, 2=Male)”; 3) “What is the highest level of education you have completed (1=Some grade school, 2=Grade school, 3= Some

high school, 4=High school diploma, 5=Some college, 6=Bachelor's degree, 7=Master's degree, 8=Ph.D. degree); 4) "In how many presidentially declared disasters (PDDs) have you participated in a professional capacity (e.g., as a member of a fire department, as an emergency manager, or as staff with the Red Cross, etcetera)"; 5) How many years have you been employed as a county emergency manager or the emergency manager of a jurisdiction equivalent to a county"; and 6) "Do you have any other county positions in addition to being county emergency manager (e.g., sheriff, fire chief, county assessor, veterans administration, 9-1-1 dispatch, etcetera)"? These questions came at the end of the survey and represent the only set of questions with a focus on the emergency manager himself or herself and not on the county.

To assess the disaster characteristics of each county, emergency managers were asked to fill in 1) how many presidential disaster declarations (PDDs) their county received since 1/1/2000 ; and, 2) their county's perception of the likelihood that a disaster worthy of a presidential disaster declaration will occur in the near future (next 5-10 years). This second question was followed by a Likert scale with values from 1-5 with "1" designated as "Not at All", "3" designated as "Somewhat Likely", "5" designated as "Very Likely", "NA" designated as "Not Applicable", and "DK" designated at "Do Not Know".

Implementer Views

The study examined the last group of independent variables with an index designed to measure county views of NIMS in three areas: attitude, motivation, and predisposition. Similar to other indexes used in the survey, county emergency managers were asked to identify the extent to which they agreed or disagreed with a series of

statements. As with the preceding independent variables, Likert scales were provided.

The paired statements related to implementer views are reported in Table 7.

Table 7. Measures of implementer views.

<i>Concept</i>	<i>Statements</i>
Attitudes	<ul style="list-style-type: none"> • Our county likes NIMS. • Our county does not like anything about NIMS.
Motivation	
<i>Calculated</i>	<ul style="list-style-type: none"> • The benefits of implementing NIMS outweigh the costs for our county. • NIMS is worth implementing because it is useful.
<i>Social</i>	<ul style="list-style-type: none"> • Our county implements NIMS to earn the respect of the state and federal government. • Our county implements NIMS because it makes us better able to serve the people in our community.
<i>Normative</i>	<ul style="list-style-type: none"> • Our county believes it is its duty to implement NIMS. • My county would implement NIMS even if implementation were not linked to receiving preparedness funding.
Predisposition	<ul style="list-style-type: none"> • My county believes the federal government can make policies that are appropriate for my community. • My county believes that federal policies and mandates can improve how our county responds to disasters.

Reliability and Validity

The reliability of each index for the dependent variables and the indexes associated with the independent variable groups (i.e., policy characteristics, local structural and situational characteristics, and implementer views) were tested with Cronbach's Alpha. Each of the independent variable indexes developed for the study proved reliable; however, testing also revealed that the overall reliability of certain indexes would improve with the deletion of one or more items within the index. Therefore, a number of statements were deleted from within individual indexes. Two statements within the policy characteristics variable index were dropped including: "The federal government has not clearly identified the tasks that must be completed to achieve compliance in each

component of NIMS”; and, “When the federal government communicated the objectives of NIMS the objectives were difficult to understand”. Two statements were also dropped from the state leadership index including: “Our state department of emergency services is aware of NIMS”; and, “Our state department of emergency services follows-up on NIMS implementation within the state”. Three statements were dropped from the inter-organizational index including: “Some of the emergency management relevant organizations in our county need the resources of other organizations in the county to participate effectively in emergency management”; “The way the emergency management relevant organizations within our county normally operate conflicts with NIMS”; and, “Emergency management relevant organizations in our county depend on one another for resources”. One statement, “Our county does not like anything about NIMS”, was deleted from the implementer views index. These statements were not included for further testing or analysis within the indexes. The descriptive statistics for each index (adjusted to fit within a Likert scale with values from 1 to 5) as well as the overall reliability scores for each of the indexes are presented in Table 8.

Table 8. Independent variable index means and reliability coefficients

<i>Index</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Cronbach's Alpha</i>
Policy Index	28	3.16	.58	.91
Local Structural and Situational Characteristics				
<i>State Leadership Index</i>	6	4.14	.81	.92
<i>Elected Leadership Index</i>	7	2.98	.97	.93
<i>Inter-organizational Index</i>	9	3.16	.69	.76
Implementer Views Index	9	3.02	.75	.87

The researcher checked the inter-correlations of each of the independent variable indexes as a precautionary measure; however, as seen in Table 9 none of the indexes were highly correlated.

Table 9. Inter-correlations of independent variable indexes

<i>Index</i>	<i>Policy Index</i>	<i>State Index</i>	<i>Elected Index</i>	<i>Intra-Organizational Index</i>	<i>Views Index</i>
Policy Characteristics Index					
Pearson correlation					
Sig. (1-tailed)					
Local Structural and Situational Characteristics					
<i>State Leadership Index</i>					
Pearson correlation	.349				
Sig. (1-tailed)	.000				
<i>Elected Leadership Index</i>					
Pearson correlation	.502	.196			
Sig. (1-tailed)	.000	.001			
<i>Inter-organizational Index</i>					
Pearson correlation	.367	.078	.389		
Sig. (1-tailed)	.000	.211	.000		
Implementer Views Index	.629	.183	.519	.505	
Pearson correlation	.000	.003	.000	.000	
Sig. (1-tailed)					

Two dependent variable groups were identified in the literature for analyzing emergency manager's perceptions of their county's implementation intent and actual NIMS implementation. The groups were fashioned into two indexes as described earlier. Each of these indexes proved reliable based on the use of Cronbach's Alpha. Table 10 presents the means (adjusted to fit within a Likert scale with values from 1 to 5) as well as the overall reliability scores for each of the dependent variable indexes.

Table 10. Dependent variable index means and reliability coefficients

<i>Index</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Cronbach's Alpha</i>
Implementation Intent Index	7	3.59	1.04	.94
Actual Implementation Index	7	3.24	1.15	.96

In addition to reliability, the survey instrument also demonstrated measurement validity, or “how well your indicators measure what they are intended to measure” (Chambliss & Schutt, 2006, p. 71). There are four types of validity pertaining to measurement: face, content, criterion, and construct (Chambliss & Schutt, 2006). The survey met face validity as it systematically included a variety of variables within indexes to assess dimensions identified by both the preexisting NIMS and policy implementation literature. The survey’s content validity was increased because it expanded measurement indicators beyond those used in the three articles on NIMS implementation to fill in the gaps, or address the issues, noted by the literature.

Limitations

While the researcher invested a great deal of effort into designing the study in such a way as to yield valuable results, the study’s findings are limited for several reasons including change over time, the subjective nature of the data collected, and the study’s reliance on county emergency manager characterizations of their counties overall.

First, the findings of this study are limited to describing and explaining current implementation behavior and the variables that influence current behavior. Further research will be needed to assess long-term trends in implementation intent and actual implementation behavior and to examine the extent to which the present study’s causal model is stable over time.

Second, because the study relied on county emergency manager assessments of implementation behavior, the findings are based on subjective data; and, therefore, the study’s findings are not based on objective observations of the concepts it attempted to

measure. An objective assessment of implementation behavior would have clearly been preferable and ultimately more reliable; yet, the costs outweighed the benefits as far as this research was concerned.

The subjective assessment of implementation behavior could have created a problem in the data similar to a problem identified by Jensen (2009) in her research. Jensen (2009) observed that emergency managers reported during in-person interviews that their jurisdiction only selectively implemented NIMS even though they reported their full compliance to the state and federal government. There is no guarantee that this issue, known as the social desirability bias in the survey research literature, was not an issue, at least for some respondents, on this survey (Dillman, 2007). Social desirability impacts survey research when respondents do not base their answers on a truthful, accurate assessment but instead answer based on what they think is most socially acceptable or what they think is socially expected (Dillman, 2007). Should this issue be underlying the data for this study, it is logical to assume that respondents were exaggerating the implementation behaviors (intent and actual behavior) of their counties in a positive direction (i.e., closer to implementing the policy as designed).

Yet, whether overestimating or simply providing subjective estimates for entire counties, the study of perceptions was valuable. As W. I. Thomas is so often paraphrased as saying “that which humans perceive as real can be real in consequence” (Thomas & Thomas, 1970). And, as Mazmanian and Sabatier (1981) reasoned, while some

...may be primarily interested in the actual impacts of the policy outputs of implementing agencies, these are often very difficult to measure in any comprehensive and systematic fashion. Moreover, *what is of most concern* in the evaluation of the program by the political system (and eventually changes in the

statutory mandate) *are the impacts perceived* by constituency groups and sovereigns in the policy subsystem (p. 23) (emphasis added).

Beyond being limited because county emergency managers were subjectively assessing implementation, the study is also limited because it asked county emergency managers to report the *overall* implementation behavior and perceptions of the agencies and organizations that ought to be participating within the NIMS framework in their county. Presumably, implementation behavior and perceptions within each county would vary agency-to-agency and organization-to-organization, and this study did not account for this variance. Therefore, the study's findings do not reveal the current implementation behavior of the individual agencies and organizations but instead the perceived overall county implementation behavior. However, the collective, county estimates made by county emergency managers reflect roughly five years of making such estimates for NIMSCAST reports, so the estimates should at least reflect educated assessments.

Finally, this study attempted to describe and explain the influence of a broad array of variables. Many policy implementation studies examine the influence of only one of the independent variable groups used in this study on their implementation related dependent variable(s). In so doing, the studies have been able to study the influence of an independent variable group and its associated concepts in detail. This study was entered into with the knowledge that the findings generated by the study will lack in detail in favor of finding clues as to what independent variable groups influence county implementation behavior.

CHAPTER FOUR: RESULTS

Chapter 4 is comprised of four sections. The first section describes the sample profile for the study. The second section begins to address the study's first research question by describing the current implementation behaviors of counties in the United States towards NIMS. The third and fourth sections begin to address the study's second research question by identifying the factors that best predict implementation behaviors. The third section presents the relationships between the individual independent variables and the dependent variable indexes and the relationships between the independent variable indexes and the dependent variable indexes; and, the fourth section describes the factors that best predict NIMS implementation behaviors. Thus, Chapter 4 thoroughly examines the first two research questions, but the final research question focusing on implications will not be addressed until the Discussion Chapter.

Sample Profile

The survey was designed to gather data on both emergency managers—the unit of data collection—and counties—the unit of data analysis. The following paragraphs describe the sample profile for the unit of data collection and the unit of analysis separately.

Responding Emergency Managers

Emergency managers were asked to complete the survey on behalf of their jurisdiction. The survey was designed to assess the influence of a variety of independent variables related to counties overall on the dependent variables; however, a short series of questions designed to learn about the emergency manager him/herself were also included.

The questions served two purposes. First, the questions were treated as independent variables to see if there was a relationship with the dependent variables under consideration (discussed in more detail later). Second, the questions were also used for the information they provided about the individuals completing the survey.

The analysis of basic demographic information revealed that the majority of emergency managers who responded on behalf of their county were male (70%) and over fifty years of age (58%). All respondents had at least some college—9 percent had some college, 54 percent had a bachelor's degree, 27 percent had a master's degree, and 10 percent had a Ph.D. degree. Emergency managers had an average of nine years of experience as a county emergency manager (Mean = 9.41, SD = 8.50). Despite having significant experience as county emergency managers, respondents did not have the same amount of disaster experience. The majority of respondents had participated in a professional capacity in three or fewer presidentially declared disasters (56%).

The analysis of questions related to the nature of the job of a county emergency manager revealed considerable variation across counties. A significant proportion of respondents (23%) were not employed full-time by their county. The majority of respondents had additional county positions or responsibilities in their county in addition to being the designated county emergency manager (54%). Respondents who had additional positions or responsibilities in their county averaged approximately three total positions including their position as emergency manager (Mean = 2.82, SD = 1.31). Examples of the additional county positions or responsibilities held by respondents include 9-1-1 administrator, safety director, communications director, veteran's administration, animal control officer, floodplain manager, fire marshal, and coroner,

among others. In addition, many (24%) of the respondents held positions outside of their county in addition to being an emergency manager (e.g., with a school, private business, hospital).

Counties Represented

The human and financial capacity of local emergency management programs also varied across the counties that participated in the survey. The survey measured actual human capacity in terms of the number and pay status of employees in the local emergency management program, whether a county relied on volunteers for the majority of its fire and/or emergency medical services, and county population. Analysis revealed that 42 percent of the emergency management programs had only one employee. Of the 42 percent of programs with one employee—the emergency manager himself/herself—23 percent were not employed full-time. Fifty-seven percent of the counties represented in the sample relied on volunteers for the provision of the majority of their fire services; and, 47 percent relied on volunteers for the provision of their emergency medical services. The average population of a county was 76,615 people ($SD = 195,763$), but 50 percent of respondents' counties had 28,500 or fewer people and 75 percent had 59,000 or fewer people.

The survey measured actual financial capacity in terms of the budgets of local emergency management programs for the current fiscal year and the amount of Homeland Security preparedness funding counties were going to receive, or had received, for the current fiscal year. In reporting budget data, emergency managers were asked to include personnel costs (salary and benefits) in their program's total budget figures. Given this request, the budgets of local emergency management programs were lower than expected.

25 percent of local emergency management program budgets were \$32,000 or less, 50 percent of budgets were \$78,926 or less, and 75 percent of budgets were \$150,000 or less. The amount of Homeland Security preparedness funding varied widely; 25 percent of counties received, or were going to receive, \$10,000 or less, 50 percent \$29,000 or less, and 75 percent \$84,000 or less.

In addition to measuring actual capacity, the survey also inquired as to counties' perceptions of their human and financial capacity. In general, counties perceived their capacity to be low. When asked to rate statements related to perceived community capacity by selecting a value between 1 and 5 with one indicating strongly disagree and 5 indicating strongly agree, most disagreed with the statements made. The statements as well as their means and standard deviations were as follows: "My county has enough personnel to fulfill its needs" (Mean = 2.36, SD = 1.16); "My county has enough personnel to implement NIMS" (Mean = 2.75, SD = 1.25); "My county generates enough funds to pay for its needs" (Mean = 2.07, SD = 1.07); and, "My county generates enough funds to pay for implementing NIMS" (Mean = 2.21, SD = 1.21).

In sum, there was little variance in the demographic characteristics of the emergency managers who responded to the survey on behalf of their jurisdictions; however, the results displayed significant variance in the nature of county emergency manager positions and the counties represented in this study. The variance in local emergency management positions and counties is similar to that discovered by prior research on local level emergency management programs and the jurisdictions within which they are situated (Clarke, 2006; Kreuger et al., 2009; Wenger et al., 1986; Wolensky & Wolensky, 1990).

Current NIMS Implementation Behaviors

The first research question this study intended to answer was: what are the current NIMS implementation behaviors of counties in the United States? The survey examined two aspects of county NIMS implementation behaviors by asking county emergency managers to identify county intent with respect to NIMS implementation and the degree to which counties actually implemented NIMS. The separation of intent from actual implementation for the dependent variable assumed that counties may want to implement NIMS, but the degree to which the county actually implements or is able to implement the system may have been different. Emergency managers were asked to assess their counties' intent and actual behavior by incorporating all organizations expected to participate within the NIMS framework (e.g., law enforcement, fire departments, emergency medical services, businesses, nonprofits, schools, hospitals, county departments, etcetera) in their assessment.

The dependent variable index statements were designed to elicit county emergency managers' evaluation of the extent to which their county intended to implement, or actually implemented, the system. The statements used rating scales with values from 0 to 5. By choosing a 0 for any statement, the emergency manager indicated that his/her county did not intend to implement/actually implement the specified aspect of NIMS at all. By choosing a 1, he/she indicated that his/her county intended to implement/actually implemented the aspect of NIMS only minimally. By choosing a 3, he/she indicated that his/her county intended to implement/actually implemented the aspect of NIMS only after modifying the aspect of the system. And, by choosing a 5, he/she indicated that their county intended to implement/actually implemented the aspect of NIMS completely as

designed. In choosing a 2 or a 4 county emergency managers indicated that their counties' implementation intent fell somewhere between these choices.

Analysis found that counties, as perceived by their county emergency managers, typically do not intend to implement NIMS completely as designed. The mean values for the statements all hover between 3 and 4, that is between an intent to implement with modest modification and an intent to implement with minimal modification. Please see Table 11 for the descriptive data for implementation intent. The researcher provided both skew and kurtosis figures in Table 11 to give the reader a full sense of the distribution's shape for each variable. These results suggest that the shape of most distributions is close to a standard normal curve. The researcher also included the raw distributions of each variable in Appendix O. Finally, the standard deviation is provided on each item and these values consistently suggest that there is considerable variability in behavioral intent regarding NIMS implementation.

Table 11. Descriptive statistics for individual NIMS implementation intent variables

<i>Statement</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Skew</i>	<i>Kurtosis</i>
...intends to implement NIMS...	312	4.01	1.06	-1.13	.94
...intends to implement all of the mandated compliance measures related to the Command and Management Component...	308	3.65	1.18	-.92	.43
...intends to implement all of the mandated compliance measures related to the Communications and Information Management Component...	305	3.56	1.17	-.78	.24
...intends to implement all of the mandated compliance measures related to the Preparedness Component...	306	3.50	1.24	-.70	-.12
...intends to implement all of the mandated compliance measures related to the Resource Management Component...	306	3.43	1.28	-.65	-.35
...intends to utilize NIMS in small-scale events...	309	3.42	1.34	-.68	-.47
...intends to implement NIMS on a daily basis...	308	3.39	1.34	-.58	-.58

The researcher also computed the individual NIMS implementation intent variables into an index score. The mean is 3.59 (SD = 1.04, Skew = -.67, Kurtosis = .10) when index scores were adjusted to fit with a Likert scale with values from 1 to 5.

Similar to the NIMS implementation intent of counties, the actual implementation of NIMS also varied from full implementation. The mean values for the statements all hovered at 3, meaning most counties actually implemented the individual aspects of NIMS with modest modification. Please see Table 12 for the descriptive statistics for the actual implementation behavior variables. Once again, the researcher provided both skew and kurtosis figures in Table 12 to give the reader a full sense of the distribution profile of each variable. The researcher also included the raw distributions of each variable in Appendix P. Finally, the standard deviations again show considerable variability in actual county NIMS implementation behavior.

Table 12. Descriptive statistics for individual actual NIMS implementation variables

<i>Statement</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Skew</i>	<i>Kurtosis</i>
...actually implements NIMS...	309	3.57	1.19	-.69	-.12
...actually implements all of the mandated compliance measures related to the Command and Management Component...	304	3.37	1.24	-.53	-.29
...actually implements all of the mandated compliance measures related to the Communications and Information Management Component...	303	3.23	1.26	-.45	-.41
...actually implements all of the mandated compliance measures related to the Preparedness Component...	309	3.21	1.30	-.38	-.56
...actually implements NIMS in small-scale events...	309	3.18	1.36	-.43	-.62
...actually implements all of the mandated compliance measures related to the Resource Management Component...	300	3.13	1.31	-.35	-.65
...actually implements NIMS on a daily basis...	307	3.02	1.39	-.25	-.92

The researcher computed the actual NIMS implementation behavior variables into an index score. Similar to the findings with respect to the implementation intent index, the descriptive statistics for the index scores also demonstrate a great deal of variability in the actual NIMS implementation of counties. Specifically, the index mean indicates that the average county is not implementing the system as designed. The mean for the actual implementation index was slightly less than that of the intentions index mean at 3.24 ($SD = 1.15$, $Skew = -.37$, $Kurtosis = -.37$). Index scores were adjusted to fit with a Likert scale with values from 1 to 5.

The similar pattern of means for the intent and behavior items raises the question of whether these items are all essentially measuring the same thing. To address this question, comparisons were initially made by examining the substantively matched items and then by comparing the two overall indexes. Analysis established that the items within the behavioral intent dependent variable index and the items within the actual implementation behavior index were highly correlated using Pearson's r (see Appendix Q).

The correlation of the variables within the dependent variable indexes supports the notion that there is a relationship between county intent to implement NIMS and actual NIMS implementation behavior. Chapter 5 discusses this significant finding related to current NIMS implementation behavior. However, despite these correlations, paired sample independent t-tests revealed that there were statistical differences between the means of all of the paired the individual intent and actual implementation behavior items (see Appendix R). These t-test results suggest that while intent to implement NIMS and actual NIMS implementation behavior are related they also differ.

Similarly, it was also found that the implementation intent and actual implementation behavior indexes were highly correlated ($n(285)$, $r = .846$, $p = .000$), but, here again, a paired samples t-test revealed that there was a statistically significant difference in the mean values of the two indexes ($t(285) = 8.283$, $p = .000$). In actuality, while intent and behavior are related, counties intended to implement the system more than they were actually able to implement the system. These tests suggest that, while similar, intent and behavior may be influenced by different factors. The following sections explore this notion.

Factors that Best Predict NIMS Implementation Behaviors

Multiple regression was used to analyze behavioral intent and actual NIMS implementation behavior separately. Such analysis can reveal the combined predictive power of the independent variables on the dependent variable indexes, the relative predictive power of each independent variable on the dependent variable indexes, and it allows the researcher to test the influence of each of the independent variables influence on the dependent variable indexes while controlling for the influence of the other independent variables (Blaikie, 2003, p. 147). Establishing which factors best predict NIMS implementation begins to answer the second research question for this study.

Prior to performing the multiple regression analysis to determine the factors that best predict NIMS implementation behaviors, the zero-order correlation relationships between the independent variables and the dependent variable indexes were explored. The researcher undertook this initial step primarily to provide readers with an overall picture of how the many variables tested through this research related to the dependent variables under consideration without the influence of a specific causal model. In

addition, examining the zero-order correlation coefficients allowed the researcher to identify non-significant correlations and to delete certain independent variables to facilitate the testing of a more parsimonious model. The researcher also utilized this first step as a means of determining the order in which (or an empirically based rationale from which) to enter the independent variables into a parsimonious regression model.

Independent Variables Indexes and NIMS Implementation Behaviors

Three groups of independent variables were assessed in this research (i.e., policy characteristics, local structural and situational characteristics, and implementer views). As described earlier, the researcher computed two of the three groups—those related to policy characteristics and implementer views—into single indexes. Yet, the local structural and situational characteristics group of variables could not be computed into a single index due to the range of concepts measured within the category. Therefore, as presented in Chapter 3, the local structural and situational characteristics group of variables was comprised of both indexes (i.e., state leadership index, local elected official leadership index, and inter-organizational characteristics index) and individual independent variables (i.e., characteristics related to local capacity, emergency manager characteristics, disaster characteristics). The relationship testing of the policy and implementer views indexes is first presented and then the relationship testing of the variables within the local structural and situational characteristics group.

