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Tonya Thornton-Neaves

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The social and political resiliency of communities and implications for disaster policy: A
case study of the Deepwater Horizon oil spill

By

Tonya Thornton-Neaves

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Public Policy and Administration
in the Department of Political Science and Public Administration

Mississippi State, Mississippi

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The social and political resiliency of communities and implications for disaster policy: A
case study of the Deepwater Horizon oil spill

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Societal risks to disasters are continually increasing and the scope of policy issues surrounding emergency management in the United States remains inundated with a number of challenges. Examining the connection between social capital and political trust is paramount as prior studies have documented that if communal networks are disrupted, there will be a lasting negative impact upon the community. As such, there are specific events that cause added strain which make certain time periods for examining levels of resiliency relevant. The Deepwater Horizon oil spill that occurred on April 20, 2010, represents a large-scale, technological disaster. Not only was there a loss of human life, but a number of social and political impacts also exist with the oil having spewed out into the water. For instance, residents living along the Northern Gulf Coast do represent a heterogeneous population, which span across several geographical boundaries and represent a diverse range of cultures. Further, the economic interests of impacted residents were also likely torn between the oil and gas industry and the fishing and seafood industry, given that many individuals may have been concurrently employed full-time as oil rig workers and supplemented their financial income and/or quality of life as

commercial fishermen. The goal of this research is to investigate how social capital and political trust significantly affect communal resiliency among those impacted by the oil spill. Results from this study will extend the limited understanding on the role of disaster responsibility in emergency management. Findings reveal that group belonging as related to race, education, and income significantly impact quality of life and trust in government which, in turn, influences the perception of disaster responsibility. Specifically, when trust goes down, a higher percentage of respondents indicate that the victims themselves should assume the majority of responsibility for taking care of themselves and their families following a disaster. Perhaps, individuals who are the least trusting or most cynical of the federal government feel that victims are better off taking care of themselves and their families in the aftermath of disaster given the storied history of disaster response.

DEDICATION

This research would not have been possible without the inspiration and encouragement that so many individuals provided throughout my scholastic journey. This dissertation is dedicated to them. First and foremost, I would like to sincerely thank my husband, Mr. David Neaves, and my mother, Ms. Lynn Thornton, who stood firmly beside me throughout all of the ups and downs associated with such a mind-bending exercise. It has truly been an enlightening experience, and I pray that I have become more of a well-rounded individual for it. Without you, it would not have been possible. Second, I would like to express genuine appreciation to Dr. Stephen D. Shaffer for advising me as an undergraduate and providing me the opportunity to conduct sound, scientific polling research. Prior to that time, I thought that I was just like every other collegiate student and didn't fully realize the academic potential he saw in me. He encouraged me to learn more, to be more. Third, I would like to convey my deepest respect and admiration for Drs. Arthur G. Cosby and P. Edward French. Not only have you been exceptional mentors, you each have helped me to grow as a person and a professional. It has truly been an honor to have worked with each of you on social science research projects, and I look forward to many more endeavors ahead. Both of your entrepreneurial passion for and practical application of research is infectious and I only hope to have learned enough to make you proud and keep up with your pace. And last, but certainly by any means not least, I would like to convey the utmost gratitude for Ms. Mary Dorough and Mrs. Pam

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The study has benefited greatly from the contributions of many individuals. Mr. Jay Ritchie should be recognized for the commissioning and initial leadership of the overall, larger project. Drs. Arthur G. Cosby and Stacey C. Mann have also been generous in providing their scientific perspective required in designing a survey questionnaire that would effectively capture the multidisciplinary nature of disasters. Dr. Laura B. Myers has, too, been kind in providing direction on formulating an instrument and analyzing its data within an emergency management conceptual structure.

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CHAPTER I

INTRODUCTION

Societal risks to disasters are continually increasing. Each year, the United States (US) faces a series of natural and man-made disasters that cause hundreds of deaths and cost billions of dollars. In 2010 alone, the international community witnessed countless disasters, killing approximately a “quarter million people,” resulting in “the deadliest year in more than a generation” (Bell and Borenstein, 2010). Even if the probability or intensity of such risks remains fairly constant, population growth, alongside economic, infrastructural, and technological development will inherently result in a concomitant increase in places prone to disasters (Haddow, Bullock, and Coppola, 2008). Although “[m]odern society relies on the effective functioning of [critical infrastructure and resources] to provide public services, enhance quality of life, sustain private profits and spur economic growth,” the potential for systems to breakdown or resources to become limited has an unavoidably increased propensity during times of imminent crises (Boin and McConnell, 2007, p50). Put differently, the protection of material assets and resources is essential for the successful functioning of government and an economy. The identification of hazards and assessment of risks often characterize the response and recovery environment to disasters and, thus, the development of emergency management capabilities (Mushkatel and Weschler, 1985; McLoughlin, 1985). Still, risks to disasters persist though their effects can be minimized by knowing and understanding hazards

posed. Because of their “scale and magnitude, governments attempt to ‘manage’ the impact of these events and prevent, or at least mitigate, their disastrous consequences” (Wallace and DeBalough, 1985, p134).

The Deepwater Horizon (DwH) oil spill represents a large-scale, technological disaster with catastrophic risks. Not only was there a loss of human life, but a number of and competing communal impacts exist with the oil having spewed out into the water (Burdeau #1, 2010; Burdeau #2, 2010). For instance, residents living along the Northern Gulf Coast represent a heterogeneous population, which span across several geographical boundaries and represent a diverse range of cultures. The economic interests of impacted residents were also likely torn between the oil and gas industry and the fishing and seafood industry, given that many may have been concurrently employed as oil rig workers and supplemented their financial income and/or quality of life as commercial fishermen. Variations group belonging and disaster experience tend to influence policy values.

Contextual Background

The explosion of the, Transocean owned and British Petroleum (BP) operated, DwH oil drilling platform opened a massive oil release in the Gulf of Mexico, just 50 miles south of Venice, Louisiana. The incident, notably referred to as the Macondo Blowout, occurred ironically late night on Earth Day, Tuesday, April 20, 2010. The Coast Guard immediately responded by evacuating rig workers (Argus, 2010; Associated Press, 2010). Although eight workers were injured in the explosion, 11 remained missing until the rig sank two days later on April 22. The search was then called off and the missing workers were presumed dead. In addition to loss of human life, about 700,000 gallons of

diesel fuel went down with the rig, and barrels of oil that had already been pumped went missing. Though at first the Coast Guard said the initial oil slick was residual oil from the sunken rig, remotely operated vehicles revealed that the oil was probably a combination of residual oil and oil leaking from the well itself (Burdeau #1, 2010). Disaster response teams and cleanup crews immediately mobilized and began utilizing several techniques to try and contain the growing oil spill.

Initial reports have described efforts to clean up the oil and plug leaks brought about by the Macondo Blowout. First, Louisiana and Mississippi state authorities positioned oil booms around the spill site and coastline to prevent the oil from spreading. Some crews even tried burning some of the oil off the slick. Second, Transocean immediately began to ship additional rigs to the area to stop the release and inject a heavy fluid to stop oil or gas from flowing by creating a relief well in the case the blowout valve could not be turned on (Brennan and Burke, 2010; OSHA #1, 2010). Third, BP tried utilizing robotic submarines to seal off the well and place a dome over it as to funnel the leaking oil on to boats for recovery and treatment (Goddard, 2010). Though a containment dome can ideally recover up to 125,000 barrels of oil; however, it soon failed after gas crystallized and began to build up on the dome. Therefore, a smaller dome was built in order to try and control the release (Seba, 2010). So, in continuing efforts, BP announced several new ideas for plugging the well, including pumping methanol through a smaller dome so the crystallized hydrates do not form again, pumping rubber scraps and other debris into the blowout preventer, installing a new blowout preventer on the well, and cutting the leaking pipe and installing a larger one to divert the oil flow to surface ships (Bolstad, 2010; Seba, 2010; Weber and Smith, 2010). Finally, BP completed

drilling a relief well into the outer casing of the bottom of the well, and the company began pumping cement into the well through a relief well (Schmollinger and Polson, 2010). This ultimately led to the sealing of the well which stopped the oil from further contaminating the water.

The DwH oil platform was praised for setting a world record of drilling 35,000 feet; yet, tactics to shut off the well releasing the oil proved difficult because it was stationed about 5,000 feet underneath the water's surface (Burdeau #1, 2010; Burdeau #2, 2010). It wasn't until nearly six months later, on Sunday, September 19, 2010, when announcements confirmed that the oil well was effectively dead. When the plug was filled as a result of pumping cement into the well's annulus, the space between the well's steel casing and outer walls (CNN News, 2010). Upon its blast, the DwH oil rig issued a massive column of flame (Murray, 2010). It has, therefore, been speculated that the explosion was caused due to the rig not having a blowout preventer. A blowout is "an uncontrolled flow of gas, oil, or other well fluids into the atmosphere or into an underground formation. A blowout, or gusher, can occur when formation pressure exceeds the pressure applied to it by the column of drilling fluid" (Oil Gas Glossary, 2010). In drilling, fluids buried in the earth under pressure push against the drilling fluid pressure. If the pressure of the buried fluids exceeds that of the drilling fluid pressure, the chance of a blowout increases. A blowout preventer consists of one or more valves attached to the well head to maintain pressure in the ring of space between the casing and the drill pipe or the empty hole. Blowout preventers come in two forms: annular and ram. Annular blowout preventers fill the ring of space between the pipe and well or the well itself. Rams cut off pressure on holes with or without pipes and can fit different drilling

components. Regardless of each, if drilling fluids buried in the earth under pressure exceed that of the drilling fluid pressure, the chance of a blowout increases (OSHA #2, 2010). And, though it has been suggested that the massive oil spill was caused as a result of the residual oil from the sunken rig, remotely operated vehicles have revealed that the oil spill was probably a combination of residual oil from the impact as well as oil leaking from the well itself (Burdeau #1, 2010; Burdeau #2, 2010; Goddard, 2010).