The NIMS and policy literature suggested relationships between policy characteristics, implementer views, and implementation behavior. The findings of this research support the literature. The zero-order correlation coefficients for two

independent variable indexes with the intent and actual behavior indexes were tested using a one-way t-test and Pearson's r ($p \leq .05$).

Statistical testing evidenced a weak positive relationship between the two indexes and each dependent variable index. The implementer views index demonstrated the strongest relationship with both implementation intent and actual implementation followed by the policy characteristics index. Please see Table 13 for the findings of relationship testing between the two indexes and the dependent variable indexes.

Table 13. Correlations of the policy characteristics and implementer views indexes with dependent variable indexes

<i>Index</i>		<i>Intent Index</i>	<i>Actual Index</i>
Implementer Views Index (9-item)	Pearson's	.602	.624
	Sig. (1-tailed)	.000	.000
	N	277	279
Policy Characteristics Index (28-item)	Pearson's	.539	.518
	Sig. (1-tailed)	.000	.000
	N	172	174

The NIMS and policy literature also suggested that multiple aspects of local structural and situational characteristics might be related to implementation behavior. The multiple aspects were explored through this research and the results are mixed in their support for the relationship of the variables suggested by the literature and NIMS implementation behavior. The local structural and situational characteristics group of variables consisted of 3 indexes (i.e., state department of emergency services leadership, leadership of local elected officials, and inter and intra organizational characteristics) and 3 subgroups of independent variables (i.e., characteristics related to local capacity, emergency manager characteristics, disaster characteristics). The variable indexes and

individual variables within each subgroup were tested with a one-tailed t-test using Pearson's r ($p \leq .05$).

As predicted by the literature, all three indexes within the group of variables were found to have significant positive relationships with the dependent variables. Please see Table 14 for the correlation coefficients for the local structural and situational indexes.

Table 14. Correlations of local structural and situational indexes with dependent variable indexes

<i>Index</i>		<i>Intent Index</i>	<i>Actual Index</i>
Local Elected Officials Leadership (7-item)	Pearson's	.487	.467
	Sig. (1-tailed)	.000	.000
	N	276	278
Inter-organizational Characteristics (9-item)	Pearson's	.415	.464
	Sig. (1-tailed)	.000	.000
	N	271	272
State Leadership (6-item)	Pearson's	.231	.245
	Sig. (1-tailed)	.000	.000
	N	263	260

Beyond the above indexes, the Literature Review also implied that a positive relationship exists between local capacity and implementation behavior. Capacity was defined as the financial and human resources in the county that encourage or constrain the emergency manager and the county at-large from devoting time (i.e., human capacity) and/or investing funding (i.e., financial capacity) in NIMS implementation. As discussed in the Methods Chapter, local capacity was measured in several ways: number of staff in the emergency management program, number of full-time staff, the reliance of the jurisdiction on volunteers for fire and emergency medical services, local emergency management program budget, and amount of Homeland Security/FEMA preparedness

funding the jurisdiction received for the current fiscal year. Local capacity was also assessed in terms of the county emergency manager's perception of the financial and human capacity of the county in general and specifically with regard to NIMS. The findings from correlation testing were mixed.

The variables of number of staff in the emergency management program, the amount of Homeland/Security/FEMA preparedness funding the jurisdiction received for the current fiscal year, and the four statements designed to assess perceptions of local financial and human capacity were related to *both* dependent variable indexes. The number of full-time staff and the reliance of the jurisdiction on volunteers for the provision of fire services were *only* related to the actual implementation index *and not* the behavioral intent index. And, the reliance of jurisdictions on volunteers for the provision of emergency medical services and the local emergency management program budget were *not related to either* dependent variable index. Individual variables were dropped from further testing and analysis as appropriate. Table 15 details the correlation coefficients for the local capacity variables. Overall, the strongest local capacity and implementation intent/behavior correlation coefficients are for local capacity measures specifically related to NIMS (i.e., personnel and funds for NIMS implementation).

The literature also had led the researcher to expect a relationship between various characteristics related to the emergency manager him/her self and his/her jurisdiction's implementation behavior. The findings indicated however that there was not a statistically significant relationship between any of the emergency manager characteristics measured and either of the dependent variable implementation indexes. Variables that were found not to be related to the implementation behavior of jurisdictions included the emergency

Table 15. Correlations of variables related to local capacity with dependent variable indexes.

<i>Local Capacity Variable</i>		<i>Intent Index</i>	<i>Actual Index</i>
How many staff does your jurisdiction's emergency management program employ?	Pearson's Sig. (1-tailed) N	-.145 .007 286	-.100 .044 290
How many staff are full-time? *DROPPED FOR INTENTION DV TESTING*	Pearson's Sig. (1-tailed) N	.087 .079 262	.104 .044 268
Does your jurisdiction rely on volunteers for the majority of its fire services? (nominal) *DROPPED FOR INTENTION DV TESTING*	Pearson's Sig. (1-tailed) N	.075 .104 281	.103 .041 285
Does your jurisdiction rely on volunteers for the majority of its emergency medical services? (nominal) *DROPPED*	Pearson's Sig. (1-tailed) N	-.077 .099 280	-.050 .202 284
Total budget of your emergency management program for your jurisdiction's current fiscal year? *DROPPED*	Pearson's Sig. (1-tailed) N	.064 .150 264	.087 .079 267
Approximately, how much Homeland Security/FEMA preparedness funding for your jurisdiction's current fiscal year?	Pearson's Sig. (1-tailed) N	.113 .037 253	.145 .011 254
My county has enough personnel to fulfill its needs.	Pearson's Sig. (1-tailed) N	.136 .012 278	.147 .007 282
My county has enough personnel to implement NIMS.	Pearson's Sig. (1-tailed) N	.390 .000 277	.407 .000 281
My county generates enough funds to pay for its needs.	Pearson's Sig. (1-tailed) N	.142 .009 277	.139 .010 281
My county generates enough funds to pay for implementing NIMS.	Pearson's Sig. (1-tailed) N	.281 .000 274	.286 .000 277

manager's age, sex, education, years of employment as a county emergency manager, professional disaster experience, whether or not they held other county positions in

addition to being an emergency manager and the number of those positions, and whether or not the emergency manager held employment outside his/her county (i.e., in the private sector). Thus, all of the variables related to the emergency manager him/her self were dropped from further testing and analysis. Table 16 shows the correlation coefficients for the variables related to the emergency manager.

Table 16. Correlations of variables related to the emergency manager with dependent variable indexes

<i>Emergency Manager Variable</i>		<i>Intent Index</i>	<i>Actual Index</i>
How old are you? (interval) *DROPPED*	Pearson's	.034	.072
	Sig. (1-tailed)	.287	.115
	N	275	279
What is your sex? (nominal) *DROPPED*	Pearson's	-.010	-.007
	Sig. (1-tailed)	.435	.450
	N	288	292
What is the highest level of education you have completed? (ordinal—made into dichotomous dummy variable)	Pearson's	.015	-.019
	Sig. (1-tailed)	.403	.372
	N	278	283
How many years have you been employed as county emergency manager or the emergency manager of a jurisdiction equivalent to a county? (interval) *DROPPED*	Pearson's	-.066	-.015
	Sig. (1-tailed)	.129	.396
	N	291	295
In how many <u>presidentially declared disasters</u> (PDDs) have you participated in a professional capacity? (interval) *DROPPED*	Pearson's	.019	.067
	Sig. (1-tailed)	.373	.127
	N	286	290
Do you have any other <i>county</i> positions in addition to being county emergency manager? (nominal) *DROPPED*	Pearson's	.058	.070
	Sig. (1-tailed)	.162	.117
	N	291	295
How many positions do you hold within your county or equivalent entity? (interval) *DROPPED*	Pearson's	-.041	-.095
	Sig. (1-tailed)	.307	.119
	N	152	156
Are you employed by an entity other than your county or equivalent entity? (nominal) *DROPPED*	Pearson's	.068	.067
	Sig. (1-tailed)	.124	.125
	N	290	294

Within the local structural and situational characteristics block of variables, the NIMS literature suggested one final area for exploration—the relationship of disaster characteristics of a county (i.e., the number of disasters experienced and the perceived likelihood of disaster) to implementation behavior. The findings indicated that the number of disasters experienced (operationalized as the number of presidential disaster declarations received by the county since 1/1/2000) was not related to intended or actual implementation behavior. Furthermore, the findings revealed that perception of the likelihood of disaster was not related to whether or not a jurisdiction intended to implement NIMS but was related to whether or not the jurisdiction actually implemented the system. Table 17 depicts the correlation coefficients for the variables related to disasters.

Table 17. Correlations of variables related to disasters with dependent variable indexes

<i>Disaster Variable</i>		<i>Intent Index</i>	<i>Actual Index</i>
How many <u>presidential disaster declarations</u> (PDDs) has your county received since 1/1/2000?	Pearson's	.065	.084
	Sig. (1-tailed)	.142	.082
DROPPED	N	271	274
How would you characterize your jurisdiction's perception of the likelihood that a disaster worthy of a <u>presidential disaster declaration</u> will occur in the near future (next 5-10 years)? *DROPPED FOR INTENTIONS INDEX DV TESTING*	Pearson's	.091	.115
	Sig. (1-tailed)	.065	.026
	N	280	284

In summary, the above examination of zero-order correlation coefficients, showed that policy characteristics, implementer views, and local structural and situational characteristics are related to NIMS implementation behavior. However, certain select variables within local structural and situational characteristics were determined to be

unrelated to one or both of the dependent variables and were therefore dropped from further testing and analysis. The result is a more parsimonious model to test. And, the relationship testing provided an empirical rationale from which to determine an order to enter variables into regression modeling as will be described below.

Regression Results

Hierarchical multiple regression was used to analyze each dependent variable. Hierarchical regression enables the researcher to enter independent variables into the multiple regression equation in a specified order if there is either a theoretical or empirical rationale for the order of entry. Neither the NIMS literature or the policy literature provide a convincing theoretical rationale to prioritize entry among the three blocks of variables already specified; and yet, both the NIMS literature and the policy literature support the block approach to regression analysis. Fortunately, an empirical rationale was available in that the significant zero-order correlation coefficients previously discussed could be used to direct order of entry based on the coefficient's size with the largest coefficient entered first.

Thus, it was easy to determine that the policy characteristics block (i.e., the policy characteristics index) should be entered before the implementer views block (i.e., the implement views index) and that the implementer views block should be entered before the local structural and situational characteristics block. However, the local and structural characteristics block included a large number of measures (e.g., indexes and individual variables) as opposed to one index variable. The variables within the block were too diverse to collectively determine what the overall block's order of entry should be simply based on the size of zero-order correlation coefficients. Therefore, a judgment call was

made to use stepwise regression to determine the order of entry of specific variables within the local structural and situational characteristics block of variables. Stepwise regression also provides an empirical rationale for entry of variables, this time with the focus on pulling in those variables first that have the most impact within this last block (Cronk, 2006).

During regression testing, it was discovered that listwise exclusions left more than half of the study's surveys out of the analysis. The variables with the highest number of missing values were the eight questions from the page originally missing from the Survey Monkey.com survey. Therefore, for the purposes of multiple regression testing only, a second data set was created with mean values inserted for the missing data pertaining to the eight policy characteristic questions. The findings related to the final regression model are presented in the following paragraphs.

Factors Predicting Implementation Intent

The first hierarchical regression run examined factors affecting implementation intent. The hypothesis tested was that implementer views, policy characteristics, and select variables related to local structural and situational characteristics are predictive of implementation intent. The significance level was set at $p \leq .05$. Multicollinearity was determined not to be an issue (Appendix S).

Regression was run with implementer views index inserted as the first block using the enter method, the policy characteristics index inserted as the second block using the enter method, and the variables representing aspects of local structural and situational characteristics that were shown to be related to the intentions dependent variable inserted as the third block using the stepwise method in keeping with the empirical rationale for

entering variables into regression described earlier. It was discovered that the overall model was statistically significant and predictive of 40.2 percent of the variance in NIMS implementation intent ($F_{(3, 144)} = 33.267$, $r^2 = .402$, $p = .004$).

The results indicated that the policy characteristics index was most predictive of implementation intent. Implementer views had the second-most explanatory power. Only one variable related to local structural and situational characteristics was proved to be significant—an aspect of local capacity as measured by county perceptions of whether they had enough personnel to implement NIMS. The results of the hierarchical regression are depicted in Table 18 and the beta, p, and t values for the variables excluded from the model are shown in Appendix T.

Table 18. Hierarchical regression results using implementation intent as dependent variable

<i>Independent Variables</i>	<i>B</i>	<i>β</i>	<i>t</i>	<i>P</i>
Policy Characteristics Index	.170	.348	4.272	.000
Implementer Views Index	.277	.235	2.780	.006
Local Structural and Situational Characteristics— Local Capacity—Personnel to Implement	1.289	.212	2.944	.004

Factors Predicting Actual Implementation

Hierarchical regression was run for a second time to learn the influence of the variables measured on actual implementation of NIMS. The hypothesis tested was that implementer views, policy characteristics, and local structural and situational characteristics are predictive of actual implementation. The significance level was set again at $p \leq .05$. Multicollinearity was determined not to be an issue (Appendix U).

Regression was run with implementer views index inserted as the first block using the enter method, the policy characteristics index inserted as the second block using the enter method, and the variables representing aspects of local structural and situational characteristics that were shown to be related to actual implementation behavior inserted as the third block using the stepwise method. It was discovered that the overall model was statistically significant and predictive of 42.7 percent of the variance in NIMS implementation intent ($F_{(4, 127)} = 24.653$, $r^2 = .427$, $p = .015$).

As with implementation intent, the results indicated that policy characteristics, implementer views, and local capacity as measured by county perceptions of whether they have enough personnel to implement NIMS are the three most predictive variables. The results also indicated that an additional variable is predictive of actual implementation behavior—inter-organizational characteristics. Table 19 displays the results of regression testing using actual implementation behavior as the dependent variable and the beta, p, and t values for the variables excluded from the model are shown in Appendix V.

Table 19. Hierarchical regression results using actual implementation behavior as dependent variable

<i>Independent Variables</i>	<i>B</i>	<i>β</i>	<i>t</i>	<i>p</i>
Policy Characteristics Index	.153	.288	3.254	.001
Implementer Views Index	.254	.201	2.130	.035
Local Structural and Situational Characteristics— Local Capacity—Personnel to Implement NIMS	1.292	.193	2.520	.013
Local Structural and Situational Characteristics— Inter-organizational Characteristics	.240	.190	2.460	.015

Conclusion

The results of statistical testing revealed that there was a great deal of variation in county intent to implement NIMS as well as the actual implementation behavior of counties. Statistical testing also revealed that a wide range of independent variables tested were positively correlated with both county implementation intent and the actual implementation behavior of counties. Regression testing and analysis demonstrated that the variables that most powerfully predict implementation intent and actual implementation behavior differed slightly. While implementer views, local capacity as measured by county perceptions of the degree they had enough personnel to implement NIMS, and policy characteristics were predictive of both county intent and actual NIMS implementation behavior, inter-organizational characteristics proved to only predict actual implementation behavior. Finally, with respect to both causal models, for intent and actual behavior, the amount of explained variance was found to be not only statistically significant but substantively sizable. The limited NIMS literature and the extensive policy literature were largely successful in directing this study toward primary factors that explain intent and behavior. Chapter 5 interprets these findings and discusses their significance in light of these bodies of literature and the research questions for this study.

CHAPTER FIVE: DISCUSSION

Chapter 5 is comprised of four sections. The initial section finishes addressing the study's first research question by discussing the findings regarding the current status of county NIMS implementation behavior; and, the second section finishes addressing the study's second research question by interpreting the findings related to predicting NIMS implementation behavior. A discussion related to the study's third research question; namely, what are the implications of the data for the NIMS as an organizing mechanism for the national emergency management system, is interwoven through the first two sections. The third section summarizes the overall significance of the study's findings for NIMS; and, the fourth section discusses the significance of the methodology used in this research for the study's findings.

NIMS was an ambitious policy mandate. The system's purpose was to "provide a consistent nationwide approach for Federal, State, and local governments to work together effectively and efficiently" (HSPD-5, 2003, p. 1) by standardizing emergency management structures, process, and terminology in preparedness, communications and information management, resource management, command and management, and ongoing management and maintenance. The primary goal of the system was to facilitate improvement of "emergency management, incident response capabilities, and coordination processes across the county" after both September 11th and later Hurricane Katrina revealed weaknesses in emergency management (DHS, 2008, p. 5). This study's findings provide reason to doubt whether the current behavioral intent and actual NIMS

implementation behavior in counties across the United States is fulfilling the purpose of NIMS.

The findings from this study also seriously question the assumptions upon which NIMS is based. As noted by Jensen (2009), when the federal government mandated NIMS it was assumed that NIMS as a system would work, that everyone would buy-in and use it, and that it is equally applicable to all places and situations. The NIMS document itself recognizes these assumptions. The document suggests the system works, “NIMS is based on the premise that utilization of a common incident management framework will give emergency management/response personnel a flexible but standardized system for emergency management and incident response activities” (DHS, 2008, p. 6). The document implies confidence that those asked to implement the system will use the system in a standardized fashion because use of the system is a condition for the receipt of Homeland Security preparedness funding, “The directive requires Federal departments and agencies to make adoption of NIMS by State, tribal, and local organizations a condition for Federal preparedness assistance (through grants, contracts, and other activities)” (DHS, 2008, p. 3). And, the document claims to be applicable to all emergency management relevant groups, “applicable at all jurisdictional levels and across functional disciplines” (DHS, 2008, p. 5) and any incident “...regardless of cause, size, location, or complexity” (DHS, 2008, p. 3).

The questioning of whether the manner in which NIMS is being implemented is conducive to NIMS meeting its purpose as well as whether the assumptions upon which NIMS is based are accurate is appropriate because of this study’s findings related to implementation behavior. Specifically, it was discovered that NIMS may be limited in its

usefulness as an emergency management system and its potential for use in large-scale disaster situations because of the wide variation in the extent to which NIMS is being implemented in counties across the United States. This study also found that three key factors limit or promote both how counties intend to implement NIMS and how they actually implement the system. Policy characteristics, implementer views, and local capacity (as measured by county perceptions of whether they have enough personnel to implement NIMS) were all predictive of implementation behavior but one additional variable, inter-organizational characteristics, was found to influence actual NIMS implementation behavior. The doubt cast upon the purpose and assumptions of NIMS by this study's findings challenges the notion that NIMS, as designed, will ever be effective as an organizing mechanism for the national emergency management system. The study ultimately reveals that the potential for standardization in emergency management may be limited due to the substantial role that the identified factors have in effecting intent to implement NIMS and actual NIMS implementation behavior.

Current Status of Implementation Behavior

The following section interprets the significance of the findings related to the current status of NIMS implementation behavior in light of the purpose of the system and the assumptions upon which NIMS is based. Specifically, the section discusses findings with respect to behavioral intent regarding NIMS implementation, actual NIMS behavior, and the link between intent and behavior.

Behavioral Intent Regarding NIMS Implementation

The findings of this study indicate that the average county in the United States (as perceived by that county's emergency manager) did want to implement the NIMS but

after modifying the system somewhat. There are two likely explanations for why counties were motivated to change the system. The first possibility is that the average county felt that NIMS as designed was not perfectly suited to the emergency management needs of their county and required some tweaking to be more suitable. Alternatively, this intent to modify may also suggest that the average county could not implement NIMS as designed for some reason even though they felt the system was perfectly suited to their needs. The intent of counties to change NIMS, whatever the reason, challenges two of the assumptions upon which NIMS is based—everyone will buy-in and use NIMS and use the system in a standardized fashion.

Yet, one can conclude that not all counties simply intended to implement NIMS with modification because the responses to the implementation intent statements were normally distributed across the scale of behavioral intent with substantial standard deviations. The implementation intent of counties fell at all points on along the continuum of implementation behavior. There were a substantial number of counties that intended to implement as designed—a behavior aligned with the policy’s purpose—as well as counties that intended to implement the system minimally or not at all—behaviors that would undermine the purpose of NIMS. However, the finding to focus on from the perspective of the NIMS mandate is not the number of counties that intended to pursue a given behavior, but the significant variation across the nation in what counties meant to do when it came to NIMS implementation.

As described in the introductory chapter to this dissertation, when the federal government first mandated NIMS in 2004 counties were informed that their compliance was voluntary for the 2005 fiscal year but required for the 2006 fiscal year and beyond.

One might have expected some initial resistance to implementing NIMS since the policy was mandated, new, and sudden. As Leifeld (2007) pointed out,

NIMS was mandated by Presidential Directive, and further enforced by law, in a state of heightened awareness of terrorism, increased attention on the response to the attacks, and in an environment of urgency, and anxiety and fear of another attack. No time was permitted for vetting the ideas, concepts, processes, or structures entailed within NIMS with state government, local government in urban or rural areas, or emergency management organizations. No research was conducted into the feasibility or appropriateness of exporting an emergency management model from the fire discipline and developing this type of national system. No research was conducted into whether or not this type of system would be effective or suitable for a large-scale disaster situation. No buy-in or commitment was generated (p. 106-107).

Yet, counties across the United States have been presumably aware of the NIMS mandate and complying with the mandate by implementing the system for five or more years. It would seem logical to assume that the passage of time would have allowed counties who may have been initially resistant to implementation to better understand the system and perceive benefits related to its implementation. Further, it would seem logical to assume that at the very least, by this point, counties *would intend* to implement the system as designed even if just to be compliant. The findings from this study indicate such is not the case. Most counties do not intend to implement the system as designed.

The fact that, in 2010, not all counties in the United States intend to implement the system they are mandated to use in the way it was designed has important implications for the potential of the system to act as an organizing mechanism for emergency management across the United States. Prior to ever looking at whether counties are actually implementing the system or the degree to which their behavior is conducive to fulfilling the system's purpose, one can reach a couple of conclusions. It can be concluded that 1) a significant number of counties intended to differ from NIMS's design and 2) because

counties intended to modify NIMS's structures, processes, and/or terminology, emergency management potentially varies from county to county.

NIMS was developed to foster the opposite of variability (DHS, 2008; HSPD-5, 2003). The purpose behind the system was to unify and standardize the approach to emergency management across the United States (DHS, 2008; HSPD-5, 2003). Yet, this study found that counties did not even intend to implement the system uniformly. Ewalt and Jennings (2004) suggested, "behaviors of program participants...may mitigate policy outcomes" (p. 451). Thus, the fact that most counties intend to implement the system only after changing the system could undermine the potential success of NIMS as an organizing mechanism for the United States. Further evidence to support this conclusion is seen in this study's data on actual implementation behavior.

Actual NIMS Behavior

The findings concerning actual implementation behavior of counties were similar to the findings concerning intent in that there is significant variation in how counties were actually implementing the system. The average county believed it was implementing NIMS with modification. In addition, there were counties whose actual implementation behavior fell at all points on the behavior continuum. This finding is significant because it can be concluded that beyond merely having intended to implement the system differently from the system's design, counties across the United States acknowledged they *were actually implementing the system differently* from how it was designed.

The fact that the average county was implementing NIMS with modification is of concern. Menzel (1989) stated that, "intergovernmental implementation mandates prescribe, in principle, regularized and permanent patterns of behavior and interaction

among implementation authorities and others...” (p. 160). The pattern of behavior NIMS was intended to bring about was standardization of emergency management across the United States so that different agencies/organizations, jurisdictions, and levels of government can “work together in a predictable, coordinated manner” (DHS, 2008, p. 6). The federal government sought standardization utilizing NIMS because there was a belief that standardization fosters effective and efficient emergency management.

This framework forms the basis for interoperability and compatibility that will, in turn, enable a diverse set of public and private organizations to conduct well-integrated and effective emergency management and incident response operations (DHS, 2008, p. 5).

Thus, the variation in NIMS implementation presents a problem for the efficacy of NIMS as an organizing system for emergency management because standardization is presumed to be critical to the system’s success.

The variation triggers an interesting question, What kinds of problems will modifications to the system present for the system’s use and usefulness when a large-scale event happens? Variability in intent and behavior make answering this question both critical and complex. The answer, or set of answers, is likely to differ based on the size of the event.

The local level handles the average incident in the United States and interactions with the state and/or federal government during most incidents are minimal if any. If standardization of emergency management structures, processes, and terminology were lacking within the impacted jurisdiction, it may very well go unnoticed by the state and/or federal government. Moreover, any modifications made in implementing NIMS would

not negatively influence any organization or jurisdiction outside of the local jurisdiction impacted by the incident (e.g. a neighboring county).

Yet, even though most events are local and stay local, there are events like the infamous Hurricane Katrina, or the more recent Hurricanes Ike and Gustav and Midwest Floods of 2008, which necessitate, or at least make desirable, working from a common emergency management framework. Such events highlight the importance of this study's findings concerning variability in behavioral intent and actual behavior with respect to implementation of NIMS. The importance can be seen in the questions that this variability raises. For example, given that jurisdictions in the United States reported that they were modifying the system, were they modifying the system in the same way? Were their modifications compatible with one another? Were they modifying the system in ways that still allow agencies, organizations, jurisdictions, and levels of government to merge effortlessly into a common structure to contend with adverse events?

The present study cannot directly answer these questions, only on-the-ground research can do so. However, this study can offer data suggestive of what might be found on the ground. The items that make up both the intent to implement index and the actual implementation index covered the four primary components of NIMS as a system (e.g., preparedness, communication and information management, resource management, and command and management). A similar pattern of variability was found on each individual item for each index not just in the cumulative indexes. The implication is that variability in implementation behavior is multidimensional and complex. Presumably, as such complexity in variability increases, the likelihood of finding standardization, even

standardization with respect to modification, decreases. If intent and actual behavior themselves, are distinct, the complexity will be ever greater.

The Intent-Behavior Link

When county implementation intent was contrasted with what counties reported as their actual implementation behavior in this study, it was observed that their intent and actual behavior were highly related. For the most part, counties are behaving in accordance with their intent; or, in other words, those counties that intended to implement the system minimally also tended to actually implement the system minimally; and, vice versa, those counties that intended to implement the system as designed also tended to implement the system as designed.

Despite this general tendency, it was found that there was a statistically significant difference in the means of county intent and county actual implementation; and, further, that the means for the intent variables were significantly higher than the means for their actual implementation behavior. Therefore, while there was a strong relationship between intent and actual implementation, actual implementation tended to be less than what jurisdictions intended. This finding suggests some disconnect between intent and actual behavior though not to the extent observed by Jensen (2008, 2009).

The link between behavioral intent and actual NIMS implementation is an important finding of this study. The intent-behavior link is consistent with research in social psychology on attitudes and behavior suggesting that the two concepts are connected but not in lock step (Davidson & Jaccard, 1979; Weigel & Newman, 1976). In addition, the link addresses an important policy issue. If we only had data on behavioral intent, reports of incomplete implementation could be dismissed with the argument that

counties really do intend to fully implement NIMS but that they simply have not gotten there yet. The inclusion of the data on intent in this study and the finding that intent means are consistently and significantly higher than behavior means lends credence to this argument. Thus, on the surface, this finding would suggest that if the intent of counties could be changed, then counties would change their actual implementation behavior as well and NIMS standardization might ultimately be achieved.

Five sets of findings question the above conclusion. First, while the intent means do exceed the actual behavior means the gap is substantively small. Second, the intent means do not suggest that counties typically intend to implement the system as designed. These means suggest instead that counties typically only intend to implement NIMS with modification. Third, the absence of the intent to fully implement the system is important because this study's findings also show a very strong correlation between intent and actual behavior. Fourth, as will be discussed in the next section, important (and perhaps difficult to modify factors) explain a substantial amount of variance in both intent and actual behavior. And, finally, there is some suggestion in comparing the causative factors for intent and actual behavior that the earlier noted gap may reflect an important constraint on achieving full implementation. The next section further examines these last two issues.

Predicting NIMS Implementation Behavior

The introduction to this dissertation suggested variation would be found in NIMS implementation behavior; and, that if found, it would naturally beg the question what factors explain the behavior. This issue was worth pursuing because variation in implementation behavior can be viewed as undermining the intent and primary goal of NIMS. If factors that explain such behavior could be identified, then perhaps NIMS itself

can be modified, implementation behavior can be addressed, and/or some understanding could be achieved as to the possible limits to full NIMS implementation.

Predicting Behavioral Intent and Actual Implementation Behavior

The focus of the second research question for this study was to determine what factors best predict NIMS implementation. This question led the researcher to utilize hierarchical regression to analyze which variables were the most predictive of NIMS implementation intent and actual implementation. Regression results revealed that a substantial amount of implementation intent and actual NIMS implementation can be explained by the variables tested through this study; and, further, that three primary variables predict both implementation intent and behavior including policy characteristics, implementer views, and local capacity (as measured by county perceptions of whether they had enough personnel to implement NIMS).

Both the NIMS and policy implementation literature suggested a positive relationship between perceptions of policy characteristics and implementation behavior (Barrett & Fudge, 1981; Edwards, 1980; Ewalt & Jennings, 2004; Jensen 2008, 2009; Linder & Peters, 1987, 1990; May, 2003; Meier & McFarlane, 1998; Neal & Webb, 2006; Sabatier & Mazmanian, 1989; Schneider & Ingram, 1990; Van Meter & Van Horn, 1975). The findings of this research confirmed that perceptions of NIMS's policy characteristics (i.e., what counties think about the NIMS policy's underlying theory, clarity and specificity, incentives/sanctions, and capacity-building resources) is indeed related to behavioral intent and actual implementation behavior. This research also discovered that the policy characteristics index variable was a significant and powerfully predictive variable of both behavioral intent and actual implementation behavior regarding NIMS.

The role of policy characteristics in implementation is significant for two reasons. First, perceptions of policy characteristics matter. Specifically, perceptions of the policy characteristics related to NIMS matter. It was critical for counties to believe that NIMS had the potential to solve real emergency management problems; that NIMS was clear and specific; that incentives and sanctions were not only provided but likely; and, that capacity building resources (e.g., time to implement, technical support, training, etc.) were provided just as the literature had suggested. When counties believed that the policy characteristics related to NIMS were present, then they intended to implement NIMS and actually implemented NIMS in a manner most consistent with the policy's intent (i.e., as designed) and vice versa.

One can debate whether county assessments of the NIMS policy were accurate, but as W.I. Thomas is so famously known for pointing out, and—as the findings of this research and Jensen (2009) clearly suggest—perceptions have consequences (Thomas & Thomas, 1970). It may be tempting to dismiss perceptions of NIMS's policy characteristics because perceptions are based on subjective not objective assessments of reality. However, it would be imprudent to do so because the consequence of perceptions of policy characteristics is a strong influence on how a county intended to implement NIMS as well as how the county actually implemented the system.

The second reason this finding is important is that while the federal government cannot alone control what counties perceive about the policy characteristics of NIMS, the actual policy characteristics related to the system were, and are, partially controllable. The federal government can make changes in the policy's underlying theory, clarity and specificity, incentives and sanctions, and/or capacity-building research in an effort to

bring about more standardized implementation of NIMS within U.S. counties. Of course, counties need to perceive that changes have been made and that the changes are positive. Moreover, counties nationwide would have to perceive the changes similarly and positively to see an increase in standardization in actual implementation behavior across the United States. While it seems somewhat unlikely that all counties will ever be on the same page in their perceptions of the policy characteristics related to NIMS, the policy characteristics/implementation relationship does show that there is a role for the federal government in positively influencing NIMS implementation behavior in the future.

The NIMS and policy literature also suggested that implementer views, or the buy-in or attitudes, motivations, and predispositions of implementers, were important to consider when evaluating implementation behavior (see for example: Bali, 2003; Berry et al., 1998; Bullock & Lamb, 1984; Elmore, 1987; Fernandez et al., 2007; Goggin, 1986; Goggin et al., 1990; Hedge et al., 1988; Jensen, 2008, 2009; Kaufman, 1973; May, 1993, 1994, 1995; May & Burby 1996; May & Winter, 2007; Mazmanian & Sabatier, 1989; Neal & Webb, 2006; Sabatier & Mazmanian, 1979; Schneider & Ingram, 1990; Stoker, 1991; Van Meter and Van Horn 1975). The findings of this research support the literature in that these factors, grouped under the category of implementer views, were significant predictors of behavioral intent and actual implementation behavior.

The explanatory power of implementer views on implementation suggests that not all counties think NIMS is well-suited to their jurisdiction. Rather, the influence of views on implementation intent and actual behavior suggests that those counties who were not implementing the system as designed, but were modifying it, were doing so because they

believed that something needs to be changed about the system to make it a better fit for their county.

Positive implementer views of NIMS are a critical condition for NIMS implementation behavior. If there were a desire to see NIMS implemented as designed, or in a more standardized fashion, then addressing the policy characteristics related to NIMS will not be enough by itself. The federal government will also have to make an effort to change county views. Ideally, time and resources would have been dedicated to building buy-in and commitment in counties across the United States prior to the system's mandate; yet, engaging counties in implementing NIMS is still possible. The role of implementer views in explaining implementation behavior suggests that there is an opportunity to appeal to counties and generate buy-in, enlist motivation, and overcome any existing predispositions against state or federal government in an effort to bring about more standardized (i.e., as designed) implementation of the system.

Bringing about a change in views will be a challenge. A shift will have to take place in the attitudes, motivations, and predispositions of many of the counties across the United States. Because the survey for this research asked county emergency managers to evaluate *the overall views* of their county regarding NIMS, and NIMS involves a variety of organizations within any given county (e.g., law enforcement, fire services, emergency medical services, schools, hospitals, city/county departments, elected officials, nongovernmental organizations, and businesses), facilitating a shift in views would not simply involve the local county emergency manager. The views of one, several, or potentially all organizations expected to participate in emergency management using NIMS would need to be aligned in support of NIMS to see a shift in implementation

behavior. Furthermore, this shift in views would have to take place within all counties that had negative views in order to see more standardized implementation of the system.

The federal government could take significant measures to reach out to counties to see counties' views change, but, ultimately, the counties themselves, and the individual organizations within the counties, will always determine their own views. These challenges facing the federal government make it unlikely that implementer views will ever be completely supportive of NIMS implementation in all counties in the United States. Thus, it is unlikely that we will see the standardization of NIMS implementation to the degree required for the system to fulfill its ambitious purpose both because implementer views are a strong predictor of implementation intent and it is unlikely that implementer views will ever be perfectly aligned across the United States.

The final variable predictive of both intent and actual NIMS implementation behavior—local capacity—highlights the challenges facing NIMS in creating a consistent nationwide framework for emergency management. Local capacity reflects county perceptions of whether the county had enough personnel to implement NIMS. Specifically, the issue is whether a county thought it had enough personnel to implement the system with all of its component parts, structures, and processes. The answer to that question varied across counties. When the answer was negative, then county implementation intent and behavior tended to be lower and vice versa.

It is intriguing that only one small part of local structural and situational characteristics was found to explain both behavioral intent and actual behavior. Other variables from within the local structural and situational characteristics group were eliminated from the regression equation including the leadership of the state and elected

local officials, emergency management program budgets, the number of staff of the programs, and county perceptions of their financial capacity. With the exception of state and elected local officials, these aspects of local structure and situation could have been theoretically addressed by providing more financial resources to local county governments to ensure that more counties implemented NIMS as designed; yet, the regression analysis revealed that the issue is not one of financial capacity, or leadership for that matter.

The significance of this finding could be interpreted in more than one way. It could be interpreted to indicate that counties believed there are too many components, structures, and processes to implement NIMS as designed given the number of personnel they have. It could also be interpreted to indicate that counties did not understand how to implement the system with limited personnel. Both interpretations point to specific issues related to NIMS that can be addressed. Were either interpretation true, the federal government could potentially address the problem by altering the system (i.e., simplifying or reducing the structures and processes required to implement the system as designed) or by changing training related to the system to better convey the flexibility of the system and its components (assuming that there is more flexibility in the system than counties realize).

A Key Difference in Predicting Intentions and Actual Behavior

Three variables explained both behavioral intent and actual NIMS implementation behavior. Regression analysis revealed that an additional variable, inter-organizational characteristics, uniquely played a role in explaining actual NIMS implementation behavior. This finding is significant for several reasons.

Neal and Webb (2006) and Jensen (2009) both suggested that inter-organizational characteristics were negatively impacting NIMS implementation. The policy literature had also suggested that inter-organizational characteristics were important in understanding implementation behavior. The findings of the present research support the literature in that the culture of the organizations involved in implementing NIMS (Jensen, 2009; Neal & Webb, 2006), the trust between those organizations (Bardach, 1998; Lundin, 2007a), the quality of their working relationships (O'Toole, 1997), goal congruence regarding implementing the system between organizations involved (Ewalt & Jennings, 2004; Lundin, 2007a; Meyers et al. , 2001; Powell et al., 2001; Van Meter & Van Horn, 1975), and the lack of organizational barriers to implementing NIMS (Hill & Hupe, 2009; Jensen, 2009; O'Toole, 1988) make a critical difference in how actual implementation is approached within jurisdictions.

The role of inter-organizational characteristics in predicting actual implementation behavior provides an explanation for the difference between implementation intent and actual NIMS implementation behavior observed in this research. While the implementation intent of counties and the actual implementation behavior of counties were closely related, a slight and statistically significant difference was observed between intent means and behavior means with intent means being higher. The inclusion of one unique factor, inter-organizational characteristics in the model for actual behavior, provides a compelling explanation for the slight difference in intent and behavior means.

Actual NIMS implementation behavior reflects the on-the-ground context in which NIMS implementation occurs, and it is within this context that the variable of inter-organizational characteristics emerges. While policy characteristics, implementer views,

and personnel to implement NIMS could all be conducive to the implementation of NIMS, if inter-organizational characteristics are not conducive to the system's implementation then no matter what jurisdictions intend, their actual, on-the-ground implementation behavior can be negatively impacted. Unlike the other independent variables found to be predictive of implementation behavior, the variable related to inter-organizational characteristics is largely, if not entirely, controlled at the local level. There is very little that the federal government can do to directly influence this variable or how it influences the implementation of the system.

Overall Significance of the Findings for NIMS

If the federal government would like to see more standardized implementation of NIMS, then this study has revealed areas where the government can focus its attention. As discussed, the federal government has a significant role to play in improving perceptions of the policy characteristics related to NIMS, implementer views, and local capacity (as measured by county perceptions of whether their county had enough personnel to implement NIMS). While the results of this study indicated where energy could be focused in an attempt to improve implementation behavior, the results also revealed that there are likely to be limits to what can be achieved with respect to counties implementing NIMS in a standardized fashion.

This study showed that there is great variation in current county NIMS implementation behavior. Furthermore, it discovered that local, on-the-ground, contextual factors (i.e., how the policy characteristics are perceived, implementer views, local capacity, and inter-organizational relationships) matter where NIMS implementation

behavior is concerned. Because local context varies, there is variance in how counties are implementing NIMS across the United States.

This research suggests that due to the role of local context in the NIMS implementation process, federal efforts to bring about change will reach a certain threshold beyond which continuing effort would be in vain without change actually occurring in the local context. The level to which these changes actually occur will be controlled to large extent by implementers at the county level.

The findings of this research have challenged the notion that NIMS can feasibly fulfill its purpose as well as the assumptions upon which the system is based and in so doing has challenged how useful the system is currently, and will be into the future, as an organizing mechanism for the nationwide emergency management system. One of the primary challenges facing emergency management is that the diversity, complexity, and interdependence of the United States makes it both desirable and important that a system like NIMS work while at the same time being a key reason why policies predicated on standardization are met with perhaps insurmountable obstacles.

Large-scale disasters happen where the most effective and efficient response requires the quick integration and joint effort of organizations, jurisdictions, and levels of government to address the impacts and needs related to the incident. In these situations, the absence of an organizing mechanism such as NIMS would be noticed when organizations, jurisdictions, and levels of government attempt to separately address the impacts and needs related to the incident with their own, individualized emergency management system or no system at all, as appeared to be the case during Hurricane Katrina (Neal & Webb, 2006).

There are many reasons why emergency management relevant entities develop their own systems. These reasons include the unique hazards, risks, vulnerabilities, experience with hazard events, and other contextual variables (e.g., politics, economic situation, values, norms, priorities) that counties can face. Yet, in situations where responding entities utilize different systems or no system at all, communication can be hampered, leadership thwarted, efforts duplicated, safety of first responders overlooked, coordination unapparent, etcetera. NIMS is designed to allow emergency management relevant entities to simultaneously merge into a system of structures, process, and terminology that facilitates incident management. But, success of the system in the situations for which it is designed depends on the simultaneous merging of relevant entities and if we have some counties not/minimally implementing, others partially implementing, and some fully implementing NIMS, then the variance in response structures that characterized emergency management prior to NIMS inception can be expected to continue.

This research has shown that it is unlikely that the purpose of NIMS is being, or can be, met (i.e., to bring about a standardized consistent approach to emergency management across the United States). Yet, to be clear, it is important to highlight what this research is not saying with respect to the causes of concern. Nothing in this research suggested that the fulfillment of NIMS purpose is unlikely because county emergency managers are not doing their job well or even that counties are not behaving as they should with respect to NIMS implementation. This research also has not suggested that NIMS, as a system, is somehow fundamentally flawed. Instead, this research has identified variables that explain much of the variance in implementation behavior in

counties across the United States. It has also identified that the variables operate in a local context that makes the efficacy of NIMS limited and the status quo with respect to the system's design and implementation unacceptable if the system is being relied on to act as an organizing mechanism for emergency management nationwide.

Methodological Contributions

To date there have been only three empirical studies of NIMS. As has been evidenced in the preceding chapters, these studies greatly influenced both the dependent and independent variables used in this study. While helpful, the preexisting NIMS research has not been able to pinpoint the precise role that identified factors that might have with respect to implementation behavior. The large scale, quantitative data collection used by this study enabled it to explain the relative importance of different factors and to explain the cumulative influence of the variables the NIMS literature suggests might be important. This study has been successful in addressing the key weaknesses found in the NIMS literature by narrowing down a wide range of factors to those that are related to implementation behavior, identifying which are most predictive, and determining the combined influence of the variables.

All three studies conducted on NIMS to date discovered that not all organizations and/or jurisdictions intended to implement, or actually implemented, NIMS as designed (Jensen 2008, 2009; Neal & Webb, 2006). While each of these studies found variation in intent to use and actual use of the system, the findings could have been questioned in terms of their generalizability, or applicability to local level government entities across the United States. The generalizability of this study lends greater significance to the findings

of the prior NIMS literature in addition to allowing the findings of this study to speak for counties across the United States.

CHAPTER SIX: CONCLUSION

Significance of Study for Emergency Management

In the concluding remarks of her study on NIMS, Jensen (2008) had recommended future research must investigate “NIMS as an emergency management system, its potential for use in disaster situations, and factors that may limit or promote its usefulness” (p. 15). This study attempted to do as Jensen (2008) recommended and in so doing has provided ample reason to question whether NIMS is fulfilling its intent and ultimate goal.

NIMS is an ambitious and enormous policy and represented a sudden policy change. What it attempted and attempts to do is staggering; therefore, to some extent, the findings of this study are not surprising. The significance of the findings for NIMS has already been discussed at length, yet, perhaps the most significant aspect of this study has not been discussed to this point and that is the significance of this study for the development of emergency management policy.

This study has shown that future policy mandates should recognize that there are factors beyond the control of those designing the policy that will impact the extent to which the policy is implemented as well as the policy’s performance and output. Early attention to these factors and incorporation of them into the policy’s design can help to increase the likelihood the emergency management policy will be successful.

Among the factors highlighted by this research were the role of local perceptions and that local perceptions create the context in which policy implementation occurs. Therefore, the development of future policy should incorporate local level government

entities throughout implementation (i.e., from design to termination) of a policy to increase the policy's chances for success.

Even if the variables addressed through this study are taken into account in policy development, emergency management policy developers will need to keep in mind that the perceptions held by local level implementers may still not be conducive to the policy's implementation in the manner in which it was designed. And, if local level implementers do not implement the policy as designed, then the policy may fail to meet its goals or perform as expected regardless of the effort made at the federal level.

It is for these reasons that future emergency management policy should carefully consider whether standardization of the manner in which the policy issue is addressed is truly necessary to accomplish the purpose, underlying intent, or goal of the policy. As this research has shown, the pursuit of standardization is prone to pitfalls most of which the policy makers alone cannot control. The pursuit of standardization in emergency management also runs contrary to the way emergency management is situated at local levels in terms of staff, staff status, capacity, hazards faced, disaster experience, community involvement, etcetera which exhibit (as seen in the sample for this research) a great degree of variability. That this research has been able to identify these points on the basis of generalizable results is a significant contribution to the field of emergency management.