After initial response to the blowout, Transocean held a conference call with several industry experts, including Haliburton, Cameron International Corporation (CIC), and Smith International, for a technical and legal discussion on the incident in light of President Barack Obama holding BP responsible for the accident (Smith and Breed, 2010; OSHA #1, 2010; Bolstad, Washburn, and Lebovich, 2010). Transocean concluded that each should have limited financial liability in the oil release. This conclusion caused a debate between the companies. Although BP had to pay its own money to fund the cleanup since outside insurance does not cover oil spills, one of the most contentious issues included whether or not Haliburton had installed the final cement plugs by the time of the explosion (Herron, 2010; Morgan Stanley, 2010). Halliburton provided many of the services on the rig including pressure control of the underground oil and gas, in which drilling contractors are particularly sensitive to three key clauses, and they write contracts in such a way that liability lies with the oil company for: 1) pollution due to oil coming from the well or blowout, 2) reservoir damage, and 3) loss of production; under this contract, the drilling contractor is likely not liable (Urbina, 2010). Also, Transocean had CIC build the blowout preventer, but if the blowout preventer failure caused the incident, then Transocean would likely maintain liability. Experts say that the blowout preventer

failure was likely a result of the explosion, which would also clear Transocean. This is possible because the cement plugs, installed by Haliburton, were not properly sealed. It is also possible that the cement mixture was executed improperly; however, that would be very difficult to prove. Regarding Smith International's role in the Macondo Blowout, there is a remote possibility that improper mud density caused a loss of hydrostatic pressure, and if this is the case, would still not likely bear any liability (Smith and Breed, 2010).

Problem Statement

Emergency management is regarded as “the process of developing and implementing policies” concerned with disaster planning (Petak, 1985, p3). Yet, the scope of issues surrounding emergency management policy remains inundated with a number of challenges (Waugh, 2000). Inclination among policymakers is to view emergency management from a proactive approach. One of the greatest barriers to emergency management is the inability to grasp the social and political context of hazards. The “rarity of disasters, and thus of opportunities to gain the depth and breadth of experience necessary for an ‘all-hazards’ response capability, represents a significant constraint” (Paton and Jackson, 2002, p115). Additionally, most emergency management lessons learned and best practices examine the biophysical processes of disasters rather than the cultural aspects (Weichselgartner, 2001). If communal networks are disrupted, there will be a lasting impact on the social cohesion of the community, the political confidence among the individuals, and, ultimately the communal resilience of the impacted area. Community resiliency is the capability for a community to effectively prepare for, respond to, as well as recover from an adverse event (Patterson, Weil, and

Patel, 2010). Disasters are “among the most dramatic events... [yet they] are low priority public problems until the moment they strikes” (Birkland, 1996, p221). While there has been a wealth of research conducted on the social construction of reality and the place-identify construct, little research has focused on the responsiveness to such focusing events as disasters (Vigoda, 2002).

Purpose and Need

Fundamental disaster planning is a complex process (Mushkatel and Weschler, 1985). The identification of hazards and assessment of risks often characterize the planning environment to disasters and, thus, the development of emergency management capabilities (Mushkatel and Weschler, 1985). Since disasters are typically dynamic and fluid in nature, there is a need for an improved means of understanding not only the governmental but also the communal response to disasters (Gregory, McDaniels, and Fields, 2001). Examining the connection between social capital and political trust is paramount as a lessening of social capital undermines political trust and, therefore, potentially leads to governmental alienation. Disaster planning, thus, needs to be evaluated in terms of decisional premises so that a more comprehensive model of social and political resiliency can be developed (Brandsen, Boogers, and Tops, 2006).

Research Questions

Since disasters are typically dynamic and fluid in nature, there is a need for an improved means of understanding not only the governmental but also the human response to disasters and its affect on the planning process. This study investigates if failing to appreciate the importance of building social capital and maintaining trust significantly

affected the collective resiliency of the Gulf Coast community in light of the DWH oil spill. By applying construction theory, this research provides new insights into what influences public attitudes, beliefs, and practices regarding perceptions of disaster impact and responsibility (Paton and Johnston, 2001; Paton and Johnston, 2006; Smith and Dowell, 2000). Specifically, it aims to answer the following two questions:

1. “How does social capital and political trust influence public perception of disaster responsibility,” and
2. “How does public perception of disaster responsibility affect disaster policymaking?”

Results from this study will extend the limited understanding on communal resiliency as relating to the role of accountability in disaster policymaking.

Organization of Study

This study will be divided into six chapters, including this introductory chapter which establishes the problem, background, and need of this research. Chapter two reviews the literature on the etiology of disasters, risk and vulnerability to hazards, evolution of disaster planning, and emergency management practices. Chapter three discusses the theoretical framework used in this research that is rooted in social capital and political trust theory and provides supporting other information. Chapter four presents the materials and methodology utilized in collecting and evaluating population survey research. Chapter five examines the statistical measures and results used to analyze this research. And, chapter six reviews how population survey research can inform practice and scholarship in disaster planning and policymaking as well as provide recommendations for future disaster research.

CHAPTER II

LITERATURE REVIEW

Hazard Etiology

Hazards are sources of danger that could lead to an emergency situation and pose a threat to life, health, property, or the environment. Natural hazards are hazards that exist within the natural environment and are considered acts of God, and consist of atmospheric, geologic, hydrologic, seismic, and biologic agents (Steinberg, 2000). They are thought to be unpreventable and are associated with a perceived lack of control. Manmade hazards are the result from human intent, negligence, error, or involving a failure of a man-made system, and consist of sociological and technological hazards. They are not considered predictable although thought to be preventable; hence, their association with a perceived loss of control (Abbot, 2004; Haddow, Bullock, and Cappola, 2008). Waugh (2000) notes that while natural disasters include floods, earthquakes, hurricanes, wildfires, tornadoes, avalanches, etc., manmade disasters include civil defense, terrorism, hazardous materials accidents, fires, structural failures, nuclear accidents, and transportation disasters. As a result, the ability to manage risk to such hazards greatly varies due to differences in background. Therefore, the identification of hazards is the foundation of effectively dealing with and avoiding risks.

Risk is the susceptibility to death, injury, damage destruction, disruption, stoppage, etc. There are three main types of risks that represent a continuum of intensity.

First, dormant risks have the potential to be hazardous, but no people, property, or the environment is currently in harm's way. Second, armed risks are when people, property, or the environment may potentially be in harm's way. And third, active risks are harmful incidents involving a hazard that has actually occurred. While it may be possible to alleviate some risk to natural and manmade disasters, continued increase in the global population alongside infrastructural development will likely result in an increased risk to hazards (Haddow, Bullock, and Cappola, 2008).

Risk Perception

People evaluate risks contextually. People interpret risks through their own experiences and biases, and there are marked individual differences in how people react under stressful situations. Not only does an individual's personality affect their regard for decision-making to risks, but also their health level with regard to physical fitness, fatigue susceptibility, and psychological wellbeing. "Consequently, little consideration has been given to understanding the specific stressors likely to affect them or their implications for their thinking and management skills when responding to a disaster" (Paton and Fin, 1999, p261). Changing risk perception is, thus, difficult. Whereas objectively-based risk perception relies on facts, numbers, and research, subjectively-based risk perception relies on publics without expert knowledge interpreting the situation through their values and experience (Center and Jackson, 2008). Risks are, therefore, intensified predominantly by two demographic factors. Social factors include, but are not limited to, race, gender, age, education, religion, ideology, location, health, and culture, whereas economic factors include, but are not limited to, incurred debt, credit access, income sources, reserved funds, wealth distribution, and business

continuity (Haddow, Bullock, and Cappola, 2008; McEntire, 2006). Risk management is the process of persuading individuals, who oppose countermeasure actions to risk, to allow the execution of the action despite the risk. As such, communication means in which influence vulnerable groups can, too, greatly differ. A minimum is set for risk acceptability. If a risk is greater than the threshold, action occurs; otherwise the original behavior remains. According to Center and Jackson (2008), risk communication needs to be proactive, aim to improve knowledge, and, ultimately, change perceptions and behaviors. The format of a risk message readily forms risk perception. People will react similarly to two different pieces of risk information as long as the format they are presented in is the same. Further, people adjust their behavior if a highly threatening situation exists or is perceived.

Risk Assessment

Risk assessment is the determination of value of risk, in terms of quantitative or qualitative measures, related to a concrete situation and/or a recognized threat (Haddow, Bullock, and Cappola, 2008). Expressed, quantitatively, risk assessment is the likelihood of occurrence times the seriousness if an incident occurred. Expressed qualitatively, however, risk assessment is the process of 1) identifying and characterizing hazards; 2) evaluating hazards for severity and frequency; 3) estimating risks associated with hazards, 4) determining acceptable levels of risk to hazards; 5) determining both the direct and indirect societal effects of hazard; and 6) identifying risk reduction opportunities. Still, part of the difficulty of assessing risk is that measurement of potential loss and probability of occurrence can be very difficult (Haddow, Bullock, and Cappola, 2008; Weichselgartner, 2001). The chance of error in the measurement of these two

concepts can, therefore, be large. A risk with a large potential loss and a low probability of occurring is often treated differently from one with a low potential loss and a high likelihood of occurring. In theory, both are of nearly equal priority, but in practice it can be very difficult to manage when faced with the scarcity of time and resources.

Disaster Relief

Disasters are deadly, destructive, and disruptive events that occur when a hazard interacts with human risk and vulnerability. Disaster relief has existed since the early 1800s. It was 1803 when rampant fires spread across Portsmouth, New Hampshire. During this time, the 7th Congress passed a number of measures waiving duties and tariffs on goods to provide relief for city merchants. It was not until the start of the Great Depression that the federal government took a broader stance on disaster relief when President Hoover commissioned the Reconstruction Finance Corporation in 1932 permitting the feds to lend money to banks and institutions in order to stimulate economic activity. Years later, between 1960 and 1979, federal disaster relief was provided through the creation of the Federal Disaster Assistance Administration, under the umbrella of the Department of Housing and Urban Development (FEMA, 2010; Haddow, Bullock, and Cappola, 2008).

Emergency and disaster relief activities were still fragmented. It was not until 1979 when President Carter signed Executive Order 12148 creating the Federal Emergency Management Administration (FEMA) commissioned with coordinating all disaster relief efforts. The order merged many of the once separated agencies charged with varying federal disaster-related responsibilities. Additionally, it transferred over

civil defense responsibilities from the Defense Civil Preparedness Agency (Lindell, Prater, and Perry, 2007; Waugh, 2000).

Evolution of FEMA

Upon its inception, FEMA responded to a number of disasters, both natural and manmade. These disasters ranged from the dumping of toxic wastes at Love Canal, the Cuban Refugee crisis, a nuclear meltdown at Three Mile Island, the Loma Prieta Earthquake, and Hurricane Hugo. It was not until Hurricane Andrew hit in the summer of 1992 that national attention was focused upon FEMA. The hurricane left 200,000 people homeless and 1.3 million people without power. Food, clean water, shelter, and medical assistance were absent the first three days after the disaster. When FEMA did arrive, what has been referred to as organizational ineptitude delayed relief efforts even more, as food and water distribution centers could not meet the overwhelming need. More so, FEMA funding to the response was only \$1.8 billion to the \$43.6 billion estimated property loss and damages. After further congressional investigation, it was found that FEMA was spending 12 times more funding for civil defense “black operations” than for actual disaster relief. Furthermore, only members with top security clearance knew about the \$1.3 billion annual expenditures for non-disaster activities. The investigation also found that FEMA had more than 300 sophisticated mobile units with extensive communication and power systems; yet, they were never employed for disaster relief. Although FEMA dealt more so with disasters, FEMA still had an underlying mission of providing nuclear fallout shelters and other civil defense measures. It was only after this period of time that FEMA redirected its activity base to not only include but employ an all-hazards approach, and did so fairly successfully for the next several years. It was not until 2001, when the

September 11 Terrorist Attacks shocked the nation, that disaster planning activities once again shifted back towards civil defense and away from natural disasters. A year later, in 2002, the Department of Homeland Security was established that merged more than 20 agencies and offices. Shortly thereafter, FEMA, once again, became under public scrutiny in the aftermath of Hurricane Katrina. While many people have argued that the merging FEMA under Homeland Security made it ineffective, demoralized civil servants, led to decreased funding, and left it led with unqualified political appointees, others disagree (FEMA, 2014; Haddow, Bullock, and Cappola, 2008; Lindell, Prater, and Perry, 2007).

Disaster Planning

Disaster planning is the process of avoiding risks to hazards and dealing with disasters in an effort to lessen their impact. According to Petak (1985), it is the essential role of government to implement policies that effectively manage events of significance and their associated consequences. Still, the magnitude and character of disasters are not easily calculated (Boin and McConnell, 2007). There is a recurring problem in disaster planning as there are long-standing deficiencies in its strategic and operational approaches (Perry and Lindell, 2003). Paton and Jackson argue that the implementation of disaster policies have proven problematic, for the “rarity of disasters, and, thus, of opportunities to gain the depth and breadth of experience necessary for effective all-hazards response capability, represents a significant constraint” (2002, p115). Kouzmin, Alan and Rosenthal (1995) also maintain that the evident excess of operational autonomy in agencies charged with disaster-related functions and responsibilities have been problematic, noting that “crisis decision making often involves the same kind of give-

and-take compromise as in routine administration. Indeed, many emerging crisis episodes or events seem to pose acute dilemmas for choosing between equally defensible courses of action; often represented by different [entities] involved in crisis events” (p27). And, Hill asserts that emergency management is varied and flexible, so the underlying aim of the [strategic] planning process should be to develop flexible arrangement which should enable any organization to deal effectively with a major or minor emergency, whether foreseen or unforeseen (1998).

Emergency Management

There are four traditionally agreed upon disaster planning phases that occur in a cycle. Mitigation, the first phase, includes taking measures to prevent future emergencies from occurring or minimizing their negative effects. Preparedness, the second phase, includes developing plans or making preparations to save lives and to help response and rescue operations in the event of an emergency. Response, the third phase, includes actions taken to save lives and prevent further property damage in an emergency situation. Recovery, the fourth and final stage, includes actions taken to return to a normal or an even safer situation following an emergency (Haddow, Bullock, and Cappola, 2008). Still, emergency management has been based predominantly upon reactive models, thereby causing a lack of coordination between the various agencies involved in the disaster planning phases (McLoughlin, 1985). Disaster planning has typically focused on post-crisis response and recovery lessons learned from civil defense events (Waugh, 2000). Yet, frameworks considering risk assessment and disaster contingency are especially important measures for preparedness and mitigation (Wallace and DeBalough, 1985). Smith and Dowell (2000) note that each disaster makes available

incident information; “that is, a temporary configuration of otherwise disparate resources, [such as people, technologies, and procedures] drawn from many agencies” (p1154).

Given the limited opportunities for an actual disaster-related experience, the “decision-making, mental models, and situational awareness research on [crises] have highlighted a further need for effective emergency management training that reflects operational diversity with collaborative exercises and simulations” (Paton and Jackson, 2002, p115). Additionally, not only are the various interrelationships in emergency management and complexity of disaster phases between each relationship are massively confusing, it becomes even more convoluted. Gregory, McDaniel, and Field (2001) suggest that the process of resolving disputes and building consensus among parties “can [also] pose impediments to the creation of insights for decision-makers and lead to the adoption of inferior policy choices” (p415). Hence, problems are “pronounced with regard to information management and decision making within integrated emergency management operating environments” (Paton and Jackson, 2002, p115). Decision-making in high demand situations is, therefore, critical.

Information sharing, during times of a disaster, is essential for the effective administration of preparedness, mitigation, response, and recovery activities. “Making effective use of information underlies the importance of decision-making and the need for those in leadership roles to be able to adapt their decision style and to utilize different decision making procedures” (Paton and Fin, 1999, p264). By developing a framework that relates the components of emergency management—mitigation, preparedness, response, and recovery—in time by sequence of implementing actions, government will be able to better protect people and property while also maintaining essential bureaucratic

functions (McLoughlin, 1985). Mushkatel and Weschler also affirm that in order to improve its directional area and administration, emergency management will require an understanding of both the policy process and the intergovernmental system within which it operates, noting that the two must be removed from each other in order to effectively understand the successes and constraints of current emergency management practices (1985).

Leadership and control in emergency management makes substantial demands on the personal resources and competence. It is, therefore, of the most importance for decision-makers to be aware of personal strengths and limitations, have some knowledge of how they might react in stressful environments, and what they have to do to control or minimize negative effects (Paton and Fin, 1999). Leaders also should have a clear understanding of how citizens react to crises. Research has shown that for the most part, “people as a whole do not panic” in times of crisis and that most individuals affected and surrounded by an emergency tend to become “more cohesive and unified” (Quarantelli 1986, p4; Drabek and McEntire 2003, p99). However, others issues do arise that leaders must face including traffic congestion, media inundation, and lack of communication, supplies, and equipment. Thus, understanding the reaction of the public and how behavior can help, or in some cases, hinder response, emergency management leaders and public officials. And, Paton and Fin have also found that because public officials are concerned with other, ‘more pertinent’ matters, “little consideration has been given to understanding the specific stressors likely to affect [people] or their implications for their thinking and management skills when responding to a disaster” (1999, p. 261). Gregory, McDaniel, and Fields (2001) also suggest that the process of resolving disputes and

building consensus among parties “can [also] pose impediments to the creation of insights for decision-makers and lead to the adoption of inferior policy choices” (p415). Hence, problems are “pronounced with regard to information management and decision making within integrated emergency management operating environments” (Paton and Jackson, 2002, p115).

Disaster Meaning

The impact of disasters is increasingly felt in the artificial world – that is, in the densely interconnected web of social as well as political environments that comprise human society (Birkland, 1997; Dynes and Tierney, 1994). “Disaster causality is only possible by understanding the ways in which social [and political] systems themselves generate unequal exposure to risk by making some groups of people, individuals, and some societies more prone to hazards than others” (Cannon, 1994, p13). Serving as both an idea and experience, modern day disasters are a result of a constructed reality associated with a given time and specific place (Simon, 1969). Disasters are, thus, a result of interaction between a historical-cultural system, in which the resultant damage and loss suffered and the degree of disruption of the system is a product of this interaction (Bates, 1987). As Farmer sums up, “physical reality, as it is in itself, is beyond [sic] seeing,” but, rather, what is seen are those phenomena which are apprehended (1995, p18).

CHAPTER III

THEORETICAL FRAMEWORK

Place is an integral part of human identity. Many life factors allude to a sense of place concept, an occurrence in which people strongly identify with a particular geographical setting—where ‘the linkages between space and representation’ occur are key indicators of peoples’ identities” (Neaves et al., 2008, p14; de Blij and Alexander, 2000; Weeks, 2002; Stoneall, 1983). There is an inherent interest among people in shaping, pursuing, and revising individual life-plans that are often defined or constituted by various attachments or traditions (Tönnies, 1998; Blunt, 2005; Wilson, 1993). “Who people are is reflected in the places they occupy and control” (Fitzpatrick and LaGory, 2000, p4). Understanding the interactions between people and their surroundings and the causes and consequences that their activities can in part be achieved by examining the effects of human life and their activities on the environment in which they occur (Etzioni, 1996; Etzioni, 2000; Durkheim, 1984). Thus, the basic methods of answering questions concerning locational features, often fail, however, to detail the inter-relationships between one feature and another (Campbell, 2001; de Blij, 2000; Geertz, 1973). It has, therefore, become increasingly important for researchers to not only answer questions of *where*, but also to attempt to answer questions of *why there*. Thus, to maintain the structural functionalism of a society, individuals within it must be mindful of the cultural

climate surrounding the community, and how key societal issues interplay with and affect one another.