This research has also contributed to the discipline of emergency management. It has added to the body of literature on NIMS and confirmed many of the key findings of the earlier research on the system. It also developed and tested an inductive model based on both emergency management and policy literature that can be used by future

researchers in the discipline to further study NIMS and/or other emergency management policies. Finally, in utilizing the previous, but sparse, emergency management literature on NIMS to ground the development of the model and supporting it with the large body of policy implementation literature this study has provided a model for developing an emergency management-focused quantitative study that future researchers in emergency management could follow until emergency management literature and theory reach a critical mass.

Significance of Study for Implementation Research

Through its focus on implementation behavior as the dependent variable, this study has contributed to policy implementation research. The study addressed needs related to the study of implementation behavior by focusing on a rarely studied aspect of implementation—implementation behavior (Ewalt & Jennings, 2004; Hill & Hupe, 2002, 2009; Schneider & Ingram, 1990; Winter, 1990, 2003a,b), identifying behavioral output variables (Winter, 2003a), explaining a substantial amount of the variation in behavioral output (Hill & Hupe, 2009; Winter, 2003a), and discussing the potential implications that behavior would have for policy performance and output (Jennings, 2004). Additionally, the study explored two aspects of implementation behavior—intent and actual behavior—an exploration recommended, but rarely undertaken, by those involved in policy implementation research (Mischen, 2007; Sorg, 1983). The results of this exploration showed that, in the case of NIMS, intent and actual behavior were intimately linked but that one policy relevant variable uniquely explained actual behavior and not intent. This intriguing finding represents a contribution to this area of research that might be explored further in the future.

The study was also able to show that the vast majority of the variables identified in the policy implementation literature are related to implementation behavior. While not all of the independent variables tested through this research were found to be predictive of the dependent variables, basic statistical analysis revealed that most of variables in the broad range of variables identified through the policy literature are positively related to implementation behavior. Therefore, even though some of the variables tested through this study were found not to predict NIMS implementation behavior specifically, a different mix of variables may be found to predict implementation behavior related to other policies (e.g., a public health policy, an education policy, or a transportation policy).

As discussed in the Literature Review, the absence of a general theory of implementation has troubled some academics associated with policy implementation research (Goggin, 1986; Lester et al., 1987; O'Toole & Montjoy, 1984; O'Toole, 2000, 2003, 2004). And, many have called for the development of statistically generalizable studies of implementation and testable causal models (Goggin et al., 1990; Hill & Hupe, 2009; Lester et al., 1987). Therefore, an additional contribution of this study for the policy literature is that it developed and tested an inductive model based on the policy research that resulted in statistically significant, substantively sizable, and generalizable results. Future policy implementation researchers can use the model from this study to eventually build a general theory of implementation.

Recommendations for Future Research

While making significant contributions to the study of NIMS, emergency management, and policy implementation research, this study represents but a small step towards increasing the knowledge related to the study's research questions. There are

myriad ways that future research can address the gaps left after this research and build on, expand, and extend the findings of this research. Only a few recommendations for future research are included here.

This research found that several indexes, comprised of a series statements measuring a variety of concepts, were related to NIMS implementation behavior. Future research could develop scales for the individual concepts within each index to tease out what concepts within each index are the most predictive of implementation behavior. For instance, while this research identified that the policy characteristics index variable was powerfully predictive of implementation behavior, future research using a more extensive list of questions for each measure could identify whether county perceptions of the underlying theory of NIMS, the system's clarity and specificity, the incentives and sanctions related to implementing the system, or the extent to which capacity building resources were provided are most important.

The Discussion Chapter of this dissertation raised a series of questions related to the finding that there was significant variance in the behavioral approach counties were taking with respect to implementing NIMS. Questions raised included the following: Given the fact that jurisdictions in the United States reported that they were modifying the system, were they modifying the system in the same way? Were their modifications compatible with one another? Were they modifying the system in ways that still allow agencies, organizations, jurisdictions, and levels of government to merge effortlessly into a common structure to contend with hazard events? What kinds of problems will modifications to the system present for the system's use and usefulness when a large-scale event happens? Future research could explore one or more of these important questions.

Future research could also utilize the survey created for this study and send it to multiple organizations expected to participate in NIMS implementation within counties to ascertain the degree to which their perceptions of the system and NIMS implementation behavior are aligned. Administrators for the government entity (i.e., local elected officials), government entity departments (e.g., county planning office, county public works, etcetera), fire department, law enforcement, emergency medical services, hospitals, schools, and key private businesses and nonprofits would be ideal recipients for such a survey.

The survey used for this research could also be used by future researchers to examine implementation behavior related to other emergency management policies. An interesting avenue to explore in this research would be the extent to which the variables found to predict implementation behavior related to NIMS might be similar to those found to predict implementation behavior for other emergency management policies.

In the introduction to this dissertation, it was stated that compliance measures may not focus on the most important aspects of NIMS implementation. Additional areas for consideration were suggested to include the degree of commitment to implementing NIMS within jurisdictions; how much jurisdictions actually know about NIMS and how to use the system; or, whether the NIMS and ICS are actually incorporated into the day-to-day administration of jurisdictions or utilized in small-scale incidents. Similarly, this research did not examine how much jurisdictions actually know about NIMS. Future research could explore jurisdictional knowledge of NIMS and how to use the system and perhaps the extent to which knowledge of the system and how to use it influences implementation.

Thus, the present study not only attempted to address fundamental questions about NIMS, the central policy mandate in this era of emergency management, it also has pointed to an even wider array of questions yet to be addressed. It is hoped that these twin accomplishments will move research on emergency management policy implementation substantively ahead.

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APPENDIX A: NIMS IMPLEMENTATION OBJECTIVES 2004-2009



FY 2009 NIMS Implementation Objectives

The chart below depicts the 28 NIMS Implementation Objectives prescribed by National Integration Center's Incident Management Systems Integration (IMSI) Division for Federal Fiscal Year (FY) 2009. State, territorial, tribal, and local jurisdictions must ensure all NIMS objectives have been initiated and/or are in progress toward completion.

NIMS Component		NIMS Implementation Objective	Federal FY Prescribed to:			
			State/Territory	Tribal	Local	
ADOPTION		1. Adopt NIMS for all Departments/Agencies, as well as promote and encourage NIMS adoption by associations, utilities, nongovernmental organizations (NGOs) and private sector emergency management and incident response organizations.	2005			
		2. Establish and maintain a planning process to communicate, monitor, and implement all NIMS compliance objectives across the State/Territory/Tribal Nation (including Departments/Agencies), to include local governments. This process must provide a means for measuring progress and facilitate reporting.	2006	2008	N/A	
		3. Designate and maintain a single point of contact within government to serve as principal coordinator for NIMS implementation jurisdiction-wide (to include a principal coordinator for NIMS implementation within each Department/Agency).	2006	2007		
		4. Ensure that Federal Preparedness Awards (to include, but not limited to, DHS Homeland Security Grant Program and Urban Area Security Initiative Funds) to State/Territorial/Tribal Departments/Agencies, as well as local governments, support all required NIMS Compliance Objectives (requirements).	2005	2008		
		5. Audit agencies and review organizations should routinely include NIMS Compliance Objectives (requirements) in all audits associated with Federal Preparedness Awards.	2006	2008		
		6. Assist Tribal Nations with formal adoption and implementation of NIMS.	2007	N/A		
PREPAREDNESS	Planning	7. Revise and update emergency operations plans (EOPs), standard operating procedures (SOPs), and standard operating guidelines (SOGs) to incorporate NIMS and National Response Framework (NRF) components, principles and policies, to include planning, training, response, exercises, equipment, evaluation, and corrective actions.	2005			
		8. Promote and/or develop intrastate and interagency mutual aid agreements and assistance agreements (to include agreements with the private sector and NGOs).	2005			
		9. Use existing resources such as programs, personnel and training facilities to coordinate and deliver NIMS training requirements.	2006	2008		
	Training	10. Implement IS-700 NIMS: An Introduction training to include appropriate personnel (as identified in the Five-Year NIMS Training Plan, February 2008).	2006			
		11. Implement IS-800 National Response Framework (NRF): An Introduction training to include appropriate personnel (as identified in the Five-Year NIMS Training Plan, February 2008).	2006			
		12. Implement ICS-100 Introduction to ICS training to include appropriate personnel (as identified in the Five-Year NIMS Training Plan, February 2008).	2006			
		13. Implement ICS-200 ICS for Single Resources and Initial Action Incidents training to include appropriate personnel (as identified in the Five-Year NIMS Training Plan, February 2008).	2006			
		14. Implement ICS-300 Intermediate ICS training to include appropriate personnel (as identified in the Five-Year NIMS Training Plan, February 2008).	2007			
		15. Implement ICS-400 Advanced ICS training to include appropriate personnel (as identified in the Five-Year NIMS Training Plan, February 2008).	2009			
		16. Incorporate NIMS concepts and principles into all appropriate State/Territorial/Tribal training and exercises.	2005			
		17. Plan for and/or participate in an all-hazards exercise program (for example, Homeland Security Exercise and Evaluation Program) that involves emergency management/response personnel from multiple disciplines and/or multiple jurisdictions.	2006			
	Exercises	18. Incorporate corrective actions into preparedness and response plans and procedures.	2006			
		19. Apply common and consistent terminology as used in NIMS, including the establishment of plain language (clear text) communications standards.	2006			
	COMMUNICATION AND INFORMATION MANAGEMENT		20. Utilize systems, tools, and processes to present consistent and accurate information (e.g., common operating picture) during an incident/planned event.	2007		
		RESOURCE MANAGEMENT	21. Inventory response assets to conform to NIMS National Resource Typing Definitions, as defined by FEMA Incident Management Systems Integration Division.	2006		
	22. Ensure that equipment, communications and data systems acquired through State/Territorial and local acquisition programs are interoperable.		2006			
	23. Utilize response asset inventory for intrastate/interstate mutual aid requests (such as Emergency Management Assistance Compact (EMAC)), training, exercises, and incidents/planned events.		2007			
	24. Initiate development of a State/Territory/Tribal-wide system (that incorporates local jurisdictions) to credential emergency management/response personnel to ensure proper authorization and access to an incident including those involving mutual aid agreements and/or assistance agreements.		2008			
COMMAND AND MANAGEMENT	Incident Command System	25. Manage all incidents/planned events in accordance with ICS organizational structures, doctrine and procedures. ICS implementation must include the consistent application of Incident Action Planning (IAP), common communications plans, implementation of Area Command to oversee multiple incidents that are handled by separate ICS organizations or to oversee the management of a very large or evolving incident that has multiple incident management teams engaged, and implementation of unified command (UC) in multi-jurisdictional or multi-agency incident management, as appropriate.	2006			
		26. Coordinate and support emergency management and incident response objectives through the development and use of Integrated MACS, [i.e. develop/maintain connectivity capability between local Incident Command Posts (ICPs), local 911 Centers, local/regional/State/territorial/tribal/Federal Emergency Operations Centers (EOCs), as well as NRF organizational elements.]	2006			
	Public Information	27. Institutionalize, within the framework of ICS, Public Information, [e.g., Joint Information System (JIS) and a Joint Information Center (JIC)] during an incident/planned event.	2006			
		28. Ensure that Public Information procedures and processes can gather, verify, coordinate, and disseminate information during an incident/planned event.	2007			

FEMA. (2009d). FY 2009 NIMS implementation objectives. Retrieved from http://www.fema.gov/pdf/emergency/nims/FY2009_NIMS_Implementation_Chart.pdf

APPENDIX B: SAMPLE NIMS COMPLIANCE METRIC

FY07 NIMS Compliance Metrics: Tribal/Local

Section 1 Metrics: Community Adoption					
Compliance Requirement: Adopt NIMS at the community level for all government departments and agencies; as well as promote and encourage NIMS adoption by associations, utilities, non-governmental organizations (NGOs) and private sector incident management and response organizations.					
1. Has the tribal/local jurisdiction formally adopted NIMS as the all-hazards, incident management system for implementation by all jurisdictional-level departments and/or agencies? <div><input type="checkbox"/> Yes <input type="checkbox"/> No</div> <div><ul style="list-style-type: none">If "Yes," what legal authority was used to adopt NIMS: [Check all that apply.]<div><input type="checkbox"/> Executive Order <input type="checkbox"/> Proclamation <input type="checkbox"/> Resolution <input type="checkbox"/> Legislation <input type="checkbox"/> Other legal authority, explain: []</div>If "No," which of the following impedes adoption: [Check all that apply.]<div><input type="checkbox"/> Plans <input type="checkbox"/> Policy <input type="checkbox"/> Personnel <input type="checkbox"/> Funding <input type="checkbox"/> Exercise <input type="checkbox"/> Education <input type="checkbox"/> Other impediments, explain: []</div></div>					
2. For each of the following, indicate to which groups and with which methods the tribal/local jurisdiction has promoted and encouraged the adoption of NIMS: [Check all that apply.]					
Meetings (e.g. committees, conferences, working groups, etc.)	Mailings (e.g. newsletters, letters, etc.)	Email or other electronic means (e.g., websites)	Exercises (e.g., drills, tabletop, full-scale)	Other methods used to promote and encourage the adoption of NIMS	Not applicable

<ul style="list-style-type: none"> Associations (e.g., professional organization or trade associations) 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Critical Infrastructure 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Utilities (e.g., transportation, electric, water) 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Private sector incident management and response organizations 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Non-governmental organizations (NGOs) 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Describe efforts to promote and encourage NIMS adoption: []
 Which of the following impedes the promotion and encouragement of NIMS adoption: [Check all that apply.]
☐ Plans
☐ Policy
☐ Personnel
☐ Funding
☐ Training
☐ Exercise
☐ Education
☐ Other impediments, explain: []

NEW FOR FY07 Compliance Requirement: Designate a single point of contact within the local/tribal jurisdiction to serve as the principal coordinator for NIMS implementation.

3. Has the tribal/local jurisdiction designated a single point of contact with the authority to serve as the principal coordinator for overall NIMS implementation?

☐ Yes
☐ No

If "Yes," who has been designated? _____ (Name, Title, Email Address, Phone Number, and Mailing Address)
 What was the date of appointment? _____

- If "No," when will the tribal/local jurisdiction designate a single point of contact for NIMS implementation? _____ (Date)
- Also, if "No," which of the following impedes designating a single point of contact for NIMS implementation: [Check all that apply.]
- | | | |
|--------------------------|-------------------------------|--------------------------|
| <input type="checkbox"/> | Plans | <input type="checkbox"/> |
| <input type="checkbox"/> | Policy | <input type="checkbox"/> |
| <input type="checkbox"/> | Personnel | <input type="checkbox"/> |
| <input type="checkbox"/> | Funding | <input type="checkbox"/> |
| <input type="checkbox"/> | Training | <input type="checkbox"/> |
| <input type="checkbox"/> | Education | <input type="checkbox"/> |
| <input type="checkbox"/> | Other impediments, explain: [| <input type="checkbox"/> |

Section 2 Metrics: Command and Management

Compliance Requirement: Incident Command System (ICS): Manage all emergency incidents and preplanned (recurring/special) events in accordance with ICS organizational structures, doctrine and procedures, as defined in NIMS. ICS Implementation must include the consistent application of Incident Action Planning and Common Communications Plans, as appropriate.

1. Does the tribal/local jurisdiction implement NIMS-prescribed ICS for all-hazards incident response?

☐ Yes
☐ No

▪ If "No," which of the following impedes implementation: [Check all that apply.]

☐ Plans
☐ Personnel
☐ Funding
☐ Education
☐ Training
☐ Exercise
☐ Other impediments, explain: []

2. Does the tribal/local jurisdiction implement NIMS-prescribed ICS for managing preplanned events?

☐ Yes
☐ No

▪ If "No," which of the following impedes implementation: [Check all that apply.]

☐ Plans
☐ Personnel
☐ Funding
☐ Education
☐ Training
☐ Other impediments, explain: []

5. Do incident action plans incorporate the following ICS concepts:		Yes	No
Designation of measurable objectives		<input type="checkbox"/>	<input type="checkbox"/>
▪ If "No," explain: []			
Designation of command staff positions		<input type="checkbox"/>	<input type="checkbox"/>
▪ If "No," explain: []			
Manageable span of control		<input type="checkbox"/>	<input type="checkbox"/>
▪ If "No," explain: []			
Clear chain of command		<input type="checkbox"/>	<input type="checkbox"/>
▪ If "No," explain: []			
Use of plain language		<input type="checkbox"/>	<input type="checkbox"/>
▪ If "No," explain: []			

6. Do Common Communication Plans address:		
Utilization of communications equipment and facilities assigned to the incident	Yes []	No []
<ul style="list-style-type: none"> If "No," explain: [] 		
Installation of and testing of all communications equipment	[]	[]
<ul style="list-style-type: none"> If "No," explain: [] 		
Supervision and operation of the incident communications	[]	[]
<ul style="list-style-type: none"> If "No," explain: [] 		
Distribution and recovery of communications equipment assigned to incident personnel	[]	[]
<ul style="list-style-type: none"> If "No," explain: [] 		
Maintenance and repair of communications equipment on site	[]	[]
<ul style="list-style-type: none"> If "No," explain: [] 		
Compliance Requirement: Multi-agency Coordination System: Coordinate and support emergency incident and event management through the development and use of integrated multi-agency coordination systems, i.e. - develop and maintain connectivity capability between local Incident Command Posts (ICPs), local 911 Centers, local Emergency Operations Centers (EOCs), and the state/territorial EOC.		
7. Which of the following does the tribal/local jurisdiction provide to encourage the use of multi-agency coordination systems (MACS): [Check all that apply.]		
Framework (e.g., organizational capacities, state EOPs, state disaster plans)	Yes []	No []
<ul style="list-style-type: none"> If "No," explain: [] 		

Training Curriculum		[]	[]
<ul style="list-style-type: none"> If "No," explain: [] 			
Exercises		[]	[]
<ul style="list-style-type: none"> If "No," explain: [] 			

8. Does the tribal/tribal jurisdiction designate or utilize a MACS for:

	Yes	No
Preplanned Events (Recurring/Special)	[]	[]
<ul style="list-style-type: none"> If "Yes," explain how a MACS has been successfully utilized to manage preplanned events: [] 		
Incident-specific Hazards	[]	[]
<ul style="list-style-type: none"> If "Yes," explain how a MACS has been successfully utilized to manage incident-specific hazards: [] 		
No-notice Events	[]	[]
<ul style="list-style-type: none"> If "Yes," explain how a MACS has been successfully utilized to manage no-notice events: [] 		
Specific Events	[]	[]
<ul style="list-style-type: none"> If "Yes," explain how a MACS has been successfully utilized to manage specific events: [] 		

<ul style="list-style-type: none"> Which of the following impedes establishing a MACS: [Check all that apply.] <ul style="list-style-type: none"> [] Plans [] Policy [] Training [] Organization [] Personnel [] Funding [] Other impediments, explain: []

NEW FOR FY07 Compliance Requirement: Ensure that the Public Information System can gather, verify, coordinate, and disseminate information during an incident.				
11. During incidents, can the tribal/local Public Information System gather, verify, coordinate, and disseminate the following types of information: [Check all that apply.]				
	Gather	Verify	Coordinate	Disseminate
Critical Emergency Information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crisis Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public Affairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other types of information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 3 Metrics: Preparedness Planning

Compliance Requirement: Establish the community's NIMS baseline against the FY05 and FY06 implementation requirements.

1. Has the tribal/local jurisdiction established a NIMS baseline for FY05 and/or FY06?

☐ Yes
☐ No

• If "Yes," what tool was used?

☐ NIMCAST

☐ Other, explain: []

• If "No," explain: []

• Which of the following impedes establishing a NIMS baseline: [Check all that apply.]

☐ Plans

☐ Personnel

☐ Funding

☐ Education

☐ Training

☐ Other impediments, explain: []

Compliance Requirement: Develop and implement a system to coordinate all Federal preparedness funding to implement the NIMS across the local/tribal jurisdictions.

2. Has the tribal/local jurisdiction utilized Federal preparedness funds to improve NIMS preparedness and response activities?

☐ Yes
☐ No

• If "Yes," indicate the Federal preparedness funding sources used?

☐ DHS, specify funding sources: []

☐ Other Federal preparedness funding

• If "No," explain: []

• Which of the following impedes utilizing Federal preparedness funds to improve activities: [Check all that apply.]

☐ Plans

☐ Personnel

☐ Funding

☐ Education

☐ Training
☐ Other impediments, explain: ☐

Compliance Requirement: Revise and update plans and SOPs to incorporate NIMS components, principles, and policies, to include planning, training, response, exercises, equipment, evaluation, and corrective actions.

3. Indicate in the table below the number of tribal/local jurisdictional departments and/or agencies with an emergency management or emergency response function that have incorporated NIMS into the following activities:

	Number of departments and/or agencies that have incorporated NIMS	Total number of departments and/or agencies
Planning	<input type="checkbox"/>	<input type="checkbox"/>
Training Programs	<input type="checkbox"/>	<input type="checkbox"/>
Response Activities	<input type="checkbox"/>	<input type="checkbox"/>
Exercise Program	<input type="checkbox"/>	<input type="checkbox"/>
Equipment Acquisition	<input type="checkbox"/>	<input type="checkbox"/>
Evaluations	<input type="checkbox"/>	<input type="checkbox"/>
Corrective Actions	<input type="checkbox"/>	<input type="checkbox"/>

4. To what extent have the following NIMS concepts and principles been incorporated into incident management policies and SOPs/SOGs?