Scientific Approach

Society is an organized association of individuals characterized by patterns and interactions of relationships that share a distinctive ideology - an environment of the same attitudes, beliefs, and practices, that affect communal identity, degree of cohesiveness, and local heritage (Etzioni, 1996; Gilligan, 1987; Gettis, Gettis, and Quastler, 2001). As an entity exhibiting an intimate life-style of shared experiences, a “community is not merely a social entity whose members are bound by a web of crisscrossing affective bonds, but also one in which members share a set of core [political] values,” in which “values are handed down from generation to generation, via socialization, and in this sense are traditional” (Etzioni, 2000, p191). For members of a community to integrate new values into their culture, these values must undergo a process referred to as a moral dialogue. Moral dialogue is the application where “people engage in deliberations that involve not merely facts, logic, reasoning, and rational exchanges, but also intensive discussions in which their normative commitments are engaged” (Etzioni, 2000, p192).

Social and political reality is a “constellation of thoughts, perceptions, and feelings.” Communal action, therefore, “takes place within the context of intersubjectively shared norms” (White, 1999, p127). People establish a set of overarching principles to ascribe to; yet, consensus is hard to obtain as many people vary greatly in their opinions on public issues (Balfour and Mesaros, 1994). “The reasons are simple: new issues have appeared and the meaning of old issues has changed” (Nie,

Verba, and Petrocik 1979, p96). For a society to progressively evolve, its language “must reflect the change in values rather than significantly diverge from them” (Etzioni 2000, p88).

“When values are less and less heeded, it is often argued that the society requires more laws, more regulations, stronger sanctions, more law enforcement resources and powers, and more severe punishments for those who violate the laws. A good society is thus by definition one governed not merely by contracts, voluntary arrangements, and laws freely enacted, but also by a thick layer of mores that are in turn derived from values” (Etzioni, 2000, p192).

Social capital and political trust have been identified as “key to the effective functioning of democratic polities” (Sturgis et al., 2010, p210). Democratic rule, as based on the idea that the sovereign power is a government of, by and for the people, requires a certain level of obligation from its citizenry. There is an expectation of citizen involvement and sacrifice. A democratic citizen must be willing to defer to the good of the larger community, even when that means helping to fund programs from which they will receive no personal benefit. A great deal has been written and theorized about the duties of democratic citizens and the strains of commitment required (Rawls, 1971; Dworkin, 2003; Walzer, 1990; Sandel, 1984; Goodin, 1985). While many aspects of this are still debated, a common agreement is that such levels of obligation are undermined by feelings of alienation, lack of political efficacy, and/or distrust in government institutions and officials. The general idea is that social capital and political trust and a belief in reciprocity are the building blocks for communal development which then leads individuals to become engaged in political activities, resulting in a commitment to the

state as well as general democratic processes and institutions (Zmerli and Newton, 2008; Rothstein and Uslaner, 2006).

Social capital and political trust, more broadly conceived, are important because they affect the willingness of individuals to support the government as well as public policies; especially those that demand some form of sacrifice (Putnam, 2000). This requires a belief in the fairness of the game as well as a belief that the group has common interests and a shared future. If individuals do not feel that the government shares their concerns or that institutions are rigged against them, their loyalty, trust and social cooperation are in danger of being eroded. This can happen on various levels of government – federal, state, and local – and can involve both formal and informal institutions. Furthermore, there are specific events that cause added strain and potentially fracture this cohesion and reliance, which make certain time periods for examining levels of social capital and political trust especially relevant (Zmerli and Newton, 2008; Blendon, et al., 1997; Hetherington, 2005).

Conceptual Application

Disasters are socially and politically constructed phenomena (Rozario, 2007; Hoffman and Oliver-Smith, 2002; Mileti, 1999). “Disasters are human-induced [sic] events that are part of the social [and political] processes that characterize societies throughout the world” (Rodriguez and Barnshaw, 2006, p35). Weichselgartner (2001) provides that hazards to disasters vary by place, and, as such, occur within the social and political realms of reality. Given the impact of social capital and political trust on democratic citizens and good governance, it is essential to know what influences public perception during times of disasters, especially technological disasters (Sylves, 2008;

Trim, 2004). Technological disasters are incidents that result from the failure of technology, malfunctions in engineering, or flaws in structural designs. Oil spills, in particular, are just an assumed a fact of life (Sylves and Comfort, 2012). Sylves (1998) observes, “How damaging an oil spill is depends in part on the degree of emergency preparedness in place before the event, the speed of response, and the effectiveness of recovery operations once a spill has occurred” (p13).

Prior research, in this regard, has demonstrated that the consequences of disasters, especially technological disasters, are often broad-based, long-term, and unanticipated (Gill and Picou, 1991). Specifically:

1. Political trust is especially vulnerable in technological disasters—there is someone or something to blame;
2. Social capital can be easily weakened—the loss of trust in institutions and social divisions resulting from differences in environmental impact experiences and long-term solutions;
3. Remediation strategies can have unanticipated negative consequences—there may be community splits and animosity resulting from those who are subsidized to help in the clean-up efforts and those that are not; and
4. Litigation has substantial impacts upon individuals and communities throughout the entire legal cycle—there may be significant impacts upon livelihoods, industries, recreation, and tourism (Picou and Gill, 1997; Picou, Gill, and Cohen, 2008).

Risks to hazards are evaluated contextually, and the perception of risk motivates disaster behavior (Drabek, 2006). It is, thus, believed that attitudes toward government

responsibility and perceptions of the speed, efficiency, and magnitude of the government's response to disasters, negatively influence the social capital and political trust among impacted individuals.

Relevant Case Study

There are several case studies as related to emergency management but only one that examines social capital and political trust as it relates to disaster policy, directly pointing to the need of community engagement in emergency management activities. In Murphy's "Locating Social Capital in Resilient Community-Level Emergency Management," the author conducted a case study of municipal government responsibilities and community-level initiatives as related to emergency management in the aftermath of two distinct disasters, the 2003 Northeast electricity outage and the 2000 Walkerton water-borne disease outbreak (2007). The author found that in smaller, close-knit communities, there existed a higher degree of social capital in the form of a cohesiveness not experienced in larger areas where its members are more fluid. As such, the community is more likely to become engaged with local emergency management activities because they hold more of a vested political interest in seeing the resiliency of the area, their livelihoods. The author utilized household surveys for the larger population area associated with the electricity outage and focus groups for the smaller population group associated with the water-borne disease. However, this study was limited in that there was no pre/post establishment of "assessing and ameliorating resiliency prior to a crisis" (Murphy, 2007, p312). Still, this is likely with most case studies examining a specific event, such as a disaster, coupled with the fact that it is hard to establish baselines when disasters are fairly unpredictable. All in all, the author did a fairly well

job in “assess[ing] emergency preparedness levels in the wake of [both events] and [evaluating] the impact and community response (Murphy, 2007).

Existing Legislation

Out of the federal government’s efforts to correct environmental problems came the National Environmental Policy Act (NEPA) and the U.S. Environmental Protection Agency (EPA). NEPA is a federal environmental law encouraging the “productive and enjoyable harmony between man and his environment” (EPA #1, 2010). By dividing the landmark environmental policy into two separate, distinguishable procedural parts, policy-makers sought to generate awareness around environmental problems while emphasizing action forcing provisions among federal entities as well as any of their associated or funded programs to comply with such proactive or corrective policies. The EPA is the federal agency tasked with protecting human and environmental health by writing regulations and enforcing statutes enacted by Congress.

Often times, “environmental regulations depend on the will and ability of the regulated to comply” (Winter and May, 2001, p 676). Therefore, motivation is derived from normative and the social determinations—the initiation, direction, and intensity of a particular behavior. As an innate part of human nature, it is the underlying willingness moving individuals and/or groups to achieve a sense of moral duty and agreement. And, by providing the impulse to contribute a larger benefit, firms are motivated to earn the respect and approval of other firms and people they associate with (Firestone, 2001). Nowadays, however, the EPA is moving in a different direction—an emphasis on the prevention of environmental problems before they occur. Not only does the EPA set national standards to protect the natural environment against common contaminants, it

also takes broader measures to promote clean air and water, land preservation and restoration, healthy communities and ecosystems, and environmental stewardship (Chiras, 2000).

In continuing this line of regulation concerning manmade disasters, particularly technological disasters, the federal government passed the Oil Pollution Act (OPA) in 1990 (EPA #2, 2010). This legislation was an immediate response to the Exxon Valdez oil spill that occurred on March 23, 1989, in the Prince William Sound off the coast of Cordova, Alaska, which released up to 750 million barrels of oil across approximately 11,000 square miles. The legislation was introduced in the U.S. House by Representative Walter B. Jones, Sr. of North Carolina along with 79 co-sponsors. Since the U.S. had never seen an technological disaster in the form of an oil spill to this magnitude, really, nor even the world, advocates found precedence to proceed forward based upon the Supreme Court's ruling in *Gibbons v. Ogden*, 22 U.S. 1 (1824), which provided Congress the sole authority to regulate navigable waters. The legislation enjoyed widespread bipartisan and bi-cameral support, passing both the House and the Senate unanimously after going to conference.

Upon its passage, the OPA provided for primarily two things. First, the legislation to an emergency management approach to mitigating and preventing civil liability for future oil spills off the U.S. coast in the future, emphatically stated that companies must have a “plan to prevent [oil] spills that may occur” and have a “detailed containment and cleanup plan” for oil spills (EPA #2, 2010) Second, the legislation also provided for a clause that prohibited any oil carrying vessel that had spilled more than 1 million gallons in a marine area from further operating in Prince William Sound. As of the early 2000s,

the act had prevented nearly 20 ships from operating in the area. The legislation also set up the Oil Spill Liability Trust Fund, “which is available to provide up to one billion dollars per spill incident” (EPA #2, 2010). And, in addition to these efforts, “the OPA provided new requirements for contingency planning both by government and industry... [by setting up the] National Oil and Hazardous Substances Pollution Contingency Plan (NCP)” (EPA #2, 2010).

The NCP is a “three-tiered approach: the federal government is required to direct all public and private response efforts for certain types of spill events; Area Committees - - composed of federal, state, and local government officials -- must develop detailed, location-specific Area Contingency Plans; and owners or operators of vessels and certain facilities that pose a serious threat to the environment must prepare their own Facility Response Plans” (EPA #2, 2010). The OPA also “increased penalties for regulatory noncompliance, broadened the response and enforcement authorities of the Federal government, and preserved State authority to establish law governing oil spill prevention and response” (EPA #2, 2010).

There are still a number of policy questions surrounding the DwH oil spill and implications it might have for the OPA. In its immediate aftermath, it was anticipated that there would be a shift in disaster policy as dictated by punctuating equilibrium theory. Punctuated equilibrium theory contends that policymaking occurs in a between alternative phases of relatively stable periods, or stasis, and dramatic transformative episodes, or punctuations (True, Jones, and Baumgartner, 1999; Givel, 2010). Whereas stasis occurs when policy areas are dominated by policy subsystems, punctuation occurs when policy subsystems breakdown and are pushed into the macro-political

environment (Jones and Baumgartner, 2005). Some policy issues, therefore, already exist but wait for an opportune time to arise and make headway among both the public and government officials. This greater issue attention is often centered on a focusing event, which opens a typically closed off policy window, such as in the case of a disaster. Much like the response to the Exxon Valdez oil spill, there have been numerous attempts to reform the OPA by raising its \$75 million cap limit on lost damages to \$10 billion, and even retroactively to before the spill occurred; however, little progress has been made except in regards to operating procedures and safety standards.

CHAPTER IV

MATERIALS AND METHODOLOGY

Research focused on disaster planning and response is fundamentally based on how people perceive risk-related information. This process is strongly shaped by cultural and demographic factors (Groves, 1990). Taken collectively, such measures can be derived as probabilistic risk assessments by conducting a series of systematically structured interviews that monitor the attitudes, beliefs, and practices across a population-based spectrum of needs as related to institutions that compose the everyday fabric of society in the form of case studies. Case studies are a distinctive form of empirical inquiry that can be either descriptive, what is going on, or explanatory, why it is going on, in nature or a combination of the two (Lenson and Rodgers, 2001; Yin, 2009). Essentially, it is the cumulative knowledge or holistic examination of developmental factors of an individual unit of analysis in an attempt to build or expand an existing theoretical framework (Gerring, 2004; Cresswell, 2007; de Vaus, 2001; Stake, 1985).

Variables

An underlining assumption driving this study was the understanding that at least three domains of policy preferences exist that characterized the social and political climate for disaster responsibility in the US, including quality of life, community involvement, and trust in government. This study is designed to provide statistical

estimates about how social capital and political trust impact disaster responsibility with considerations for the demographic background. The following topics were explored: 1) how does race impact education, income, and ideology, 2) how does education and income impact ideology, 3) how does education and income impact quality of life and trust in government, 4) how does ideology impact quality of life, community involvement, and trust in government, 5) how does quality of life impact disaster impact and disaster responsibility, 6) how does community involvement impact disaster impact and disaster responsibility, and 7) how does trust in government impact disaster impact and disaster responsibility. As such, the individual is the unit of analysis for this research and the variables are as follows. The dependent variable is disaster responsibility with independent variables of quality of life, community involvement, and trust in government, along with an intervening variable of disaster impact and control variables of race, education, income, and ideology.

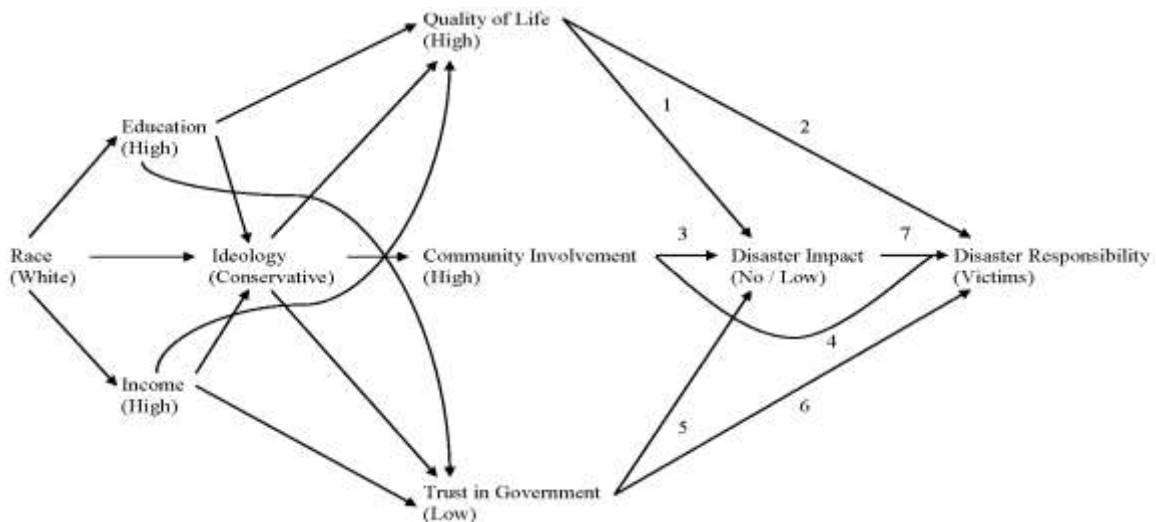


Figure 1 Model

Hypotheses

The hypotheses driving this research are broken into control hypotheses and independent hypotheses. The variables represented in the control hypotheses include the control variables of race, education, income, and ideology. The variables represented in the independent hypotheses include the independent variables of quality of life, community involvement, and trust in government as well as the intervening variable of disaster impact and the independent variable of disaster responsibility.

Control Hypotheses

Race

1. Individuals who are white are more likely to have higher levels of education and higher levels of income, as compared to individuals who are black.
2. Individuals who are white more likely to have a conservative ideology, as compared to individuals who are black.

Education and Income

1. Individuals with higher levels of education and higher levels of income are more likely to have a conservative ideology, as compared to individuals with lower levels of education and lower levels of income.
2. Individuals with higher levels of education and higher levels of income are more likely to have a higher quality of life, as compared to individuals with lower levels of education and lower levels of income.

3. Individuals with higher levels of education and higher levels of income are less likely to trust the government, as compared to individuals with lower levels of education and lower levels of income.

Ideology

1. Individuals who have a conservative ideology are more likely to have a higher quality of life, as compared to individuals who have a liberal ideology.
2. Individuals who have a conservative ideology are more likely to be actively involved in their community, as compared to individuals who have a liberal ideology.
3. Individuals who have a conservative ideology are less likely to trust the government, as compared to individuals who have a liberal ideology.

Independent Hypotheses

Quality of Life

1. Individuals with a higher quality of life are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals with a lower quality of life.
2. Individuals with a higher quality of life are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals with a lower quality of life.

Community Involvement

1. Individuals who are actively involved in their community are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals who are not actively involved in their community.
2. Individuals who are actively involved in their community are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who are not actively involved in their community.

Trust in Government

1. Individuals who are less likely to trust the government are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals who are more likely to trust in government.
2. Individuals who are less likely to trust the government are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who are more likely to trust in government.

Disaster Impact

1. Individuals who indicate that the oil spill had no or a low impact on them are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who indicate the oil spill had a high impact on them.

Questionnaire Development

Information was drawn from *Enhancing the Coastal IQ Survey*, to test the model and hypotheses. *Enhancing the Coastal IQ Survey* was developed, under the auspices of the *The Social Climate of Disaster Preparedness*, as a public opinion survey to investigate the social and political attitudes, policy beliefs, and behavioral practices of coastal residents in regards to disasters. The instrument underlying this study incorporates a number of questions and scales that are being applied for the first time in examining the disconnect between social capital and political trust as specifically related to disaster responsibility. See Appendix 1. Survey Questionnaire. However, it would be remiss to not recognize prior scientific polls that were utilized as guides in the conceptual development of this particular questionnaire, including those conducted by *The Gallup Organization*, *Polling Report*, *USA Today*, *Newsweek Poll*, and *Pew Research Center*.

Survey Protocol

Upon receiving approval from the Institutional Review Board for the Protection of Human Subjects at MSU, per Docket #10-150, *Enhancing the Coastal IQ Survey* was administered by telephone to a representative sample of adults residing in coastal counties/parishes among the states of Alabama, Florida, Louisiana, Mississippi, and Texas. See Appendix 2. The approximately 144 counties/parishes were then subdivided into seven population-based clusters that also align with distinctive geographic cultural-based areas. See Figure 2. and Table 1.



Figure 2 Survey Population Clusters

Table 1 Survey Geographic Cultural Areas

| |
|---|
| Bay, Calhoun, Dixie, Escambia, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Lafayette, Leon, Liberty, Madison, Okaloosa, Santa Rosa, Suwannee, Taylor, Wakulla, Walton, and Washington |
| Charlotte, Citrus, Collier, DeSoto, Gilchrist, Glades, Hardee, Hendry, Hernando, Hillsborough, Lake, Lee, Levy, Manatee, Marion, Monroe, Pasco, Pinellas, Polk, Sarasota, and Sumter |
| Baldwin, Clarke, Covington, Escambia, Geneva, Mobile, Monroe, and Washington |
| Amite, George, Hancock, Harrison, Jackson, Lamar, Marion, Pearl River, Pike, Stone, Walthall, and Wilkinson |
| Region 5 – Louisiana Central, Acadiana, Greater New Orleans, and Florida Proper Parishes |
| Acadia, Allen, Ascension, Assumption, Avoyelles, Beauregard, Calcasieu, Cameron, East Baton Rouge, East Feliciana, Evangeline, Iberia, Iberville, Jefferson, Jefferson Davis, Lafayette, Lafourche, Livingston, Orleans, Plaquemines, Pointe Coupee, Rapides, Sabine, St. Bernard, St. Charles, St. Helena, St. James, St. John the Baptist, St. Landry, St. Martin, St. Mary, St. Tammany, Tangipahoa, Terrebonne, Vermilion, Vernon, Washington, West Baton Rouge, and West Feliciana |
| Region 6 – Texas Coastal Plain Counties |
| Aransas, Bee, Brooks, Calhoun, Cameron, Colorado, DeWitt, Duval, Fayette, Goliad, Hardin, Hildalgo, Jackson, Jasper, Jefferson, Jim Hogg, Jim Wells, Kenedy, Kleberg, Lavaca, Live Oak, Newton, Orange, Refugio, Starr, Tyler, Victoria, Washington, Webb, Wharton, and Willacy |
| Region 7 – Texas Coastal and South Plain Counties |
| Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Nueces, San Patricio, and Waller |

For each of the identified survey population regions, a dual-frame sample was employed, whereby approximately 60 percent of the respondents were contacted via landline phone and 40 percent via cellular phone. Individuals in these areas were interviewed between the second week of November 2011 and the first week of April 2012. Once a household was contacted, informed consent was obtained by asking to

speaking with a person 18 years of age or older and randomly who had either the last or next birthday. Attempts to contact households were made eight times before being retired and replaced. Each of the respondents were then told that should they participate, all of their responses would be kept confidential, after which any identifying information would be stripped away from the dataset as quickly as possible in order to maintain complete anonymity. A Computer Assisted Telephone Interviewing System was used to collect the data.