	Not Incorporated	Partially Incorporated	Fully Incorporated
Flexibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scalability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standardization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interoperability & Compatibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Compliance Requirement: Participate in and promote intrastate and interagency mutual aid agreements, to include agreements with the private sector and non-governmental organizations.	
<p>5. The tribal/local jurisdiction participates in the following types of mutual aid agreements: [Check all that apply.]</p> <p> <input type="checkbox"/> Intrastate <input type="checkbox"/> Interagency <input type="checkbox"/> None </p> <p> <input type="checkbox"/> If "None," explain: [] </p> <p> <input type="checkbox"/> Which of the following impedes participation in intrastate and interagency mutual aid agreements: [Check all that apply.] </p> <p> <input type="checkbox"/> Plans <input type="checkbox"/> Policy <input type="checkbox"/> Training <input type="checkbox"/> Organization <input type="checkbox"/> Personnel <input type="checkbox"/> Funding <input type="checkbox"/> Other impediments, explain: [] </p>	<p>6. What actions have been taken by the tribal/local jurisdiction to promote intrastate and interagency mutual aid agreements: [Check all that apply.]</p> <p> <input type="checkbox"/> Developed working groups and/or committees <input type="checkbox"/> Signed Memorandum of Understanding/Memorandum of Agreement <input type="checkbox"/> Engaged in regular correspondence via phone/email <input type="checkbox"/> Developed mutual aid templates <input type="checkbox"/> Other actions taken by the tribal/local jurisdiction to promote intrastate and interagency mutual aid agreements, explain: [] </p> <p> <input type="checkbox"/> No actions have been taken, explain: [] </p> <p> <input type="checkbox"/> Which of the following impedes promoting intrastate and interagency mutual aid agreements: [Check all that apply.] </p> <p> <input type="checkbox"/> Plans <input type="checkbox"/> Policy <input type="checkbox"/> Training <input type="checkbox"/> Organization <input type="checkbox"/> Personnel <input type="checkbox"/> Funding <input type="checkbox"/> Other impediments, explain: [] </p>

7. What actions have been taken by the tribal/local jurisdiction to promote mutual aid agreements with private sector and non-governmental organizations:
[Check all that apply.]

☐ Developed working groups and/or committees
☐ Signed Memorandum of Understanding/Memorandum of Agreement
☐ Engaged in regular correspondence via phone/email
☐ Developed mutual aid templates
☐ Other actions taken by the local/tribal jurisdiction to promote mutual aid agreements with private sector and non-governmental organizations, explain:

☐

☐ No actions have been taken, explain: ☐

8. Indicate the types of mutual aid agreements for which tribal/local jurisdiction has trained and/or exercised:

	Interstate	Intrastate	Interagency
Training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exercises	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 4 Metrics: Preparedness Training

Compliance Requirement: Complete IS-700 NIMS: An Introduction. Complete IS-800 NRP: An Introduction. Complete ICS 100 and ICS 200 Training.

NEW FOR FY07 Compliance Requirement: Complete ICS-300 and ICS-400 Training.

1. In the following table, indicate the number of people trained in the following courses (out of the total number of people identified) the following training: [Gray boxes are not applicable.]

	Entry-level first responders	First line supervisors	Emergency management and response personnel in middle management	Emergency management and response personnel in command and general staff	Personnel trained as trainers
IS-700	[]	[]	[]	[]	
IS-800			[]	[]	
ICS-100	[]	[]	[]	[]	[]
ICS-200	[]	[]	[]	[]	[]
ICS-300			[]	[]	[]
ICS-400			[]	[]	[]

2. Does the tribal/local jurisdiction document training status of personnel from:

	Yes	No	Not applicable
Local jurisdictions	[]	[]	
Tribal jurisdictions	[]	[]	[]
Other emergency response organizations	[]	[]	

Section 5 Metrics: Preparedness Exercises

Compliance Requirement: Incorporate NIMS/ICS into all local/tribal and regional training and exercises.

1. Into which of the following activities are NIMS/ICS incorporated:

	Training	Exercises
Local Level	<input type="checkbox"/> []	<input type="checkbox"/> []
Tribal Level	<input type="checkbox"/> []	<input type="checkbox"/> []
Intrastate Regional Level	<input type="checkbox"/> []	<input type="checkbox"/> []

- Which of the following impedes incorporating NIMS/ICS into tribal/local and regional training and exercises: [Check all that apply.]

☐ [] Plans
☐ [] Personnel
☐ [] Funding
☐ [] Education
☐ [] Training
☐ [] Other impediments, explain: []

Compliance Requirement: Participate in an all-hazard exercise program based on NIMS that involves responders from multiple disciplines and multiple jurisdictions.

2. Indicate the number of exercises of each type (out of the total number of exercises) that evaluate NIMS implementation during the exercise:

- ☐ [] / ☐ [] Drills
☐ [] / ☐ [] Tabletop Exercises (TTX)
☐ [] / ☐ [] Functional Exercises (FE)
☐ [] / ☐ [] Full-Scale Exercises (FSE)
☐ [] / ☐ [] Other types of exercises in which NIMS has been implemented, explain: []
- Which of the following NIMS components are evaluated through the exercises: [Check all that apply.]
- ☐ [] Preparedness
☐ [] Communication and Information Management
☐ [] Resource Management
☐ [] Command and Management
☐ [] Mutual Aid
☐ [] Interoperability
☐ [] Participation of non-governmental organizations (NGOs) and private industry

<p>[] Other NIMS-related components: []</p> <ul style="list-style-type: none"> ▪ How have each of these exercises been evaluated for effectiveness of NIMS implementation during each exercise? Explain: [] ▪ Which of the following impedes evaluating NIMS implementation during exercises: [Check all that apply.] <div style="margin-left: 20px;"> <input type="checkbox"/> Plans <input type="checkbox"/> Personnel <input type="checkbox"/> Funding <input type="checkbox"/> Education <input type="checkbox"/> Training <input type="checkbox"/> Other impediments, explain: [] </div>	<p>3. Does the tribal/local jurisdiction have an all-hazards exercise program?</p> <div style="margin-left: 20px;"> <input type="checkbox"/> Yes <input type="checkbox"/> No </div> <ul style="list-style-type: none"> ▪ If "No," which of the following impedes developing an all-hazards exercise program: [Check all that apply.] <div style="margin-left: 20px;"> <input type="checkbox"/> Plans <input type="checkbox"/> Personnel <input type="checkbox"/> Funding <input type="checkbox"/> Education <input type="checkbox"/> Training <input type="checkbox"/> Other impediments, explain: [] </div>																		
<p>4. Indicate the number of functional exercises that involve a multi-disciplinary and/or multi-jurisdictional component:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <tr> <th style="width: 60%;"></th> <th style="width: 40%;">Number of Exercises</th> </tr> <tr> <td>Multi-disciplinary</td> <td style="text-align: center;">[]</td> </tr> <tr> <td>Multi-jurisdictional</td> <td style="text-align: center;">[]</td> </tr> </table> <ul style="list-style-type: none"> ▪ Of these, in which of the following types of exercises has NIMS been implemented as the all-hazards, incident management system: [Check all that apply.] <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 20%;"></th> <th style="width: 20%;">Drills</th> <th style="width: 20%;">Tabletop Exercises</th> <th style="width: 20%;">Functional Exercises</th> <th style="width: 20%;">Full-Scale Exercises</th> <th style="width: 20%;">Other</th> </tr> <tr> <td>Multi-disciplinary</td> <td style="text-align: center;">[]</td> <td style="text-align: center;">[]</td> <td style="text-align: center;">[]</td> <td style="text-align: center;">[]</td> <td style="text-align: center;">[]</td> </tr> </table>			Number of Exercises	Multi-disciplinary	[]	Multi-jurisdictional	[]		Drills	Tabletop Exercises	Functional Exercises	Full-Scale Exercises	Other	Multi-disciplinary	[]	[]	[]	[]	[]
	Number of Exercises																		
Multi-disciplinary	[]																		
Multi-jurisdictional	[]																		
	Drills	Tabletop Exercises	Functional Exercises	Full-Scale Exercises	Other														
Multi-disciplinary	[]	[]	[]	[]	[]														

Multi-jurisdictional	[]	[]	[]	[]	[]
<ul style="list-style-type: none"> Explain how these exercises evaluate the effectiveness of NIMS implementation during each exercise: [] What number of exercises used HSEEP methodology? (Out of total number of exercises) [/] If the tribal/local jurisdiction does not participate in multi-jurisdictional and/or multi-disciplinary, all-hazards exercises, explain: [] Which of the following disciplines are included in multi-disciplinary exercises that evaluate NIMS implementation: [Check all that apply.] <ul style="list-style-type: none"> <input type="checkbox"/> Public Works <input type="checkbox"/> Health and Medical <input type="checkbox"/> Fire/Hazardous Materials (HAZMAT) <input type="checkbox"/> Emergency Medical Services (EMS) <input type="checkbox"/> Law Enforcement <input type="checkbox"/> Search and Rescue <input type="checkbox"/> Animal Control and Veterinary Health <input type="checkbox"/> Incident Management <input type="checkbox"/> Other disciplines, explain: [] Which of the following impedes the implementation of NIMS in training and exercises: [Check all that apply.] <ul style="list-style-type: none"> <input type="checkbox"/> Plans <input type="checkbox"/> Policy <input type="checkbox"/> Equipment <input type="checkbox"/> Funding <input type="checkbox"/> Education <input type="checkbox"/> Other impediments, explain: [] 					
Compliance Requirement: Incorporate corrective actions into preparedness and response plans and procedures.					
5. Do tribal/local jurisdictional departments and/or agencies develop after action reports and/or lessons learned following exercises? <ul style="list-style-type: none"> <input type="checkbox"/> Yes <input type="checkbox"/> No If "No," explain: [] <ul style="list-style-type: none"> Which of the following impedes developing after action reports and/or lessons learned: [Check all that apply.] <ul style="list-style-type: none"> <input type="checkbox"/> Plans <input type="checkbox"/> Policy <input type="checkbox"/> Personnel <input type="checkbox"/> Funding <input type="checkbox"/> Education 					

Section 6 Metrics: Resource Management

Compliance Requirement: Inventory community response assets to conform to homeland security resource typing standards.

1. Has the tribal/local jurisdiction inventoried its response resources?

☐ Yes
☐ No

▪ If "No," which of the following impedes inventorying response assets: [Check all that apply.]

- ☐ Plans
- ☐ Policy
- ☐ Personnel
- ☐ Equipment
- ☐ Training
- ☐ Funding
- ☐ Education
- ☐ Other impediments, explain: []

2. Has the tribal/local jurisdiction developed a response asset inventory?

☐ Yes
☐ No

▪ If "No," which of the following impedes developing a response asset inventory: [Check all that apply.]

- ☐ Plans
- ☐ Policy
- ☐ Personnel
- ☐ Equipment
- ☐ Training
- ☐ Funding
- ☐ Education
- ☐ Other impediments, explain: []

3. Does the tribal/local jurisdiction use resource typing for response assets?

☐ Yes
☐ No

6. Has the tribal/local jurisdiction validated the inventory of response assets?

☐ Yes

☐ No

▪ If "Yes," does the inventory conform to homeland security resource typing standards?

☐ Yes

☐ No

▪ If "No," does the tribal/local jurisdiction have plans to:

	Yes	No
Build or adopt a database to serve as a response asset inventory	<input type="checkbox"/>	<input type="checkbox"/>
Identify resources for a response asset inventory	<input type="checkbox"/>	<input type="checkbox"/>
Compile data and expand the response asset inventory	<input type="checkbox"/>	<input type="checkbox"/>

NEW FOR FY07 Compliance Requirement: Utilize the state/territory response asset inventory for Intra-State Mutual Aid requests, exercises, and actual events.

7. Does the tribal/local jurisdiction utilize a response asset inventory for:

	Yes	No
Mutual Aid Requests	<input type="checkbox"/>	<input type="checkbox"/>
<div>▪ If "No," explain: [</div> <div>Exercises</div>	<input type="checkbox"/>	<input type="checkbox"/>
<div>▪ If "No," explain: [</div> <div>Actual Events</div>	<input type="checkbox"/>	<input type="checkbox"/>
<div>▪ If "No," explain: [</div>		

Section 7 Metrics: Communication and Information Management

Compliance Requirement: Apply standardized and consistent terminology, including the establishment of plain language communications standards across the public safety sector.

1. During a multi-jurisdictional and/or multi-agency event, to what extent does the tribal/local jurisdiction implement the following communication standards:

	Not Implemented	Partially Implemented	Fully Implemented
Plain Language	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standardized terminology in response operations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Standardized terminology in publications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

• Which of the following impedes implementing communication standards: [Check all that apply.]

- ☐ Plans
☐ Policy
☐ Personnel
☐ Equipment
☐ Training
☐ Exercise
☐ Funding
☐ Education
☐ Other impediments, explain: []

NEW FOR FY07 Compliance Requirement: Develop systems, tools, and processes to present consistent and accurate information to incident managers at all levels (e.g., common operating picture).			
2. Which of the following has the tribal/local jurisdiction developed to present consistent and accurate information during an incident:			
Communications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Intelligence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information Sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resource Status	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FEMA. (2009e). FY07 NIMS compliance metrics: Tribal/local. Retrieved from http://www.fema.gov/pdf/emergency/nims/comp_met_local.pdf

APPENDIX C: NOTIFICATION EMAIL

From: "Jessica Jensen" <ja.jensen@ndsu.edu>
Subject: Upcoming NIMS Study
Date: Fri, November 20, 2009 2:30 pm
To: NDSU-NIMSSURVEY@LISTSERV.NODAK.EDU

From: North Dakota State University
Center for Disaster Studies and Emergency Management
Dept. 2350
P.O. Box 6050
Fargo, ND 58108-6050

Dear Emergency Manager,

Local level governments, in particular counties and entities equivalent to counties, have had to work hard in the past few years to achieve compliance with NIMS implementation expectations. Yet, despite the fact that local government implementation of the system is what will ultimately make the system succeed or fail, very few have asked local emergency managers or the jurisdictions they represent what they think of NIMS as a policy, whether they think it "fits" their jurisdictions, and whether they even want to implement the system. I hope to provide this opportunity to county level emergency managers nationwide.

In approximately two weeks, you will receive a link to a survey that asks about your county's views of the National Incident Management System (NIMS) and your county's approach to NIMS implementation. This study is being conducted by Jessica Jensen at the Center for Disaster Studies and Emergency Management at North Dakota State University.

You have been invited to participate in this research project for one of three reasons: 1) your county was randomly selected from a list of counties and equivalent entities in the United States; 2) you are a county emergency manager or the emergency manager of a jurisdiction equivalent to a county; or 3) you are the head of a regional emergency management organization or REPC in an area of the country without county government.

I hope that you will be willing to participate in this study. If you are interested in learning more about the project now, you can contact Jessica Jensen at 701-219-4293 or ja.jensen@ndsu.edu or George Youngs at 701-231-8941 or george.youngs@ndsu.edu.

Sincerely,

Jessica Jensen

APPENDIX D: INVITATION EMAIL

From: "Jessica Jensen" <ja.jensen@NDSU.EDU>
Subject: INVITATION TO COMPLETE NIMS SURVEY
Date: Thu, December 3, 2009 1:51 pm
To: NDSU-NIMSSURVEY@LISTSERV.NODAK.EDU

From: North Dakota State University
Center for Disaster Studies and Emergency Management
Dept. 2350
P.O. Box 6050
Fargo, ND 58108-6050

Dear Emergency Manager,

North Dakota State University's Center for Disaster Studies and Emergency Management needs your help for a national study of county views of the National Incident Management System (NIMS) and county approaches to NIMS implementation. Your county has been randomly selected for participation.

The participation of your county is vital, as the findings from this study will be used to educate the emergency management community, including practitioners, policy makers, academics and students in three areas:

- The current NIMS implementation approaches of counties in the United States;
- The factors that influence how counties in the United States perceive and, in turn, implement NIMS; and,
- The potential for NIMS as an organizing mechanism for the national emergency management system.

I hope that you will take a few minutes to complete the following survey on behalf of your county at: <http://www.surveymonkey.com/s/2FCY6Z7>. When you follow the survey link, you will first encounter an information sheet providing additional information about this study; the next page contains some brief instructions; and, the subsequent pages will display the survey questions.

It is expected that it will take approximately 30 minutes for you to complete the survey. Should you need to exit the survey prior to completing it, you can return to your survey from the same computer any time prior to December 31st to finish by following the link provided above.

Your participation in this survey and your survey responses will be kept confidential; your participation is voluntary; and, you may chose not to participate in the study anytime. Should you have any questions, feel

free to contact Jessica Jensen at (701) 219-4293 or George Youngs at 701-231-8941.

Thank you in advance for your participation in this research project.

Sincerely,
Jessica Jensen

APPENDIX E: EMAIL REGARDING MISSING DATA

Dear Emergency Manager,

First and foremost I would like to thank you for completing our NIMS survey. We know that it took time out of your day, and we appreciate it. And, to those who encountered technical difficulties with the Survey Monkey data collection tool, we again apologize.

Much to our dismay, we discovered late last Friday evening that a page, just 8 short ranking statements, had been dropped from the survey. These questions are of critical importance to the study.

If you have 1-2 minutes--literally--would you mind clicking on the following link and answering the questions that were left out of your survey? The link is at: <http://www.surveymonkey.com/s/6LWH2RN> . As always, your participation in this survey and your survey responses will be kept confidential; your participation is voluntary; and, you may chose not to participate in the study anytime.

Thankfully, it now appears that all Survey Monkey related issues have been rectified and anyone else who attempts to start the survey should be able to complete it without problem and with all of the survey questions listed!

The participation of each county emergency manager who was randomly selected is essential to our being able to use the study's findings to educate policy makers about the realities of NIMS--without it we would not be able to make any claims as to the data's generalizability! So, thank you again! And, thank you in advance for completing the few short questions that were left out of the original survey you completed.

Respectfully,

Jessica Jensen

APPENDIX F: REMINDER EMAIL

From: "Jessica Jensen" <ja.jensen@NDSU.EDU>
Subject: VOICE YOUR OPINION ON NIMS
Date: Mon, December 14, 2009 9:58 am
To: NDSU-NIMSSURVEY@LISTSERV.NODAK.EDU

From: North Dakota State University
Center for Disaster Studies and Emergency Management
Dept. 2350
P.O. Box 6050
Fargo, ND 58108-6050

Dear Emergency Manager,

Approximately two weeks ago, a formal invitation to participate in a national study of county views of and implementation of the National Incident Management System (NIMS) was sent to you along with a link to a survey. To the best of our knowledge, your survey has not yet been completed.

This survey represents an opportunity for you to educate practitioners, policy makers, academics, and emergency management students, about the extent to which NIMS is or is not working for your county. Please do not allow the chance to share your county's views to pass.

You can complete the survey now
at:<http://www.surveymonkey.com/s/2FCY6Z7>.
The survey should take about 30 minutes to complete and you can stop and return to the survey anytime before December 31st from the computer on which you started the survey.

This project is being funded by the researchers themselves and the Center for Disaster Studies and Emergency Management at North Dakota State University. No outside entity is supporting this research; and, the actual data from the study will be viewed by the two researchers involved in the project alone. Each participants confidentiality is guaranteed. Only the overall findings from this research will be shared with agencies, committees, professional organizations, and the like.

OF NOTE: When the survey link was initially sent out, we were notified that some potential respondents had encountered an issue. We have worked closely with the Survey Monkey Support Staff and have been assured that any issues with the survey tool have been resolved. If you are an individual who encountered problems on your first attempt to complete the survey, please see the technical issues section below. Otherwise, rest assured that to the best of our knowledge all kinks at Survey Monkey with the survey tool have been worked out.

Should you have just completed the survey, thank you for your contribution to the emergency management community's knowledge about NIMS. Each individual who completes the survey puts us one step closer to meeting the standards for scientific research. If you have any questions, feel free to contact Jessica Jensen at (701) 219-4293 or George Youngs at 701-231-8941.

Sincerely,
Jessica Jensen

Possible Technical Issues and Solutions:

1. Some respondents had issues with the survey tool returning them to the beginning of the survey without their answers being saved. Survey Monkey support staff got back to me and assured me the issue has been resolved on their end and that the only way respondents should encounter this issue is if they have high security settings on their browser/server. The survey instrument utilizes cookies to track and save your answers; and, therefore, the security settings on your browser/server must be set at the default/medium level to allow the survey instrument to work as smoothly as possible.
2. Another possible issue encountered could have been not being able to move past a specific page. In a message from the Survey Monkey support staff, they shared that there are a couple of things that could cause a respondent to get stuck on a specific page including if they did not answer all of the required questions or if a respondent did not type in an answer in a valid format (e.g., if it was a budget question, then the respondent could not move forward if they wrote out an amount (like twenty thousand) or used dollar signs, periods, or commas).

APPENDIX G: EMAIL REGARDING CHANGE OF DATA COLLECTION PLAN

From: "Jessica Jensen" <ja.jensen@ndsu.edu>
Subject: IMPORTANT UPDATE ON NIMS STUDY
Date: Mon, December 14, 2009 1:31 pm
To: NDSU-NIMSSURVEY@LISTSERV.NODAK.EDU

Emergency Managers,

Much to our dismay we discovered this morning that the issues emergency managers were having with the Survey Monkey tool have continued. Because we recognize how valuable your time is we are going to stop collecting data through Survey Monkey.

Instead, in approximately one month you will receive the survey in the mail with a pre-paid return envelope. It is our hope that despite any inconvenience you may have encountered due to the Survey Monkey tool, you will still be willing to participate in our research on this very important topic.

OF NOTE: If you have already begun completing the survey, you will still be able to return to the survey anytime before December 31st to complete it. We do not want you to have to spend time filling out a mail survey when you have already spent time completing the online version.

Everyone who has participated in this research, anyone currently completing a survey, and anyone who receives the survey in the mail will also get a small token "humorous" gift of appreciation from us for your participation.

We cannot express how sorry we are for the issues resulting from our use of Survey Monkey for this research project. We hope that you will be willing to complete the survey when it arrives in the mail.

Have a happy holiday season!

Best,

Jessica Jensen

APPENDIX H: WEB-BASED SURVEY

Study Information Sheet

North Dakota State University
Department of Sociology, Anthropology, and Emergency Management
Center for Disaster Studies and Emergency Management
Dept. 2350
P.O. Box 6050
Fargo, ND 58108-6050

Research Study

You are being invited to complete a survey for a research project entitled "The National Incident Management System: What Counties Think." Jessica Jensen from North Dakota State University, Center for Disaster Studies and Emergency Management is conducting this study.

Purpose of Study

The National Incident Management System (NIMS) was mandated in 2004. All emergency management relevant organizations at every level are supposed to implement the system and work within its framework. The National Integration Center (NIC) dictates the timeline for NIMS implementation, sets forth activities organizations must complete to be compliant, and tracks compliance based on a set of metrics.

At the local level, counties and entities equivalent to counties are mandated to track implementation and compliance with NIMS; yet, there has been little effort to determine what local governments, particularly counties and equivalent entities, think of the system they are expected to implement.

This study intends to give counties and equivalent entities in the United States the opportunity to share their perspective on NIMS. This study also attempts to identify the factors that best explain how counties and equivalent entities perceive NIMS and their own implementation of the system.

Basis for Participant Selection

You have been invited to participate in this research project for one of two reasons: 1) your county was randomly selected from a list of counties and equivalent entities in the United States, and you are a county emergency manager or the emergency manager of a jurisdiction equivalent to a county; or 2) you are the head of a regional emergency management organization or REPC in an area of the country without county government.