Sample Population

The respondent sample in *Enhancing the Coastal IQ Survey* represents the civilian, non-institutionalized adult population over the age of 18 in the targeted survey area. Households were selected using an enhanced stratified random digit dialing (RDD) sampling design that was obtained from Survey Sampling International, Inc., including those individuals with unlisted numbers. Of the 75,000 RDD-derived numbers dialed for the survey: 37,333 were determined inappropriate for the sampling frame as a result of disconnected numbers, business and unintended cellular phones or fax machines, respondent was under the age of 18 years, and/or respondent resides outside of targeted area; 25,166 numbers were not reached for an interview because of no answer, busy signal, and/or answering machine or voicemail after eight attempts; 6,959 refused to accept the phone call prior to expressing the purpose of the study while 169 refused during the interview; 270 were callbacks that could not be completed during the time frame for this study or were interviews that prematurely ended; 1,958 could not participate because of a communication or language problem and/or health complication; 103 were absent from the home for the duration of this study; and 213 were unused

numbers. These dispositions codes resulted in 10,227 total eligible numbers, 39,394 total ineligible numbers, and 25,379 total unknown numbers. See Table 2.

Table 2 Expanded Disposition Codes

| Expanded Disposition Codes | Number | Total |
|--|---------------------|--------|
| Completed survey | Retired | 2,829 |
| Refused during introduction | Retired | 991 |
| Refused during interview | Retired | 169 |
| Hung up prior to introduction, person hostile | Retired | 332 |
| Hung up prior to introduction, person agitated | Retired | 2,820 |
| Hung up prior to introduction, person ambivalent | Returned to queue | 695 |
| Hung up prior to introduction, person friendly | Returned to queue | 1,080 |
| Immediate hang-up | Returned to queue | 1,041 |
| Requested callback, no start | Returned to queue | 181 |
| Requested callback, during screening | Returned to queue | 33 |
| Requested callback, during interview | Returned to queue | 56 |
| No answer | Returned to queue | 9,328 |
| Busy signal | Returned to queue | 729 |
| Answering machine / voicemail | Returned to queue | 15,109 |
| Communication or language problem | Retired | 1,576 |
| Unable to participate due to a health problem | Retired | 382 |
| Out of town for duration of study | Retired | 103 |
| Not in correct county or parish | Retired | 578 |
| Under 18 years of age | Retired | 148 |
| Not a home phone | Retired | 2,030 |
| Disconnected number / fax tone | Retired | 34,577 |
| Unused number | Never entered queue | 213 |

Cooperation and Response Rates

The cooperation and response rates serve as indicators for survey quality as a measure of demographic representativeness. Rates are calculated based on collapsed disposition codes to classify numbers. See Table 3.

Table 3 Collapsed Disposition Codes

| Disposition | Total |
|---------------------------------|--------|
| Completed | 2,829 |
| Refusals | 1,160 |
| Hang Ups | 5,968 |
| Bad Numbers | 37,436 |
| Unknown | 25,379 |
| Incomplete Callbacks | 270 |
| Communication or Health Problem | 1,958 |

Cooperation rates are based on the number of completed surveys and the number of survey refusals. Of the eligible respondents successfully contacted for *ECIQS*, 2,829 respondents completed the survey, while 1,160 people refused to participate, for a cooperation rate of 70.9 percent.

$$\text{Cooperation rate formula} = \text{completed}/(\text{completed}+\text{refusals}) \quad (1)$$

$$\text{Calculation} \rightarrow 2,829/(2,829+1,160) = 70.9 \text{ percent} \quad (2)$$

Response rates are based on the number of completed surveys and the amount of eligible numbers. Whereas ineligible numbers include the amount of bad numbers plus numbers associated with communication or health problems, eligible numbers include the amount of number for completed surveys plus the numbers for refusals, hang ups, and incomplete callbacks. Again, of the eligible respondents successfully contacted for *ECIQS*, 2,829 respondents completed the survey among 10,227 eligible numbers, for an overall response rate of 27.7 percent.

$$\text{Response rate formula} = \text{completed}/(\text{eligible numbers}) \quad (3)$$

$$\text{Calculation} \rightarrow 2,829/(10,227) = 27.7 \text{ percent} \quad (4)$$

Data Weighting, Validity, and Reliability

Sampling techniques employing random-digit dialing can often result in biased estimates since telephone coverage is a non-random event. That is, telephone responses may vary by demographic factors resulting in key differences between the study population parameter and its estimate that it is actually non-random. Often times, this sample bias often leads to an under-sampling of men, blacks, the elderly, and the young. To address this possible bias and achieve a representative sample of adults in *Enhancing the Coastal IQ Survey*, the survey data were weighted according to the US Census Bureau's American Community Survey five-year estimates for 2005-2009 figures, the most readily available at the time, to adjust for deviations in race, gender, and age to obtain a representative sample. This resulted in a new number of completed surveys from the original N Size of 2,829 to the weighted N Size of 2,558. See Table 4 and Appendix C.

Table 4 Survey Population Characteristics

| Characteristics | Original N Size | Original Percent | Weighted N Size | Weighted Percent |
|----------------------------|-----------------|------------------|-----------------|------------------|
| State | | | | |
| Alabama | 403 | 14.2 | 285 | 11.1 |
| Florida | 813 | 28.7 | 645 | 25.2 |
| Louisiana | 403 | 14.2 | 323 | 12.6 |
| Mississippi | 403 | 14.2 | 277 | 10.8 |
| Texas | 807 | 28.5 | 1,028 | 40.2 |
| Race | | | | |
| White | 2,075 | 75.6 | 1,322 | 53.5 |
| Black | 481 | 17.5 | 276 | 11.1 |
| Other | 188 | 6.9 | 875 | 35.4 |
| Gender | | | | |
| Male | 1,162 | 41.1 | 1,205 | 47.2 |
| Female | 1,664 | 58.8 | 1,350 | 52.8 |
| Age | | | | |
| 18-24 Years | 195 | 7.3 | 334 | 13.9 |
| 25-44 Years | 565 | 21.1 | 781 | 32.5 |
| 45-64 Years | 1076 | 40.3 | 879 | 36.6 |
| 65+ Years | 837 | 31.3 | 408 | 17.0 |
| Education | | | | |
| Less than High School | 302 | 10.8 | 325 | 12.9 |
| High School Graduate | 874 | 31.4 | 770 | 30.6 |
| Some College | 615 | 22.1 | 570 | 22.7 |
| College Graduate and Above | 996 | 35.7 | 850 | 33.8 |

It is also important to note response rates for telephone surveying techniques are on a downward trend in general, as many individuals, particularly the young, now only have cellular phones rather than landline phones. Though this survey tried to combat this issue by incorporating a 60/40 percent mix of landline phones and cellular phones, the disposition codes that are used to calculate the response, refusal, and cooperation rates were collapsed altogether to provide a single set of rates, rather than separate rates. Therefore, if each of the set of rates had been separated, it may have likely increased both the response and cooperation rates, decreasing the refusal rate.

Further, the sampling error for the total data set, for dichotomous response options with a 50/50 split, is no larger than ± 2 percent, a 95 percent confidence level. Further, system missing codes within the dataset indicate that a question was not asked of a given respondent because it did not apply. Additionally, since the data underlying this study was collected as primary data with specific categorical responses, there was no need to eliminate outliers.

Variable Operationalization

The study relies on one dependent variable, three independent variables, one intervening variable, and four control variables. In order to condense response categories and have enough people to analyze, variables were recoded into sets of categorical information based on items from the survey questionnaire while all others or system missing codes were not included.

The dependent, nominal variable of disaster responsibility was based on the survey question “Following a disaster, who should assume the majority of the responsibility for taking care of victims and their families,” with the response categories of: 1) victims themselves, 2) privately funded organizations such as the Red Cross, Salvation Army, churches, etc., 3) government agencies such as the Federal Emergency Management Agency, 4) non-profit organizations, 5) combination / shared responsibility, and 6) other with specification. The variable was recoded into: 1) victims themselves, 2) privately funded organizations, 3) government agencies, and 4) non-profit organizations.

This process was completed for the independent variables of quality of life, community involvement, and trust in government as well. The ordinal variable of quality of life was based on the survey question “How would you rate your quality of life,” with

the response categories of: 1) excellent, 2) good, 3) fair, and 4) poor. The variable was recoded into: 1) excellent/good, 2) fair, and 3) poor, given that excellent and good are both positive response, fair is neutral or ambivalent, and poor is negative. The ordinal variable of community involvement was based on the survey question “How active would you say you are in your community, such as in local government or volunteer organizations,” with the response categories of: 1) very active, 2) somewhat active, 3) neither active nor inactive, 4) somewhat inactive, and 5) very inactive. The variable was recoded into: 1) active, 2) neither active nor inactive, and 3) inactive. The ordinal variable of trust in government was based on the survey question “In general, how often do you trust the government to do what is right,” with the response categories of: 1) almost always, 2) most of the time, 3) some of the time, 4) rarely, and 5) never. The variable was recoded into: 1) always/most of the time, 2) sometimes, and 3) rarely/never, given that almost always and most of the time are both positive responses, some of the time is neutral or ambivalent, and rarely or never are negative.

The intervening variable of disaster impact was based in the survey question “On a scale of 1 to 5, with 1 being no impact and 5 being the highest impact, how much of an impact do you think the oil spill had on you,” with the response category as the exact number. Since the scale began with one for no impact, the variable was recoded into: 1) one to three having a no or a low impact, 2) four having a medium impact, and 3) five having a high impact.

Finally, this process was also conducted for the control variables of race, education, income, and ideology. The nominal variable of race was based on the survey question ““What is your race,” with the response categories of: 1) white or Caucasian, 2)

black, 3) American Indian or Native Alaskan, 3) Asian, 4) Native Hawaiian or other Pacific Islander, 5) Respondent indicates multi-racial, and 6) indicates some other race. The variable was recoded into: 1) white, 2) black, and 3) other. The ordinal variable of education was based on the survey question “What was the last grade in school you completed,” with the response categories of: 1) grades 11th or less , 2) completed high school or 12th grade equivalent, 3) some college, 4) completed college , and 5) some graduate work. The variable was recoded into: 1) less than high school, 2) high school graduate, 3) some college, and 4) college graduate and beyond. The interval variable of income was based on the survey question “I am going to read some income categories, stop me when I get to the one that best describes your total 2010 household income from all sources before taxes,” with the response categories of: 1) below \$20,000, 2) \$20,000 to \$50,000, 3) \$50,000 to \$75,000, 4) \$75,000 to \$100,000, 5) \$100,000 to \$125,000, 6) \$125,000 to \$150,000, 7) \$150,000 to \$175,000, 8) \$175,000 to \$200,000, and 9) \$200,000 and above. The variable was recoded into: 1) below \$20,000, 2) \$20,000 to \$50,000, and 3) above \$50,000. The ordinal variable of ideology was based on the survey question “What do you consider to be your political ideology,” with the response categories of: 1) very liberal, 2) somewhat liberal, 3) moderate, 4) somewhat conservative, and 5) very conservative. The variable was recoded into: 1) liberal, 2) moderate, and 3) conservative.

CHAPTER V

RESULTS

Descriptive Statistics

Population research is exploratory in nature. In order to quantitatively summarize features of the sample as a collection of information, descriptive statistics were ran to measure central tendency and dispersion among all variables. For central tendency, the mode, median, and mean were calculated to respectively determine the category with the greatest number of cases, the category with the middle case, and the average score of all cases. For dispersion, the range, standard deviation, and variance were calculated to determine the distance or how divided or united the case scores were.

For the dependent variable disaster responsibility, the mode is government agencies. For the independent variable quality of life, the mode is excellent/good. For the independent variable community involvement, the mode is active. For the independent variable trust in government, the mode is some of the time. For the control variable race, the mode is white. For the control variable education, the mode is college graduate and above. For the control variable income, the mode is \$20,000 to \$50,000. For the control variable ideology, the mode is very or somewhat conservative. For the intervening variable disaster impact, the mode is no or a low impact. See Table 5.

Table 5 Variable Descriptive Statistics

| Variable | N Size | Mode | Median | Mean | Range | Variance | Standard Deviation |
|-------------------------|-----------|------|--------|--------|-------|----------|-----------------------|
| Dependent | | | | | | | |
| Disaster Responsibility | 1,736 | 3.00 | 3.0000 | 2.2746 | 3.00 | .917 | .95736 |
| Independent | | | | | | | |
| Quality of Life | 2,536 | 1.00 | 1.0000 | 1.2310 | 2.00 | .238 | .48775 |
| Community Involvement | 2,545 | 1.00 | 1.0000 | 1.9042 | 2.00 | .922 | .95999 |
| Trust in Government | 2,481 | 2.00 | 2.0000 | 2.0286 | 2.00 | .607 | .77878 |
| Intervening | | | | | | | |
| Disaster Impact | 2,458 | 1.00 | 1.0000 | 1.3576 | 2.00 | .466 | .68273 |
| Control | | | | | | | |
| Race | 2,473 | 1.00 | 1.0000 | 1.8192 | 2.00 | .856 | .92533 |
| Education | 2,515 | 4.00 | 3.0000 | 2.7735 | 3.00 | 1.110 | 1.05347 |
| Income | 1,866 | 3.00 | 2.0000 | 2.1774 | 2.00 | .722 | .85000 |
| Ideology | 2,261 | 3.00 | 3.0000 | 2.2915 | 2.00 | .643 | .80158 |

Frequency Distributions

In order to organize the interpretation of data, survey items are often gauged on the degree of societal attachment or cultural support among respondents. As such, the higher the percentage endorsement of a social climate item, the more likely that item will become part of the social fabric of the population segment surveyed. Items are universally accepted when they are fully supported and accepted (85-100 percent of respondents); predominantly accepted when they are mostly supported but there is still a small number of people who reject them (65-84 percent of respondents); contested when the public is divided and opinions and beliefs are very different (35-64 percent of respondents); and marginal when they are supported by only a small share of people (0-34 percent of respondents). Frequency distributions were, therefore, examined among the set of dependent, independent, and intervening variables, according to the schemata. See Table 6.

Table 6 Heuristic Frequency Distributions

| | |
|------------------------------|--|
| Quality of Life | |
| Predominant 65-84 Percent | ▪ Rate their quality of life as excellent or good (79.9 percent) |
| Community Involvement | |
| Contested 35-64 Percent | ▪ Are very or somewhat active in their community, such as in local government or volunteer organizations (51.3 percent) |
| Trust in Government | |
| Marginal 0-34 Percent | ▪ Rarely or never trust government, in general, to do what is right (31.8 percent) |
| Disaster Impact | |
| Predominant 65-84 Percent | ▪ Indicated that the oil spill had no or a low impact (levels 1-3) on them (76.1 percent) |
| Disaster Responsibility | |
| Marginal 0-34 Percent | ▪ Find that following a disaster, the victims themselves should assume the majority of the responsibility for taking care of victims and their families (30.1 percent) |

Of all the respondents surveyed, 79.9 percent rated their quality of life as excellent or good. Among those who rated their quality of life as excellent or good, this was statistically significant at the <.05 level for whites (56.8 percent), college graduates and above (38.8 percent), and those who earn above \$50,000 per year (52.6 percent). See Table 7.

Table 7 Variable Summary Statistic for Quality of Life

| "How would you rate your quality of life? Would you say?" | | | | | |
|--|--------|----------------------|------|------|-----------------|
| (Percentage responding by all people surveyed by column, N-2536) | | | | | |
| Characteristic | N Size | Ex-cel-lent/ Good | Fair | Poor | Chi / Gamma |
| Total | | 79.9 | 17.1 | 3.0 | |
| Race | | | | | |
| White | 1316 | 56.8 | 40.1 | 47.8 | .000 / .229 |
| Black | 273 | 10.0 | 15.2 | 18.8 | |
| Other | 862 | 33.2 | 44.7 | 33.3 | |
| Education | | | | | |
| Less than High School | 319 | 10.0 | 21.7 | 35.6 | .000 / -.451 |
| High School Graduate | 764 | 27.8 | 42.4 | 37.0 | |
| Some College | 569 | 23.3 | 21.1 | 17.8 | |
| College Graduate and Above | 843 | 38.8 | 14.7 | 9.6 | |
| Income | | | | | |
| Below \$20,000 | 533 | 23.1 | 44.6 | 85.2 | .000 / -.513 |
| \$20,000 to \$50,000 | 459 | 24.3 | 29.5 | 7.4 | |
| Above \$50,000 | 862 | 52.6 | 25.9 | 7.4 | |
| Ideology | | | | | |
| Liberal | 468 | 21.4 | 22.4 | 24.2 | .826 / -.047 |
| Moderate | 615 | 27.1 | 29.2 | 27.4 | |
| Conservative | 1141 | 51.5 | 48.4 | 48.4 | |

Note: The tests do not include those who responded "Don't know" or those who "Refused" to answer the question

In terms of how community involvement of all the respondents surveyed, 51.3 percent indicated that they were active in their community. Among those who are active in their community, this was statistically significant at the <.05 level for whites (51.7 percent), college graduates and above (39.8 percent), those who earn above \$50,000 per year (51.5 percent), and conservatives (54.2 percent). See Table 8.

Table 8 Variable Summary Statistic for Community Involvement

| "How active would you say you are in your community, such as in local government or volunteer organizations? Are you:" | | | | | |
|--|--------|--------|-----------------------------|----------|-----------------|
| (Percentage responding by all people surveyed by column, N-2545) | | | | | |
| Characteristic | N Size | Active | Neither Active nor Inactive | Inactive | Chi / Gamma |
| Total | | 51.3 | 7.0 | 41.7 | |
| Race | | | | | |
| White | 1311 | 51.7 | 65.1 | 53.2 | .001 / -.015 |
| Black | 275 | 12.0 | 13.6 | 9.7 | |
| Other | 875 | 36.2 | 21.3 | 37.1 | |
| Education | | | | | |
| Less than High School | 324 | 9.3 | 11.4 | 17.7 | .000 / -.221 |
| High School Graduate | 765 | 27.7 | 36.0 | 33.1 | |
| Some College | 569 | 23.2 | 23.4 | 22.0 | |
| College Graduate and Above | 846 | 39.8 | 29.1 | 27.2 | |
| Income | | | | | |
| Below \$20,000 | 534 | 23.6 | 35.4 | 34.4 | .000 / -.181 |
| \$20,000 to \$50,000 | 459 | 25.0 | 24.6 | 24.3 | |
| Above \$50,000 | 867 | 51.5 | 40.0 | 41.3 | |
| Ideology | | | | | |
| Liberal | 492 | 20.2 | 16.6 | 24.9 | .002 / -.117 |
| Moderate | 614 | 25.5 | 31.9 | 28.7 | |
| Conservative | 1149 | 54.2 | 51.5 | 46.4 | |

Note: The tests do not include those who responded "Don't know" or those who "Refused" to answer the question.