Potential Benefits

There are two primary benefits to your participation in this study:

1. The report written based on the data gained from this research will help policy makers and the Department of Homeland Security understand the status of NIMS implementation and the factors that influence implementation.
2. The report written based on the data gained from this research will be used to by academics and students in emergency management to better understand NIMS and its potential as an organizing system for emergency management nationwide.

Potential Risks and Discomforts

There is no foreseen potential for discomfort or physical, social, psychological, legal, or economic risk to you due to your participation in this study.

Confidentiality

If you choose to participate in this study, you are guaranteed confidentiality. Your survey and the responses you provide in the survey will not be accessible to anyone but the researcher, and once your survey is no longer relevant to this research project it will be destroyed.

The survey research is not being funded by any entity other than North Dakota State University; and, the data will not be shared with or viewed by anyone but the two researchers involved in the project.

Voluntary Participation and Withdrawal from the Study

Your participation is voluntary, and you may quit at any time. Your decision whether or not to participate will not affect your present or future relationship with North Dakota State University or any other benefits to which you are otherwise entitled. If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time.

The survey will begin after this page.

It is expected that it will take approximately 30 minutes for you to complete the questions within the survey.

At the bottom of most pages space is provided for you to share any comments you might have on NIMS on behalf of your jurisdiction. You do not have to share any comments; however, if you choose to share your thoughts in these sections, the survey may take slightly longer to complete.

Should you need to exit the survey prior to completing it, *you can return to your survey from the same computer anytime* within the study's timeframe to finish by following the link to the survey in the email you received.

The following survey asks you to characterize the perspective of your county overall. In other words, the survey asks you to speak for your county's opinion as opposed to your own opinion (which may be different).

As a reminder, the survey research is not being funded by any entity other than North Dakota State University; and, the data from this project will not be shared with or viewed by anyone but the two researchers involved in the project. No identifying information about you or your county is required to complete this survey.

The first section asks you to evaluate the extent to which *your county or equivalent entity* would agree or disagree with the provided statements. In other words, how would you *characterize the OVERALL perception* of all of the groups in your county that are supposed to implement NIMS (e.g., law enforcement, fire services, emergency medical services, public works, hospitals, schools, Red Cross, Salvation Army, etcetera)?

Please remember to try and characterize *countywide views* to the best of your ability.

	Strongly Disagree 1	2	Neither Agree or Disagree 3	4	Strongly Agree 5	Not Applicable	Do Not Know
NIMS helps our county address emergency management issues effectively.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The objectives of NIMS in each component are clear.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The incentives provided for achieving NIMS compliance are highly valued.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is a great need for NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The federal government has provided sufficient funding to implement NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Without NIMS emergency management in our county would suffer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prior to NIMS our county thought its problems related to managing disasters were severe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The objectives of NIMS in each component are difficult to understand.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?

These questions also ask you to evaluate the extent to which your county or equivalent entity would agree or disagree overall with the provided statements.

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree		Not Applicable		Do Not Know
	1	2	3	4	5				
It is likely we will be caught if our county does not implement NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
We have received enough funding to implement NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
The training we have received in NIMS helps us to implement the system.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
It is worth implementing NIMS just because of the incentives provided for compliance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
There are consequences for failure to implement NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
The tasks that must be completed in our county related to each component of NIMS are clear.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
Adequate training in NIMS has been available.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
The federal government will withhold preparedness funding if we fail to implement NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	
The federal government has provided funding to implement NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	

Comments?

These questions also ask you to evaluate the extent to which *your county or equivalent entity* would agree or disagree overall with the provided statements.

	Strongly Disagree 1	2	Neither Agree or Disagree 3	4	Strongly Agree 5	Not Applicable	Do Not Know
Since NIMS was first mandated, the implementation activities that had to be completed for compliance with NIMS each fiscal year have been realistic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county has experienced similar issues to those associated with the communication and coordination in the response to the September 11, 2001 terrorist attacks at the World Trade Centers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county understands the tasks that we must complete to achieve the objectives of each component of NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are rewards for achieving NIMS compliance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The federal government has not clearly identified the tasks that must be completed to achieve compliance in each component of NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Technical support is available if we have questions about NIMS implementation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The compliance measures issued by the National Integration Center have been specific for each component of NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The federal government has communicated the objectives of NIMS for each component clearly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?

This section asks you to evaluate the extent to which your county or equivalent entity would agree or disagree with the following statements about your *state department* of emergency management/services.

Each statement begins:

Our state department of emergency services...

	Strongly Disagree 1	2	Neither Agree or Disagree 3	4	Strongly Agree 5	Not Applicable	Do Not Know
...is aware of NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...believes NIMS is important.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...believes NIMS is a solution to emergency management problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...perceives the goals of NIMS as consistent with state goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...perceives NIMS implementation as a priority for our state.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...perceives NIMS implementation as a priority for emergency management in our state vis a vis other priorities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...follows up on NIMS implementation within the state.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?

This section asks you to evaluate the extent to which your county or equivalent entity would agree or disagree with the following statements about *the elected official(s) in your jurisdiction with authority over emergency management* (e.g., county board of commissioners, county board of advisors, mayor, city manager, etcetera).

Each statement begins:

The elected official(s) in my jurisdiction with authority over emergency management...

	Strongly Disagree 1	2	Neither Agree or Disagree 3	4	Strongly Agree 5	Not Applicable	Do Not Know
...is aware of NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...believes NIMS is important.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...believes NIMS is a solution to emergency management problems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...perceives the goals of NIMS as consistent with county goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...perceives NIMS as a priority for our county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...perceives NIMS implementation as a priority for our county vis a vis other county priorities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...follows-up on NIMS implementation within the county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?

The following section asks you to evaluate the extent to which you would agree or disagree with the provided statements. Similar to previous sections, please think about *all of the groups in your county or equivalent entity* that are supposed to implement NIMS.

	Strongly Disagree 1	2	Neither Agree or Disagree 3	4	Strongly Agree 5	Not Applicable	Do Not Know
Some of the emergency management relevant organizations in our county do not trust one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are some emergency management relevant organizations within our county that refuse to participate in NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All of the emergency management relevant organizations within our jurisdiction trust each other.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
NIMS fits with the culture of the emergency management relevant organizations in our county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some of the emergency management relevant organizations in our county need the resources of other organizations in the county to participate effectively in emergency management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some of the emergency management relevant organizations in our county do not have good working relationships with one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?

As with previous sections, the following section asks you to evaluate the extent to which you would agree or disagree with the provided statements. When evaluating the statements, please think about *all of the groups in your county or equivalent entity*.

	Strongly Disagree 1	2	Neither Agree or Disagree 3	4	Strongly Agree 5	Not Applicable	Do Not Know
The emergency management relevant organizations in our county agree that implementing NIMS is a priority.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are some organizations within our county that do not want to change how they have traditionally done things in order to implement NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implementing NIMS is a common goal the emergency management relevant organizations in our county share.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The way the emergency management relevant organizations within our county normally operate conflicts with NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency management relevant organizations in our county depend on one another for resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The emergency management relevant organizations in our county work well with one another.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?

The following section asks you to evaluate the extent to which your county would agree or disagree with the provided statements. When evaluating the statements, please think about *all of the groups in your county or equivalent entity OVERALL* that are supposed to implement the NIMS (e.g., law enforcement, fire services, emergency medical services, public works, public health, hospitals, schools, Red Cross/Salvation Army, etcetera).

	Strongly Disagree 1	2	Neither Agree or Disagree 3	4	Strongly Agree 5	Not Applicable	Do Not Know
Our county would implement NIMS even if implementation were not linked to receiving preparedness funding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county does not like anything about NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county believes that federal policies and mandates can improve how our county responds to disasters.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county believes NIMS is worth implementing because it is useful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county implements NIMS to earn the respect of the state and federal government.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county likes NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county believes it is its duty to implement NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county implements NIMS because it makes us better able to serve the people in our community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our county believes the federal government can make policies that are appropriate for my community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The benefits of implementing NIMS outweigh the costs for our county.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?

PLEASE NOTE. This section has a different scale as explained below.
Thanks!

This section asks you to evaluate the course of action your county plans to pursue related to NIMS, or, in other words, the extent to which your county or equivalent entity *intends* to implement NIMS.

The labels for the scale in this section are different than the scale you have used up to this point. By choosing a 0 for questions in this section, you would be indicating that your county does not intend to implement the aspect of NIMS at all; by choosing a 1 for questions in this section, you would be indicating that your county intends to implement the aspect of NIMS only minimally; by choosing a 3 in this section, you would be indicating that your county intends to implement the aspect of NIMS only after modifying the aspect of the system; and, by choosing a 5 you would be indicating that your county intends to implement the aspect of NIMS completely as designed. Your county could also have implementation intentions that fall somewhere between these choices.

When evaluating the statements, please think about the emergency management relevant groups in your county *overall*.

Each statement begins:

Our county...

	Not At All 0	Minimally 1	2	With Modest Modification 3	4	As Designed 5	Not Applicable	Do Not Know
...intends to implement NIMS...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...intends to implement NIMS on a daily basis...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...intends to utilize NIMS in small-scale events...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...intends to implement all of the mandated compliance measures related to the <i>Preparedness</i> Component...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...intends to implement all of the mandated compliance measures related to the <i>Resource Management</i> Component...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...intends to implement all of the mandated compliance measures related to the <i>Communications and Information Management</i> Component...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...intends to implement all of the mandated compliance measures related to the <i>Command and Management</i> Component...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments?



This section asks you to evaluate the extent to which your county or equivalent entity *actually implements* NIMS.

The following statements assume that your county may want to or intend to implement NIMS, but that the degree to which your county actually implements or is able to implement the system may be different.

The labels for the scale in this section are the same as the scale on the last page. By choosing a 0 for questions in this section, you would be indicating that your county does not actually implement NIMS at all; by choosing a 1 for questions in this section, you would be indicating that your county actually implements the aspect of NIMS only minimally; by choosing a 3 in this section, you would be indicating that your county actually implements the aspect of NIMS only after modifying the aspect of the system; and, by choosing a 5 you would be indicating that your county actually implements the aspect of NIMS completely as designed. Your county could also have implementation intentions that fall somewhere between these choices.

When evaluating the statements, please remember to think about the actual implementation of the emergency management relevant groups in your county *overall*.

Each statement begins:

Our county...

	Not At All 0	Minimally 1	2	With Modest Modification 3	4	As Designed 5	Not Applicable	Do Not Know
...actually implements NIMS...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...actually implements NIMS on a daily basis...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...actually implements NIMS in small-scale events...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...actually implements all of the mandated compliance measures related to the <i>Preparedness</i> Component...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...actually implements all of the mandated compliance measures related to the <i>Resource Management</i> Component...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...actually implements all of the mandated compliance measures related to the <i>Communications and Information Management</i> Component...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...actually implements all of the mandated compliance measures related to the <i>Command and Management</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Component...

Comments?

This section of the survey asks you to answer questions about yourself.

How old are you?

What is your sex?

☐ Female

☐ Male

What is the highest level of education you have completed?

Levels of Education

How many years have you been employed as county emergency manager or the emergency manager of a jurisdiction equivalent to a county?

Prior to your current position, had you been employed in one or more of the following occupations? (Check all that apply.)

☐ Fire services

☐ Military

☐ Law enforcement

☐ Emergency medical services

☐ I was not employed by any of these disciplines prior to my employment as a county/equivalent entity emergency manager.

Does the position of emergency manager in your jurisdiction have the statutory authority to compel other agencies and departments to participate in emergency management activities?

☐ Yes

☐ No

In how many presidentially declared disasters have you participated in a professional capacity (e.g., as a member of a fire department, as an emergency manager, or as staff with the Red Cross etcetera)?

Do you have any other *county* positions or responsibilities in your county in addition to being county emergency manager (e.g., sheriff, fire chief, county assessor, veterans administration, 9-1-1 dispatch, etcetera)?

☐ Yes

☐ No

How many positions do you hold within your county or equivalent entity?

What are the titles of the position(s) you hold with your county or equivalent entity?

Are you employed by an entity other than your county or equivalent entity (e.g., a school district, National Guard, emergency medical services, law enforcement, fire department, a private business)?

☐ Yes

☐ No

In a typical week, what percentage of your time is spent on emergency management *as opposed to* the time you spend on other job responsibilities or at other entities for which you work?

- ☐ 0-24%
- ☐ 25-49%
- ☐ 50-74%
- ☐ 75-100%

This section of the survey asks you to answer questions about your emergency management program.

In what state is your jurisdiction located?

Please select the state from the drop down menu to the right.

How many staff does your jurisdiction's emergency management program employ? Please include yourself in the number you provide.

How many staff are full-time, half-time, and less than half-time? Please include yourself in the number(s) you provide.

Full-time staff:

Half-time staff:

less than Half-time staff:

What is the total budget of your emergency management program for your jurisdiction's current fiscal year including costs related to overhead/administration, operations, human resources, activities, and special project funding?

Please provide your budget as a whole number with no decimal points, commas, or dollar signs. Thanks!

How much Homeland Security/FEMA preparedness funding has your county (or equivalent entity) received, or will your county (or equivalent entity) receive, for your jurisdiction's current fiscal year?

Please provide the amount of preparedness funding as a whole number with no decimal points, commas, or dollar signs. Thanks!

Does your jurisdiction rely on volunteers for the majority of the work in either of the following areas?

	Yes	No
...fire services?	<input type="radio"/>	<input type="radio"/>
...emergency medical services?	<input type="radio"/>	<input type="radio"/>

How many presidential disaster declarations has your county received since 2000?

Please evaluate the following statement on behalf of your county or equivalent entity *overall*.

	Not Likely At All 1	2	Somewhat Likely 3	4	Very Likely 5	Not Applicable	Do Not Know
How would you characterize your jurisdiction's perception of the likelihood that a disaster worthy of a presidential disaster declaration will occur in the near future (next 5-10 years)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What are the top three hazards faced by your county or equivalent entity?

1.
2.
3.

The last section asks you to evaluate the extent to which you agree or disagree with the following statements about your county's (or equivalent entity's) *overall* capacity.

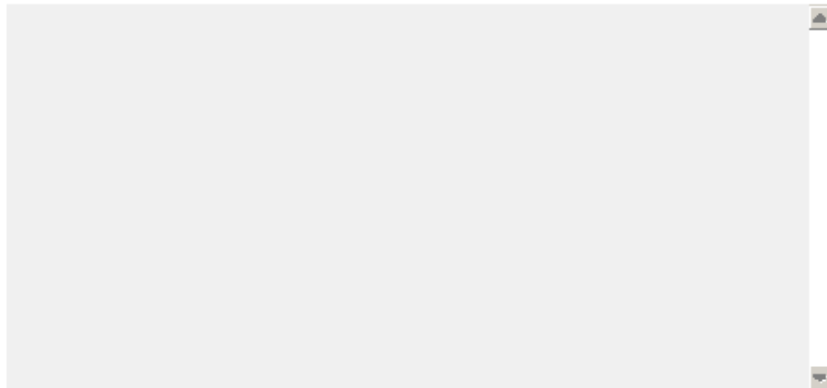
Statements begin with:

My county...

	Strongly Disagree 1	2	Neither Agree or Disagree 3	4	Strongly Agree 5	Not Applicable	Do Not Know
...has enough personnel to fulfill its needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...has enough personnel to implement NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...generates enough funds to pay for its needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...generates enough funds to pay for implementing NIMS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What is the approximate population of the county (or equivalent entity) you serve?

Do you have any final thoughts you would like to share about your jurisdiction, how your jurisdiction approaches NIMS, the factors that influence whether or not your jurisdiction implements NIMS, or what your jurisdiction thinks about NIMS in general? If so, please use this space for that purpose.



If you feel comfortable with providing your email address below, we would very much appreciate it. The information would be used for bookkeeping purposes. Specifically, your email address would be used to expedite processing of incoming surveys and to ensure that you do not receive further contact from us regarding completing the survey.

Please note: Your email address will remain confidential and will not be shared with anyone. The fact that you participated in this study and your individual responses will also remain confidential.

Would you like to receive a copy of the survey results?

☐ Yes

☐ No

APPENDIX I: MAIL SURVEY AND LETTER



North Dakota State University
Department of Sociology, Anthropology, and Emergency Management
Center for Disaster Studies and Emergency Management
Dept. 2350
P.O. Box 6050
Fargo, ND 58108-6050

January 20, 2010

Dear Emergency Manager,

Local level governments, in particular counties and entities equivalent to counties, have had to work hard in the past few years to comply with NIMS implementation expectations. Yet, even though local government implementation will ultimately make the system succeed or fail, very few officials or researchers have asked local emergency managers what they think about NIMS as a policy, whether they think it works for their jurisdictions, and whether their jurisdiction wants to implement the system.

North Dakota State University's Center for Disaster Studies and Emergency Management hopes to provide local emergency managers nationwide with the opportunity to evaluate their county's views of NIMS and their county's approach to NIMS implementation.

This study began a little over a month ago when we sent a web-based survey to a random sample of county emergency managers and emergency managers of entities equivalent to counties. Some potential participants were able to complete the survey online, but many were unable to do so. Because we want to include the responses of as many emergency managers as possible, we are now sending out a mail version of our survey with a pre-paid return envelope. We hope that you will consider filling out the survey in the next couple of days and return it to us.

The participation of your county is important as the findings from this study will be used to educate the emergency management community including practitioners, policy makers, academics and students in three areas: the current NIMS implementation approaches of counties in the United States; the factors that influence how counties in the United States perceive and, in turn, implement NIMS; and, the potential for NIMS as an organizing mechanism for the national emergency management system.

Your survey will also be instrumental in helping us get accurate results. You are being invited to participate in this research project for one of two reasons: you are a county emergency manager or the emergency manager of a jurisdiction equivalent to a county whose county was randomly selected from a list of counties and equivalent entities in the United States; or you are the head of a regional emergency management organization or REPC in an area of the country without county government. Because your county was randomly selected, your participation is needed to ensure that the survey results meet the scientific standards for research.

There are a few important pieces of information we want you to know before you begin the survey:

- 1) The survey should take approximately 20 minutes to complete; however, if you choose to add comments in the provided spaces, the survey may take longer;
- 2) While your participation in this study is valuable, we want you to know your participation is voluntary. You can choose not to participate in the study any time;
- 3) Should you participate in this study, the fact that you participated and the details of your survey will be kept confidential;
- 4) No outside entity is supporting this research. This project is being funded by the researchers themselves and the Center for Disaster Studies and Emergency Management at North Dakota State University;
- 5) The actual data from the study will only be viewed by the two researchers involved in the project;
- 6) Only the *overall* findings from this research will be shared with agencies, committees, professional organizations, and the like; and,
- 7) If you have any questions about research subjects' rights or would like to file a complaint regarding the research, you can contact the NDSU Human Research Protection Office at 701.231.8908, or ndsuirb@ndsu.edu.

If you would like additional information about the study, please feel free to contact Jessica Jensen at (701) 219-4293 or George Youngs at (701) 231-8941.

As a small token of our appreciation for your participation in this study, we have included a humorous gift. Within the mailing envelope, you will find an oval sticker with "IINAAINI" printed on it. The acronym stands for "**If It's Not An Acronym It's Not Important**". As one who deals with federal emergency management, we knew you would appreciate the joke and hope you "FITS" (Fill in this survey)!

Sincerely,

Jessica Jensen

George Youngs

1. The first section asks you to evaluate the extent to which ***your county or equivalent entity*** would agree or disagree with the provided statements. In other words, how would you ***characterize the OVERALL perception*** of all of the groups in your county that are supposed to implement NIMS (e.g., law enforcement, fire services, emergency medical services, public works, hospitals, schools, Red Cross, Salvation Army, etcetera)?

Please remember to try and characterize ***countywide views*** to the best of your ability.

Q1. Part A.

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	Not Applicable	Do Not Know
NIMS helps our county address emergency management issues effectively.	1	2	3	4	5	NA	DK
The objectives of NIMS in each component are clear.	1	2	3	4	5	NA	DK
The incentives provided for achieving NIMS compliance are highly valued.	1	2	3	4	5	NA	DK
There is a great need for NIMS.	1	2	3	4	5	NA	DK
The federal government has provided sufficient funding to implement NIMS.	1	2	3	4	5	NA	DK
Without NIMS emergency management in our county would suffer.	1	2	3	4	5	NA	DK
Prior to NIMS our county thought its problems related to managing disasters were severe.	1	2	3	4	5	NA	DK
The objectives of NIMS in each component are difficult to understand.	1	2	3	4	5	NA	DK
It is likely we will be caught if our county does not implement NIMS.	1	2	3	4	5	NA	DK
We have received enough funding to implement NIMS.	1	2	3	4	5	NA	DK

On nearly every page, we will ask for your comments about issues raised on that page. We are providing this opportunity so you can clarify issues that you believe need clarification, offer additional opinions and insights, or provide any other feedback that you wish to offer. Thanks.

Comments?

Q1. Part B.

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	Not Applicable	Do Not Know
The training we have received in NIMS helps us to implement the system.	1	2	3	4	5	NA	DK
It is worth implementing NIMS just because of the incentives provided for compliance.	1	2	3	4	5	NA	DK
There are consequences for failure to implement NIMS.	1	2	3	4	5	NA	DK
The tasks that must be completed in our county related to each component of NIMS are clear.	1	2	3	4	5	NA	DK
Adequate training in NIMS has been available.	1	2	3	4	5	NA	DK
The federal government has provided funding to implement NIMS.	1	2	3	4	5	NA	DK
Since NIMS was first mandated, the implementation activities that had to be completed for compliance with NIMS each fiscal year have been realistic.	1	2	3	4	5	NA	DK
Our county has experienced similar issues to those associated with the communication and coordination in the response to the September 11, 2001 terrorist attacks at the World Trade Centers.	1	2	3	4	5	NA	DK
Our county understands the tasks that we must complete to achieve the objectives of each component of NIMS.	1	2	3	4	5	NA	DK
There are rewards for achieving NIMS compliance.	1	2	3	4	5	NA	DK

Comments?

Q1. Part C.

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	Not Applicable	Do Not Know
The federal government has not clearly identified the tasks that must be completed to achieve compliance in each component of NIMS.	1	2	3	4	5	NA	DK
Technical support is available if we have questions about NIMS implementation.	1	2	3	4	5	NA	DK
The compliance measures issued by the National Integration Center have been specific for each component of NIMS.	1	2	3	4	5	NA	DK
The federal government has communicated the objectives of NIMS for each component clearly.	1	2	3	4	5	NA	DK
There are incentives to implement NIMS.	1	2	3	4	5	NA	DK
Any issues or concerns we have about implementing NIMS are answered by the National Integration Center, FEMA Regional NIMS Coordinators, and/or our state's NIMS point-of-contact.	1	2	3	4	5	NA	DK
NIMS helps our county address issues we are having related to emergency management.	1	2	3	4	5	NA	DK
There has been enough time to implement NIMS and achieve compliance.	1	2	3	4	5	NA	DK
When the federal government communicated the objectives of NIMS, the objectives were difficult to understand.	1	2	3	4	5	NA	DK
There are consequences for failure to implement NIMS fully in our county.	1	2	3	4	5	NA	DK

Comments?

2. This section asks you to evaluate the extent to which your county or equivalent entity would agree or disagree with the following statements about your **state department** of emergency management/services.

Each statement begins: ***Our state department of emergency services...***

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	Not Applicable	Do Not Know
...is aware of NIMS.	1	2	3	4	5	NA	DK
...believes NIMS is important.	1	2	3	4	5	NA	DK
...believes NIMS is a solution to emergency management problems.	1	2	3	4	5	NA	DK
...perceives the goals of NIMS as consistent with state goals.	1	2	3	4	5	NA	DK
...perceives NIMS implementation as a priority for our state.	1	2	3	4	5	NA	DK
...perceives NIMS implementation as a priority for emergency management in our state vis a vis other priorities.	1	2	3	4	5	NA	DK
...follows up on NIMS implementation within the state.	1	2	3	4	5	NA	DK

Comments?

3. This section asks you to evaluate the extent to which your county or equivalent entity would agree or disagree with the following statements about ***the elected official(s) in your jurisdiction with authority over emergency management*** (e.g., county board of commissioners, county board of advisors, mayor, city manager, etcetera).

Each statement begins: ***The elected official(s) in my jurisdiction with authority over emergency management...***

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	Not Applicable	Do Not Know
...is aware of NIMS.	1	2	3	4	5	NA	DK
...believes NIMS is important.	1	2	3	4	5	NA	DK
...believes NIMS is a solution to emergency management problems.	1	2	3	4	5	NA	DK
...perceives the goals of NIMS as consistent with county goals.	1	2	3	4	5	NA	DK
...perceives NIMS implementation as a priority for our county.	1	2	3	4	5	NA	DK
...perceives NIMS implementation as a priority for emergency management in our county vis a vis other priorities.	1	2	3	4	5	NA	DK
...follows up on NIMS implementation within the county.	1	2	3	4	5	NA	DK

Comments?

4. The following section asks you to evaluate the extent to which you would agree or disagree with the provided statements. Similar to previous sections, please think about *all of the groups in your county or equivalent entity* that are supposed to implement NIMS.

Q4. Part A.

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	Not Applicable	Do Not Know
Some of the emergency management relevant organizations in our county do not trust one another.	1	2	3	4	5	NA	DK
Some emergency management relevant organizations within our county refuse to participate in NIMS.	1	2	3	4	5	NA	DK
All of the emergency management relevant organizations within our jurisdiction trust each other.	1	2	3	4	5	NA	DK
NIMS fits with the culture of the emergency management relevant organizations in our county.	1	2	3	4	5	NA	DK
Some of the emergency management relevant organizations in our county need the resources of other organizations in the county to participate effectively in emergency management.	1	2	3	4	5	NA	DK
Some of the emergency management relevant organizations in our county do not have good working relationships with one another.	1	2	3	4	5	NA	DK

Comments?

Q4. Part B.

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	Not Applicable	Do Not Know
The emergency management relevant organizations in our county agree that implementing NIMS is a priority.	1	2	3	4	5	NA	DK
There are some organizations within our county that do not want to change how they have traditionally done things in order to implement NIMS.	1	2	3	4	5	NA	DK
Implementing NIMS is a common goal the emergency management relevant organizations in our county share.	1	2	3	4	5	NA	DK
The way the emergency management relevant organizations within our county normally operate conflicts with NIMS.	1	2	3	4	5	NA	DK
Emergency management relevant organizations in our county depend on one another for resources.	1	2	3	4	5	NA	DK
The emergency management relevant organizations in our county work well with one another.	1	2	3	4	5	NA	DK

Comments?

5. The following section asks you to evaluate the extent to which your county would agree or disagree with the provided statements. When evaluating the statements, please think about ***all of the groups in your county or equivalent entity OVERALL*** that are supposed to implement the NIMS (e.g., law enforcement, fire services, emergency medical services, public works, public health, hospitals, schools, Red Cross/Salvation Army, etcetera).

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	Not Applicable	Do Not Know
Our county would implement NIMS even if implementation were not linked to receiving preparedness funding.	1	2	3	4	5	NA	DK
Our county does not like anything about NIMS.	1	2	3	4	5	NA	DK
Our county believes that federal policies and mandates can improve how our county responds to disasters.	1	2	3	4	5	NA	DK
Our county believes NIMS is worth implementing because it is useful.	1	2	3	4	5	NA	DK
Our county implements NIMS to earn the respect of the state and federal government.	1	2	3	4	5	NA	DK
Our county likes NIMS.	1	2	3	4	5	NA	DK
Our county believes it is its duty to implement NIMS.	1	2	3	4	5	NA	DK
Our county implements NIMS because it makes us better able to serve the people in our community.	1	2	3	4	5	NA	DK
Our county believes the federal government can make policies that are appropriate for my community.	1	2	3	4	5	NA	DK
The benefits of implementing NIMS outweigh the costs for our county.	1	2	3	4	5	NA	DK

Comments?

6. **PLEASE NOTE. This section has a different scale as explained below. Thanks!**

This section asks you to evaluate the course of action your county plans to pursue related to NIMS, or, in other words, the extent to which your county or equivalent entity **intends to implement NIMS**.

The labels for the scale in this section are different than the scale you have used up to this point. By choosing a 0 for questions in this section, you would be indicating that your county does not intend to implement the aspect of NIMS at all; by choosing a 1 for questions in this section, you would be indicating that your county intends to implement the aspect of NIMS only minimally; by choosing a 3 in this section, you would be indicating that your county intends to implement the aspect of NIMS only after modifying the aspect of the system; and, by choosing a 5 you would be indicating that your county intends to implement the aspect of NIMS completely as designed. Your county could also have implementation intentions that fall somewhere between these choices.

When evaluating the statements, please think about the emergency management relevant groups in your county **overall**.

Each statement begins: **Our county...**

	Not At All	Minimally		With Modest Modification		As Designed	Not Applicable	Do Not Know
...intends to implement NIMS...	0	1	2	3	4	5	NA	DK
...intends to implement NIMS on a daily basis...	0	1	2	3	4	5	NA	DK
...intends to utilize NIMS in small-scale events...	0	1	2	3	4	5	NA	DK
...intends to implement all of the mandated compliance measures related to the <i>Preparedness</i> Component...	0	1	2	3	4	5	NA	DK
...intends to implement all of the mandated compliance measures related to the <i>Resource Management</i> Component...	0	1	2	3	4	5	NA	DK
...intends to implement all of the mandated compliance measures related to the <i>Communications and Information Management</i> Component...	0	1	2	3	4	5	NA	DK
...intends to implement all of the mandated compliance measures related to the <i>Command and Management</i> Component...	0	1	2	3	4	5	NA	DK

Comments?

7. This section asks you to evaluate the extent to which your county or equivalent entity **actually implements** NIMS.

The following statements assume that your county may want to or intend to implement NIMS, but that the degree to which your county actually implements or is able to implement the system may be different.

The labels for the scale in this section are the same as the scale on the last page. By choosing a 0 for questions in this section, you would be indicating that your county does not actually implement NIMS at all; by choosing a 1 for questions in this section, you would be indicating that your county actually implements the aspect of NIMS only minimally; by choosing a 3 in this section, you would be indicating that your county actually implements the aspect of NIMS only after modifying the aspect of the system; and, by choosing a 5 you would be indicating that your county actually implements the aspect of NIMS completely as designed. Your county could also have implementation intentions that fall somewhere between these choices.

When evaluating the statements, please remember to think about the actual implementation of the emergency management relevant groups in your county **overall**.

Each statement begins: **Our county...**

	Not At All	Minimally		With Modest Modification		As Designed	Not Applicable	Do Not Know
...actually implements NIMS...	0	1	2	3	4	5	NA	DK
...actually implements NIMS on a daily basis...	0	1	2	3	4	5	NA	DK
...actually implements NIMS in small-scale events...	0	1	2	3	4	5	NA	DK
...actually implements all of the mandated compliance measures related to the <i>Preparedness Component...</i>	0	1	2	3	4	5	NA	DK
...actually implements all of the mandated compliance measures related to the <i>Resource Management Component...</i>	0	1	2	3	4	5	NA	DK
...actually implements all of the mandated compliance measures related to the <i>Communications and Information Management Component...</i>	0	1	2	3	4	5	NA	DK
...actually implements all of the mandated compliance measures related to the <i>Command and Management Component...</i>	0	1	2	3	4	5	NA	DK

Comments?

8. This section of the survey asks you to answer questions about yourself. Many questions in this section provide numbered options for you to select. Please clearly circle or check the number of your selected option so we can correctly record it. Thanks!

a. How old are you? _____ (Years)

b. What is your sex?

1. Female
2. Male

c. What is the highest level of education you have completed?

1. I have not completed any level of education.
2. Some Grade School
3. Grade School
4. Some High School
5. High School Diploma
6. Some College
7. Bachelor's Degree
8. Master's Degree
9. Ph.D. Degree

d. How many years have you been employed as county emergency manager or the emergency manager of a jurisdiction equivalent to a county? _____ (Years)

e. Prior to your current position, had you been employed in one or more of the following occupations? (Please circle all that apply.)

1. Fire Services
2. Military
3. Law Enforcement
4. Emergency Medical Services
5. I was not employed by any of these disciplines prior to my employment as a county/equivalent entity emergency manager.

f. Does the position of emergency manager in your jurisdiction have the statutory authority to compel other agencies and departments to participate in emergency management activities?

1. Yes
2. No

g. In how many presidentially declared disasters (PDDs) have you participated in a professional capacity (e.g., as a member of a fire department, as an emergency manager, or as staff with the Red Cross, etcetera)? _____ (# of PDDs)

h. Do you have any other *county* positions in addition to being county emergency manager (e.g., sheriff, fire chief, county assessor, veterans administration, 9-1-1 dispatch, etcetera)?

1. Yes
2. No → **SKIP TO QUESTION k**

i. How many positions do you hold within your county or equivalent entity? _____ (# of Positions)

j. What are the titles of the position(s) you hold with your county or equivalent entity? _____

k. Are you employed by an entity other than your county or equivalent entity (e.g., a school district, National Guard, emergency medical services, law enforcement, fire department, a private business, etcetera)?

1. Yes
2. No

9. This section of the survey asks you to answer questions about your emergency management program.

a. In what state is your jurisdiction located? _____(State)

b. How many staff does your jurisdiction's emergency management program employ? Please include yourself in the number you provide. _____

c. How many staff are full-time, half-time, and less than half-time? Please include yourself in the number(s) you provide.

Full-time staff: _____

Half-time staff: _____

less than Half-time staff: _____

d. Roughly, what is the total budget of your emergency management program for your jurisdiction's current fiscal year including costs related to overhead/administration, operations, human resources, activities, and special project funding?
_____ (Dollar amount)

e. Approximately, how much Homeland Security/FEMA preparedness funding has your county (or equivalent entity) received, or will your county (or equivalent entity) receive, for your jurisdiction's current fiscal year? _____ (Dollar amount)

f. Does your jurisdiction rely on volunteers for the majority of the work in either of the following areas?

...fire services? 1 Yes 2 No

...emergency medical services? 1 Yes 2 No

g. How many presidential disaster declarations (PDDs) has your county received since 1/1/2000? _____ (# of PDDs)

h. Please evaluate the following statement on behalf of your county or equivalent entity *overall*.

	Not At All Likely		Somewhat Likely		Very Likely		Not Applicable	Do Not Know
How would you characterize your jurisdiction's perception of the likelihood that a disaster worthy of a <u>presidential disaster declaration</u> will occur in the near future (next 5-10 years)?	1	2	3	4	5		NA	DK

i. What are the top three hazards faced by your county or equivalent entity?

1. _____

2. _____

3. _____

j. What is the approximate population of the county (or equivalent entity) you serve? _____

k. Please evaluate the extent to which you agree or disagree with the following statements about your county's (or equivalent entity's) *overall capacity*. Statements begin with: **My county...**

	Strongly Disagree		Neither Agree or Disagree		Strongly Agree	Not Applicable	Do Not Know
...has enough personnel to fulfill its needs.	1	2	3	4	5	NA	DK
...has enough personnel to implement NIMS.	1	2	3	4	5	NA	DK
...generates enough funds to pay for its needs.	1	2	3	4	5	NA	DK
...generates enough funds to pay for implementing NIMS.	1	2	3	4	5	NA	DK

Thank you for taking the time to complete our survey!

Would you like to receive a copy of the survey results?

1. *Yes*

If so, and you feel comfortable, please provide your email address below. Please note: Your email address will remain confidential and will not be shared with anyone. The fact that you participated in this study and your individual responses will also remain confidential. _____

2. *No*

APPENDIX J: ORIGINAL IRB APPROVAL

NDSU

NORTH DAKOTA STATE UNIVERSITY

Institutional Review Board

Office of the Vice President for Research, Creative Activities and Technology Transfer

NDSU Dept. 4000

1735 NDSU Research Park Drive

Research 1, P.O. Box 6050

Fargo, ND 58108-6050

701.231.8995

Fax 701.231.8098

Federalwide Assurance #FWA00002439

Expires April 24, 2011

October 28, 2009

Dr. George Youngs
Dept. of Sociology, Anthropology & Emergency Management
402 Minard

Re: IRB Certification of Human Research Project:

"The National Incident Management System: Predicting Implementation"
Protocol #HS10106

Co-investigator(s) and research team: **Jessica Jensen**

Study site(s): **web survey** Funding: **n/a**

It has been determined that this human subjects research project qualifies for exempt status (category # 2) in accordance with federal regulations (Code of Federal Regulations, Title 45, Part 46, *Protection of Human Subjects*). This determination is based on the protocol form received 10/15/09 and study information sheet received 10/22/09.

Please also note the following:

- This determination of exemption expires 3 years from this date. If you wish to continue the research after 10/27/2012, submit a new protocol several weeks prior to this date.
- The project must be conducted as described in the approved protocol. If you wish to make changes, pre-approval is to be obtained from the IRB, unless the changes are necessary to eliminate an apparent immediate hazard to subjects. A *Protocol Amendment Request Form* is available on the IRB website.
- Prompt, written notification must be made to the IRB of any adverse events, complaints, or unanticipated problems involving risks to subjects or others related to this project.
- Any significant new findings that may affect the risks and benefits to participation will be reported in writing to the participants and the IRB.
- Research records may be subject to a random or directed audit at any time to verify compliance with IRB policies.

Thank you for complying with NDSU IRB procedures; best wishes for success with your project.

Sincerely,



Ter Grosz, MS, CIP

Mgr, Human Research Protections

APPENDIX K: IRB AMENDMENT APPROVAL

Institutional Review Board

... for the protection of human participants in research

North Dakota State University
Sponsored Programs Administration
1735 NDSU Research Park Drive
NDSU Dept #4000
PO Box 6050
Fargo, ND 58108-6050 231-8995(ph) 231-8098(fax)

RECEIVED
JAN 12 2010
INSTITUTIONAL
REVIEW BOARD

Protocol Amendment Request Form

Changes to approved research may not be initiated without prior IRB review and approval, except where necessary to eliminate apparent immediate hazards to participants. Reference: SOP 7.5 Protocol Amendments.

Examples of changes requiring IRB review include, but are not limited to changes in: investigators or research team members, purpose/scope of research, recruitment procedures, compensation scheme, participant population, research setting, interventions involving participants, data collection procedures, or surveys, measures or other data forms.

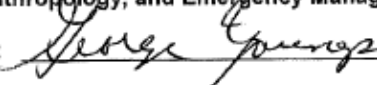
Protocol Information:

Protocol #: **HS10106** Title: **The National Incident Management System: Predicting Implementation**

Review category: ☒ Exempt ☐ Expedited ☐ Full board

Principal investigator: **George Youngs, Ph.D.** Email address: **george.youngs@ndsu.edu**
Dept: **Department of Sociology, Anthropology, and Emergency Management**

Co-investigator: **Jessica Jensen** Email address: **ja.jensen@ndsu.edu**
Dept: **Department of Sociology, Anthropology, and Emergency Management**

Principal investigator signature, Date: 

Description of proposed changes:

1. Date of proposed implementation of change(s)*: **1/12/10**
* Cannot be implemented prior to IRB approval unless the IRB Chair has determined that the change is necessary to eliminate apparent immediate hazards to participants.
2. Describe proposed change(s), including justification:
In attempting to collect data through the web-based survey software administered by Survey Monkey, we encountered many problems. We were unable to resolve the the issues to both our satisfactiiona nd the satisfaction of our potential respondents. Therefore, we have reformatted our survey to be appropriate for mailing, and we are planning to mail a survey to those within our initial random sample who did not, or could not, complete the online survey. The survey is the same. The cover letter has changed, and we are no longer planning to use an information sheet. The information contained in our initial information sheet is also contained within the cover letter to the survey. We think it would be redundant to include both the information sheet and our cover letter.

3. Will the change involve a change in principal or co- investigator?
☒ No
☐ Yes: *Include an Investigator's Assurance (last page of protocol form), signed by the new PI or co-investigator.*

Note: If the change is limited to addition/change in research team members, skip the rest of this form.

4. Will the change(s) increase any risks, or present new risks (physical, economic, psychological, or sociological) to participants?
☒ No
☐ Yes: *In the appropriate section of the protocol form, describe new or altered risks and how they will be minimized.*
5. Does the proposed change involve the addition of a vulnerable group of participants?
 Children: ☒ no ☐ yes – include the *Children in Research* attachment form
 Prisoners: ☒ no ☐ yes – include the *Prisoners in Research* attachment form
 Cognitively impaired individuals: ☒ no ☐ yes*
 Economically or educationally disadvantaged individuals: ☒ no ☐ yes*

**Provide additional information where applicable in the revised protocol form.*

6. Does the proposed change involve a request to waive some or all the elements of informed consent or documentation of consent?
☒ no
☐ yes – include the *Informed Consent Waiver or Alteration Request* attachment form
7. Does the proposed change involve a new research site?
☒ no
☐ yes – include a letter of permission/cooperation, IRB approval, or grant application or contract

Attach a copy of the approved protocol, with highlighted change(s) incorporated within the relevant section(s).

Impact for Participants (future, current, or prior):

1. Will the change(s) alter information on previously approved versions of the recruitment materials, informed consent, or other documents, or require new documents?
☒ No
☐ Yes - attach revised/new document(s)
2. Could the change(s) affect the willingness of *currently* enrolled participants to continue in the research?
☒ No
☐ Yes - describe procedures that will be used to inform current participants, and re-consent, if necessary:

3. Will the change(s) have any impact to *previously* enrolled participants?

☒ No

☐ Yes - describe impact, and any procedures that will be taken to protect the rights and welfare of participants:

-----FOR IRB OFFICE USE ONLY-----

Request is: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Not Approved	
Review: <input checked="" type="checkbox"/> Exempt, category#: <u>2</u> <input type="checkbox"/> Expedited method, category # <u> </u> <input type="checkbox"/> Convened meeting, date: <u> </u>	
IRB Signature: <u>Kristy Shirley</u>	Date: <u>1/19/2010</u>
Comments:	

Protocols previously declared exempt: (Allow 5 working days) If the proposed change does not alter the exemption status, the change may be administratively reviewed by qualified IRB staff, chair, or designee. If the change(s) would alter this status, Expedited or Full Board review will be required.

Protocols previously reviewed by the expedited method: (Allow 10 working days) Most changes may also be reviewed by the expedited method, unless the change would increase risks to more than minimal, and/or alter the eligibility of the project for expedited review.

Protocols previously reviewed by the full board: Minor changes (not involving more than minimal risks, or not significantly altering the research goals or design) may be reviewed by the expedited method (allow 10 working days). Those changes determined by the IRB to be more than minor will require review by the full board (due 10 working days prior to next scheduled meeting).



North Dakota State University
Department of Sociology, Anthropology, and Emergency Management
Center for Disaster Studies and Emergency Management
Dept. 2350
P.O. Box 6050
Fargo, ND 58108-6050



January 15, 2010

Dear Emergency Manager,

Local level governments, in particular counties and entities equivalent to counties, have had to work hard in the past few years to comply with NIMS implementation expectations. Yet, even though local government implementation will ultimately make the system succeed or fail, very few officials or researchers have asked local emergency managers what they think about NIMS as a policy, whether they think it works for their jurisdictions, and whether their jurisdiction wants to implement the system.

North Dakota State University's Center for Disaster Studies and Emergency Management hopes to provide local emergency managers nationwide with the opportunity to evaluate their county's views of NIMS and their county's approach to NIMS implementation.

This study began a little over a month ago when we sent a web-based survey to a random sample of county emergency managers and emergency managers of entities equivalent to counties. Some potential participants were able to complete the survey online, but many were unable to do so. Because we want to include the responses of as many emergency managers as possible, we are now sending out a mail version of our survey with a pre-paid return envelope. We hope that you will consider filling out the survey in the next couple of days and return it to us.

The participation of your county is important as the findings from this study will be used to educate the emergency management community including practitioners, policy makers, academics and students in three areas: the current NIMS implementation approaches of counties in the United States; the factors that influence how counties in the United States perceive and, in turn, implement NIMS; and, the potential for NIMS as an organizing mechanism for the national emergency management system.

Your survey will also be instrumental in helping us get accurate results. You are being invited to participate in this research project for one of two reasons: you are a county emergency manager or the emergency manager of a jurisdiction equivalent to a county whose county was randomly selected from a list of counties and equivalent entities in the United States; or you are the head of a regional emergency management organization or REPC in an area of the country without county government. Because your county was randomly selected, your participation is needed to ensure that the survey results meet the scientific standards for research.

There are a few important pieces of information we want you to know before you begin the survey:

- 1) The survey should take approximately 20 minutes to complete; however, if you choose to add comments in the provided spaces, the survey may take longer;
- 2) While your participation in this study is valuable, we want you to know your participation is voluntary. You can choose not to participate in the study any time;
- 3) Should you participate in this study, the fact that you participated and the details of your survey will be kept confidential;
- 4) No outside entity is supporting this research. This project is being funded by the researchers themselves and the Center for Disaster Studies and Emergency Management at North Dakota State University;
- 5) The actual data from the study will only be viewed by the two researchers involved in the project;
- 6) Only the *overall* findings from this research will be shared with agencies, committees, professional organizations, and the like; and,
- 7) If you have any questions about research subjects' rights or would like to file a complaint regarding the research, you can contact the NDSU Human Research Protection Office at 701.231.8908, or ndsu.irb@ndsu.edu.

If you would like additional information about the study, please feel free to contact Jessica Jensen at (701) 219-4293 or George Youngs at (701) 231-8941.

As a small token of our appreciation for your participation in this study, we have included a humorous gift. Within the mailing envelope, you will find an oval sticker with "IINAAINI" printed on it. The acronym stands for "If It's Not An Acronym It's Not Important". As one who deals with federal emergency management, we knew you would appreciate the joke and hope you "FITS" (Fill in this survey)!

Sincerely,

Jessica Jensen

George Youngs

APPENDIX L: DESCRIPTIVE STATISTICS FOR THE POLICY CHARACTERISTIC VARIABLES

<i>Policy Characteristics</i>								
<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>	
NIMS helps our county address emergency management issues effectively.	354	4	4	3.63	1.03	-.084	-.624	
The objectives of NIMS in each component are clear.	354	4	4	3.40	1.10	-.682	-.390	
The incentives provided for achieving NIMS compliance are highly valued.	352	3	3	3.11	1.19	-.860	-.166	
There is a great need for NIMS.	352	4	4	3.74	1.12	-.293	-.732	
The federal government has provided sufficient funding to implement NIMS.	274	2	3	3.02	1.42	-1.32	-.021	
Without NIMS emergency management in our county would suffer.	352	3	3	3	1.22	-.893	-.104	
Prior to NIMS our county thought its problems related to managing disasters were severe.	336	3	3	2.51	1.01	-.326	.221	
The objectives of NIMS in each component are difficult to understand.	353	3	3	2.93	1.10	-.689	-.005	
It is likely we will be caught if our county does not implement NIMS.	258	3	3	3.22	1.17	-.722	-.054	
We have received enough funding to implement NIMS.	279	2	2	2.65	1.27	-1.04	.290	
The training we have received in NIMS helps us to implement the system.	284	4	4	3.72	.97	.223	-.753	
It is worth implementing NIMS just because of the incentives provided for compliance.	281	4	3	3.11	1.14	-.818	-.232	

Policy Characteristics Continued

<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>
There are consequences for failure to implement NIMS.	278	4	4	3.80	1.09	.129	-.841
The tasks that must be completed in our county related to each component of NIMS are clear.	283	3	3	3.15	1.06	-.576	-.201
Adequate training in NIMS has been available.	283	4	4	3.37	1.25	-.936	-.390
The federal government has provided funding to implement NIMS.	279	4	3	2.96	1.26	-1.062	-.089
Since NIMS was first mandated, the implementation activities that had to be completed for compliance with NIMS each fiscal year have been realistic.	333	2	3	2.87	1.13	-.927	.015
Our county has experienced similar issues to those associated with the communication and coordination in the response to the September 11, 2001 terrorist attacks at the World Trade Centers.	322	4	3	2.98	1.25	-1.11	-.063
Our county understands the tasks that we must complete to achieve the objectives of each component of NIMS.	337	4	4	3.38	1.04	-.573	-.395
There are rewards for achieving NIMS compliance.	328	3	3	3.25	1.23	-.806	-.278
The federal government has not clearly identified the tasks that must be completed to achieve compliance in each component of NIMS.	334	3	3	2.60	1.03	-1.075	-.136
Technical support is available if we have questions about NIMS implementation.	326	4	4	3.36	-.370	-.370	-.444

Policy Characteristics Continued

<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>
The compliance measures issued by the National Integration Center have been specific for each component of NIMS.	314	3	3	3.07	.97	-.373	-.160
The federal government has communicated the objectives of NIMS for each component clearly.	332	3	3	3	1.02	-.657	.032
There are incentives to implement NIMS.	329	4	3	3.23	1.17	-.740	-.327
Any issues or concerns we have about implementing NIMS are answered by the National Integration Center, FEMA Regional NIMS Coordinators, and/or our state's NIMS point-of-contact.	315	3	3	3.17	1.03	-.557	-.190
NIMS helps our county address issues we are having related to emergency management.	332	4	3	3.22	1.10	-.531	-.383
There has been enough time to implement NIMS and achieve compliance.	326	3	3	3.01	1.17	-.807	-.024
When the federal government communicated the objectives of NIMS, the objectives were difficult to understand.	329	2	3	2.97	1.23	-.985	.070
There are consequences for failure to implement NIMS fully in our county.	323	4	4	3.50	1.15	-.468	-.541

APPENDIX M: DESCRIPTIVE STATISTICS FOR THE LOCAL
STRUCTURAL AND SITUATIONAL CHARACTERISTIC
VARIABLES

<i>State Department of Emergency Services Leadership</i>							
<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>
...is aware of NIMS.	331	5	5	4.64	.73	9.467	-2.81
...believes NIMS is important.	326	5	5	4.37	.89	3.042	-1.69
...believes NIMS is a solution to emergency management problems.	308	5	4	3.89	1.02	-.279	-.619
...perceives the goals of NIMS as consistent with state goals.	311	5	4	4.11	.96	.538	-.999
...perceives NIMS implementation as a priority for our state.	324	5	4	4.12	.98	.431	-1.01
...perceives NIMS implementation as a priority for emergency management in our state vis a vis other priorities.	318	4	4	3.91	.99	-.307	-.626
...follows up on NIMS implementation within the state.	326	4	4	3.86	1.08	.008	-.863

Local Elected Officials Leadership

<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>
...is aware of NIMS.	332	4	4	3.93	1.06	.530	- 1.04 4
...believes NIMS is important.	329	3	3	3.05	1.17	-.731	-.113
...believes NIMS is a solution to emergency management problems.	327	3	3	2.74	1.04	-.402	.040
...perceives the goals of NIMS as consistent with state goals.	324	3	3	3.00	1.08	-.518	-.129
...perceives NIMS implementation as a priority for our state.	332	3	3	2.81	1.18	-.905	.033
...perceives NIMS implementation as a priority for emergency management in our state vis a vis other priorities.	326	3	3	2.67	1.15	-.720	.199
...follows up on NIMS implementation within the state.	330	3	3	2.62	1.23	-.842	.304

<i>Local Capacity</i>								
<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>	
How many staff does your jurisdiction's emergency management program employ?	306	1	2	6.27	56.94	287.40	16.83	
How many staff are full-time?	278	1	1	2.35	7.22	124.89	10.53	
Does your jurisdiction rely on volunteers for the majority of its fire services? (nominal)	300	Yes	—	—	—	—	—	
Does your jurisdiction rely on volunteers for the majority of its emergency medical services? (nominal)	299	No	—	—	—	—	—	
Total budget of your emergency management program for your jurisdiction's current fiscal year?	281	5000 0	78,926	256,318	1,029, 249	84.27	8.83	
Approximately, how much Homeland Security/FEMA preparedness funding for your jurisdiction's current fiscal year?	268	0	29000	217,962	1,106, 650	127.59	10.63	
My county has enough personnel to fulfill its needs.	298	2	2	2.36	1.15	-.743	.555	
My county has enough personnel to implement NIMS.	297	2	3	2.75	1.25	-1.144	.138	
My county generates enough funds to pay for its needs.	296	1	2	2.07	1.06	-.197	.819	
My county generates enough funds to pay for implementing NIMS.	292	1	2	2.21	1.12	-.370	.674	

Inter-organizational Characteristics

<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>
Some of the emergency management relevant organizations in our county do not trust one another.	326	4	3	3.10	1.34	-1.21	-.12
Some emergency management relevant organizations within our county refuse to participate in NIMS.	322	4	3	3.08	1.38	-1.29	-.10
All of the emergency management relevant organizations within our jurisdiction trust each other.	323	4	3	3.12	1.19	-1	-.13
NIMS fits with the culture of the emergency management relevant organizations in our county.	325	4	3	3.31	1.08	-.37	-.45
Some of the emergency management relevant organizations in our county need the resources of other organizations in the county to participate effectively in emergency management.	328	5	4	4.24	.85	1.58	-.12
Some of the emergency management relevant organizations in our county do not have good working relationships with one another.	327	2	3	3.03	1.32	-1.19	-.01
The emergency management relevant organizations in our county agree that implementing NIMS is a priority.	322	4	3	3.10	1.12	-.81	-.28

Inter-organizational Characteristics Continued

<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>
There are some organizations within our county that do not want to change how they have traditionally done things in order to implement NIMS.	323	2	2	2.43	1.22	-.79	.53
Implementing NIMS is a common goal the emergency management relevant organizations in our county share.	323	4	3	3.28	1.03	-.40	-.34
The way the emergency management relevant organizations within our county normally operate conflicts with NIMS.	322	3	3	2.95	1.98	-.95	.00
Emergency management relevant organizations in our county depend on one another for resources.	327	5	5	4.40	.74	2.65	-1.44
The emergency management relevant organizations in our county work well with one another.	326	4	4	3.94	.97	.67	-.96

<i>Emergency Manager Characteristics</i>							
<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>
How old are you? (interval)	295	50	53	53.07	21.63	158.94	10.85
What is your sex? (nominal)	308	Male	—	—	—	—	—
What is the highest level of education you have completed? (ordinal)	307	B.A.	B.A.	—	—	—	—
How many years have you been employed as county emergency manager or the emergency manager of a jurisdiction equivalent to a county? (interval)	311	5	6	9.41	8.50	1.523	1.4
In how many <u>presidentially declared disasters</u> (PDDs) have you participated in a professional capacity? (interval)	305	0	3	4.51	2.82	27.50	4.22
Do you have any other <i>county</i> positions in addition to being county emergency manager? (nominal)	311	Yes	—	—	—	—	—
How many positions do you hold within your county or equivalent entity? (interval)	165	2	3	3	1.31	4.53	1.77
Are you employed by an entity other than your county or equivalent entity? (nominal)	310	No	—	—	—	—	—

Disaster Characteristics

<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>
How many <u>presidential disaster declarations</u> (PDDs) has your county received since 1/1/2000?	290	0	2	2.71	3.27	274.63	16.48
How would you characterize your jurisdiction's perception of the likelihood that a disaster worthy of a <u>presidential disaster declaration</u> will occur in the near future (next 5-10 years)?	300	3	3	4.02	1.22	-.379	-.875

APPENDIX N: DESCRIPTIVE STATISTICS FOR THE IMPLEMENTER VIEWS VARIABLES

<i>Implementer Views</i>								
<i>Question</i>	<i>n</i>	<i>Mode</i>	<i>Median</i>	<i>Mean</i>	<i>SD</i>	<i>Kurtosis</i>	<i>Skew</i>	
Our county would implement NIMS even if implementation were not linked to receiving preparedness funding.	315	4	3	2.91	1.20	-.97	-.18	
Our county does not like anything about NIMS.	323	3	3	3.00	1.32	-1.09	-.01	
Our county believes that federal policies and mandates can improve how our county responds to disasters.	319	3	3	2.88	1.07	-.58	-.17	
Our county believes NIMS is worth implementing because it is useful.	320	4	4	3.53	.98	.19	-.68	
Our county implements NIMS to earn the respect of the state and federal government.	322	3	3	2.67	1.11	-.74	.05	
Our county likes NIMS.	323	3	3	3.07	1.03	-.27	-.30	
Our county believes it is its duty to implement NIMS.	322	4	4	3.42	1.00	.14	-.62	
Our county implements NIMS because it makes us better able to serve the people in our community.	320	4	4	3.47	1.05	-.25	-.51	
Our county believes the federal government can make policies that are appropriate for my community.	320	3	2	2.36	1.06	-.74	.27	
The benefits of implementing NIMS outweigh the costs for our county.	312	3	3	3.01	1.08	-.53	-.24	

APPENDIX O: DISTRIBUTION OF IMPLEMENTATION INTENT VARIABLES

<i>Statement</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Missing</i>
...intends to implement NIMS...	.3	2.9	5.5	13.9	32.4	35.3	9.8
...intends to implement NIMS on a daily basis...	1.4	9.8	10.1	19.9	26.3	21.4	11
...intends to utilize NIMS in small-scale events...	1.2	11.6	6.4	20.2	29.2	20.8	10.7
...intends to implement all of the mandated compliance measures related to the Preparedness Component...	1.2	6.9	8.7	22	29.5	20.2	11.6
...intends to implement all of the mandated compliance measures related to the Resource Management Component...	1.2	8.7	9.2	20.5	29.8	19.1	11.6
...intends to implement all of the mandated compliance measures related to the Communications and Information Management Component...	.9	6.1	6.4	23.7	31.8	19.4	11.8
...intends to implement all of the mandated compliance measures related to the Command and Management Component...	.9	6.4	5.2	20.2	34.1	22.3	11

APPENDIX P: DISTRIBUTION OF ACTUAL IMPLEMENTATION VARIABLES

<i>Statement</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>Missing</i>
...actually implements NIMS...	.3	7.5	6.1	24.3	29.8	21.4	10.7
...actually implements NIMS on a daily basis...	2	15	12.1	24.3	20.2	15	11.3
...actually implements NIMS in small-scale events...	2.6	10.7	11.3	25.4	22	17.3	10.7
...actually implements all of the mandated compliance measures related to the Preparedness Component...	1.4	10.4	9.5	29.2	19.7	16.8	13
...actually implements all of the mandated compliance measures related to the Resource Management Component...	1.7	10.7	12.4	25.7	21.7	14.5	13.3
...actually implements all of the mandated compliance measures related to the Communications and Information Management Component...	1.4	9.2	10.1	28.3	23.4	15	12.4
...actually implements all of the mandated compliance measures related to the Command and Management Component...	1.2	7.8	8.7	28	24	18.2	12.1

APPENDIX Q: PAIRED SAMPLES CORRELATIONS OF INDIVIDUAL INDEPENDENT VARIABLES

<i>Pair</i>	<i>Statements</i>	<i>n</i>	<i>r</i>	<i>p</i>
1	...intends to implement NIMS... & ...actually implements NIMS...	307	.681	.000
2	...intends to implement NIMS on a daily basis... & ...actually implements NIMS on a daily basis...	301	.781	.000
3	...intends to utilize NIMS in small-scale events... & ...actually implements NIMS in small-scale events...	303	.815	.000
4	...intends to implement all of the mandated compliance measures related to the Preparedness Component... & ...actually implements all of the mandated compliance measures related to the Preparedness Component...	298	.735	.000
5	...intends to implement all of the mandated compliance measures related to the Resource Management Component... & ...actually implements all of the mandated compliance measures related to the Resource Management Component...	296	.797	.000
6	...intends to implement all of the mandated compliance measures related to the Communications and Information Management Component... & ...actually implements all of the mandated compliance measures related to the Communications and Information Management Component...	299	.764	.000
7	...intends to implement all of the mandated compliance measures related to the Command and Management Component... & ...actually implements all of the mandated compliance measures related to the Command and Management Component...	301	.800	.000

APPENDIX R: PAIRED SAMPLES T-TEST RESULTS FOR INDIVIDUAL DEPENDENT VARIABLES

<i>Pair</i>	<i>Statements</i>	<i>T-Test Results</i>
1	...intends to implement NIMS... & ...actually implements NIMS...	t(307)=8.496, p=.000
2	...intends to implement NIMS on a daily basis... & ...actually implements NIMS on a daily basis...	t(301)=6.945, p=.000
3	...intends to utilize NIMS in small-scale events... & ...actually implements NIMS in small-scale events...	t(303)=4.728, p=.000
4	...intends to implement all of the mandated compliance measures related to the Preparedness Component... & ...actually implements all of the mandated compliance measures related to the Preparedness Component...	t(298)=5.044, p. 000
5	...intends to implement all of the mandated compliance measures related to the Resource Management Component... & ...actually implements all of the mandated compliance measures related to the Resource Management Component...	t(296)=6.056, p=.000
6	...intends to implement all of the mandated compliance measures related to the Communications and Information Management Component... & ...actually implements all of the mandated compliance measures related to the Communications and Information Management Component...	t(299)=6.532, p=.000
7	...intends to implement all of the mandated compliance measures related to the Command and Management Component... & ...actually implements all of the mandated compliance measures related to the Command and Management Component...	t(301)=6.142, p=.000

APPENDIX S: CORRELATIONS OF INDEPENDENT VARIABLES FOR
REGRESSION RUN USING INTENT AS DEPENDENT VARIABLE

(N=145)

<i>Variable</i>	<i>Views Index</i>	<i>Policy Index</i>	<i>Elected Index</i>	<i>Intra-Organizational Index</i>	<i>Personnel to Implement NIMS</i>	<i>Funds to Pay for NIMS</i>	<i>State Index</i>	<i># Staff</i>	<i>Funds for Needs</i>	<i>Personnel for Needs</i>	<i>Preparedness Funding</i>
Views Index											
	Pearson correlation Sig. (1-tailed)										
Policy Index											
	Pearson correlation Sig. (1-tailed)	.603 .000									
Elected Index											
	Pearson correlation Sig. (1-tailed)	.479 .006	.539 .000								
Inter-organizational Index											
	Pearson correlation Sig. (1-tailed)	.466 .000	.334 .000	.351 .000							
Personnel to Implement NIMS											
	Pearson correlation Sig. (1-tailed)	.433 .000	.348 .000	.321 .000	.316 .000						
Funds to Pay for NIMS											
	Pearson correlation Sig. (1-tailed)	.364 .000	.316 .000	.299 .000	.301 .000	.586 .000					
State Index											
	Pearson correlation Sig. (1-tailed)	.151 .035	.357 .000	.232 .002	.012 .445	.136 .051	.073 .191				
# Staff											
	Pearson correlation Sig. (1-tailed)	-.121 .074	-.152 .034	-.165 .024	-.206 .006	-.104 .106	-.083 .160	-.052 .268			

Funds for Needs										
Pearson correlation		.198	.120	.191	.228	.407	.742	.002	-.083	
Sig. (1-tailed)		.008	.074	.011	.003	.000	.000	.489	.160	
Personnel for Needs										
Pearson correlation		.086	.092	.103	.146	.556	.372	.038	-.087	.528
Sig. (1-tailed)		.153	.135	.108	.040	.000	.000	.324	.150	.000
Preparedness Funding										
Pearson correlation		.017	.132	.085	.117	.060	.060	.034	-.019	.047
Sig. (1-tailed)		.419	.057	.155	.080	.236	.238	.342	.409	.287
										.366

APPENDIX T: VARIABLES EXCLUDED FROM THE BEHAVIORAL INTENT CAUSAL MODEL

<i>Local Structural and Situational Characteristics Variable</i>	<i>Beta in</i>	<i>t</i>	<i>p</i>
Local Elected Officials Leadership Index	.154	1.965	.051
Inter-organizational Characteristics Index	.131	1.790	.076
Local Capacity—Enough Funds to Pay for NIMS	-.026	-.322	.748
State Leadership Index	.032	.466	.642
Number of Staff	-.109	-1.679	.095
Local Capacity—Funds to Pay for Needs	.008	.110	.913
Local Capacity—Personnel to Fulfill Needs	.036	.459	.647
Amount of Preparedness Funding	-.038	-.586	.559

APPENDIX U: CORRELATIONS OF INDEPENDENT VARIABLES FOR
REGRESSION RUN USING ACTUAL BEHAVIOR AS DEPENDENT
VARIABLE (N=129)

	Views Index	Policy Index	Elected Index	Inter-organizational Index	Persomel to Implement NIMS	Funds to Pay for Needs	State Index	Persomel for Needs
Pearson correlation								
Sig. (1-tailed)								
Pearson correlation	.637							
Sig. (1-tailed)	.000							
Pearson correlation	.479	.574						
Sig. (1-tailed)	.000	.000						
Pearson correlation	.462	.356	.340					
Sig. (1-tailed)	.000	.000	.000					
Pearson correlation	.433	.392	.284	.346				
Sig. (1-tailed)	.000	.000	.001	.000				
Pearson correlation	.212	.153	.202	.283	.431			
Sig. (1-tailed)	.008	.042	.011	.001	.000			
Pearson correlation	.141	.387	.216	.048	.106	.004		
Sig. (1-tailed)	.055	.000	.007	.295	.115	.481		
Pearson correlation	.062	.109	.095	.111	.549	.536	.012	
Sig. (1-tailed)	.241	.109	.141	.106	.000	.000	.448	

Preparedness Funding												
Pearson correlation		.072	.072	.078	.156	.091	.120	.030	.070			
Sig. (1-tailed)		.210	.208	.190	.039	.153	.087	.366	.214			
Likelihood of Disaster												
Pearson correlation		.068	.156	.006	.017	.009	-.133	.195	-.068	.028		
Sig. (1-tailed)		.220	.038	.474	.422	.459	.067	.013	.221	.377		
# Full-time Staff												
Pearson correlation		.129	.126	.070	.042	.000	-.015	.025	-.004	.022	-.030	
Sig. (1-tailed)		.072	.077	.216	.316	.500	.433	.388	.484	.402	.368	
Volunteer Fire Services												
Pearson correlation		.091	.048	-.015	.001	.063	.020	.079	.045	.000	.087	-.024
Sig. (1-tailed)		.151	.295	.433	.496	.241	.412	.187	.306	.499	.164	.395
# Staff												
Pearson correlation		-.125	-.157	-.171	-.210	-.114	-.095	-.055	-.096	-.017	.057	.051
Sig. (1-tailed)		.079	.038	.027	.008	.100	.141	.269	.141	.425	.259	.271
												.212

APPENDIX V: VARIABLES EXCLUDED FROM THE ACTUAL
IMPLEMENTATION BEHAVIOR CAUSAL MODEL

<i>Local Structural and Situational Characteristics Variable</i>	<i>Beta</i>		
	<i>in</i>	<i>t</i>	<i>p</i>
Local Elected Officials Leadership Index	.101	1.203	.231
Local Capacity—Enough Funds to Pay for NIMS	-.073	-.836	.405
State Leadership Index	.137	1.875	.063
Local Capacity—Personnel to Fulfill Needs	.024	.286	.775
Amount of Preparedness Funding	-.030	-.434	.665
Likelihood of Disasters	-.017	-.244	.808
Number of Full-time Staff	-.009	-.139	.890
Reliance on Volunteers for Provision of Fire Services	.044	.644	.521
Number of Staff	-.028	-.398	.692