As far as trust in government for all respondents surveyed, 31.8 percent rarely trust the government. Among those who rarely trust the government, this was statistically significant at the <.05 level for whites (63.9 percent) and conservatives (60.3 percent), and education and income also played a role. See Table 9.

Table 9 Variable Summary Statistic for Trust in Government

| "In general, how often do you trust the government to do what is right? Would you say:" | | | | | |
|---|--------|------------------|------------|--------|-----------------|
| (Percentage responding by all people surveyed by column, N-2481) | | | | | |
| Characteristic | N Size | Most of the Time | Some-times | Rarely | Chi / Gamma |
| Total | | 28.9 | 39.3 | 31.8 | |
| Race | | | | | |
| White | 1279 | 42.5 | 52.5 | 63.9 | .000 / -.216 |
| Black | 268 | 15.8 | 11.0 | 7.1 | |
| Other | 858 | 41.8 | 36.5 | 29.0 | |
| Education | | | | | |
| Less than High School | 313 | 11.5 | 12.1 | 14.8 | .017 / -.071 |
| High School Graduate | 748 | 31.5 | 28.5 | 32.4 | |
| Some College | 555 | 20.3 | 24.0 | 23.2 | |
| College Graduate and Above | 829 | 36.7 | 35.3 | 29.5 | |
| Income | | | | | |
| Below \$20,000 | 520 | 28.5 | 26.0 | 31.5 | .001 / -.074 |
| \$20,000 to \$50,000 | 453 | 19.6 | 28.7 | 24.7 | |
| Above \$50,000 | 854 | 51.9 | 45.3 | 43.8 | |
| Ideology | | | | | |
| Liberal | 481 | 23.0 | 24.1 | 17.4 | .000 / .154 |
| Moderate | 611 | 32.3 | 28.1 | 22.4 | |
| Conservative | 1125 | 44.7 | 47.8 | 60.3 | |

Note: The tests do not include those who responded "Don't know" or those who "Refused" to answer the question.

Of all the respondents surveyed and regarding disaster impacts, 76.1 percent indicated that the disaster had no or low impact upon them. Among those who indicated that the disaster had a no or a low impact upon them, this was statistically significant at the <.05 level for whites (57.4 percent), college graduates and above (35.9 percent), those who earn above \$50,000 per year (48.7 percent), and conservatives (48.6 percent). See Table 10.

Table 10 Variable Summary Statistic for Disaster Impact

| “On a scale of 1 to 5, with 1 being no impact and 5 being the highest impact, how much of an impact do you think the oil spill had on you?” | | | | | |
|---|--------|-----------|--------|------|-----------------|
| (Percentage responding by all people surveyed by column, N-2458) | | | | | |
| Characteristic | N Size | No or Low | Medium | High | Chi / Gamma |
| Total | | 76.1 | 12.1 | 11.8 | |
| Race | | | | | |
| White | 1282 | 57.4 | 42.1 | 41.5 | .000 / .249 |
| Black | 268 | 10.7 | 10.0 | 16.0 | |
| Other | 838 | 31.9 | 47.9 | 42.6 | |
| Education | | | | | |
| Less than High School | 305 | 11.9 | 9.1 | 20.5 | .000 / -.085 |
| High School Graduate | 729 | 30.2 | 30.3 | 28.1 | |
| Some College | 561 | 22.0 | 29.0 | 23.6 | |
| College Graduate and Above | 837 | 35.9 | 31.6 | 27.8 | |
| Income | | | | | |
| Below \$20,000 | 511 | 25.5 | 30.7 | 39.9 | .000 / -.157 |
| \$20,000 to \$50,000 | 456 | 25.8 | 20.2 | 24.5 | |
| Above \$50,000 | 860 | 48.7 | 49.1 | 35.6 | |
| Ideology | | | | | |
| Liberal | 483 | 22.4 | 23.4 | 16.9 | .000 / .140 |
| Moderate | 603 | 29.0 | 25.2 | 18.5 | |
| Conservative | 1122 | 48.6 | 51.5 | 64.6 | |

Note: The tests do not include those who responded “Don’t know” or those who “Refused” to answer the question.

Finally, for disaster responsibility of all the respondents surveyed, 30.1 percent indicated that victims themselves should assume a majority of the responsibility for taking care of victims and their families following a disaster. Among those who indicated that victims themselves should assume a majority of the responsibility for taking care of victims and their families following a disaster, this was statistically significant at the <.05 level for whites (72.9 percent), college graduates and above (40.5 percent), those who earn above \$50,000 per year (58.9 percent), and conservatives (60.1 percent). See Table 11.

Table 11 Variable Summary Statistic for Disaster Responsibility

| "Following a disaster, who should assume the majority of the responsibility for taking care of victims and their families?" | | | | | | |
|---|--------|--------------------|-----------------------|---------------------|--------------------------|-----------------|
| (Percentage responding by all people surveyed by column, N-1736) | | | | | | |
| Characteristic | N Size | Victims Themselves | Private Organizations | Government Agencies | Non-profit Organizations | Chi / Gamma |
| Total | | 30.1 | 18.1 | 46.1 | 5.7 | |
| Race | | | | | | |
| White | 870 | 72.9 | 52.8 | 39.8 | 39.1 | .000 / .392 |
| Black | 198 | 6.4 | 13.4 | 15.4 | 6.5 | |
| Other | 603 | 20.6 | 33.9 | 44.8 | 54.3 | |
| Education | | | | | | |
| Less than High School | 217 | 8.3 | 15.4 | 14.3 | 14.6 | .000 / -.138 |
| High School Graduate | 543 | 26.6 | 35.4 | 33.5 | 35.4 | |
| Some College | 374 | 24.6 | 18.0 | 21.2 | 27.1 | |
| College Graduate and Above | 569 | 40.5 | 31.2 | 31.0 | 22.9 | |
| Income | | | | | | |
| Below \$20,000 | 339 | 19.6 | 29.5 | 30.0 | 18.5 | .000 / -.152 |
| \$20,000 to \$50,000 | 331 | 21.4 | 28.6 | 26.2 | 37.0 | |
| Above \$50,000 | 619 | 58.9 | 41.9 | 43.8 | 44.4 | |
| Ideology | | | | | | |
| Liberal | 360 | 13.7 | 24.1 | 29.4 | 27.0 | .000 / -.238 |
| Moderate | 419 | 26.2 | 25.5 | 27.2 | 38.2 | |
| Conservative | 760 | 60.1 | 50.4 | 43.4 | 34.8 | |

Note: The tests do not include those who responded "Don't know" or those who "Refused" to answer the question.

Bivariate Analysis

After classifying the levels of acceptance among certain variables, it is necessary to determine which demographic and attitudinal characteristics significantly affect respondent positions. Bivariate analysis was conducted to determine the empirical relationship between two variables by testing each of the hypotheses. The analysis was conducted in the following manner: 1) control variable amongst each other variables, 2) control variables across independent variables, 3) independent variables across the

intervening variable, 4) independent variables across the dependent variable, and 5) the intervening variable across the dependent variable.

Race on Education and Income

Control Hypothesis 1 of the model states “Individuals who are white are more likely to have higher levels of education and higher levels of income, as compared to individuals who are black.”

For race and education level, 37.9 percent of whites indicated being college graduates and above, compared to 24.9 of blacks. This percentage difference in race among college graduates and above is 13.0 percent. The Chi-squared is significant at the <.001 level, indicating that this relationship between race and education can be generalized to the entire survey population. See Table 12.

Table 12 Impact of Race on Education

| Education | Race | | |
|----------------------------|---------|-------|-------|
| | White | Black | Other |
| Less than High School | 9.1 | 13.6 | 18.8 |
| High School Graduate | 29.2 | 39.6 | 30.0 |
| Some College | 23.8 | 22.0 | 21.4 |
| College Graduate and Above | 37.9 | 24.9 | 29.1 |
| Totals | ~ 100 ~ | | |
| N = 2,454 | 1,309 | 273 | 872 |
| <i>Chi-squared .001</i> | | | |

For race and income level, 53.3 percent of whites indicated earning above \$50,000 per year, compared to 26.7 of blacks. This percentage difference between races among those who earn above \$50,000 per year is 26.6 percent. The Chi-squared is

significant at the $<.001$ level, indicating that this relationship between race and income can be generalized to the entire survey population. See Table 13.

Table 13 Impact of Race on Income

| Income | Race | | |
|-------------------------|---------|-------|-------|
| | White | Black | Other |
| Below \$20,000 | 22.5 | 40.0 | 34.3 |
| \$20,000 to \$50,000 | 24.2 | 33.3 | 23.2 |
| Above \$50,000 | 53.3 | 26.7 | 42.5 |
| Totals | ~ 100 ~ | | |
| N = 1,841 | 975 | 210 | 656 |
| <i>Chi-squared .001</i> | | | |

So, in regards to the impact of race on education and income, the Control Hypothesis 1 that “Individuals who are white are more likely to have higher levels of education and higher levels of income, as compared to individuals who are black” is upheld.

Race on Ideology

Control Hypothesis 2 of the model states “Individuals who are white more likely to have a conservative ideology, as compared to individuals who are black.”

For race and ideology, 55.7 percent of whites indicated being conservatives, compared to 41.4 of blacks. This percentage difference between races in conservative ideology is 14.3 percent. The Chi-squared is significant at the $<.001$ level, indicating that this relationship between race and education can be generalized to the entire survey population although. See Table 14.

Table 14 Impact of Race on Ideology

| Income | Race | | |
|-------------------------|---------|-------|-------|
| | White | Black | Other |
| Liberal | 17.2 | 30.5 | 26.2 |
| Moderate | 27.1 | 28.1 | 27.4 |
| Conservative | 55.7 | 41.4 | 46.5 |
| Totals | ~ 100 ~ | | |
| N = 2,207 | 1183 | 249 | 775 |
| <i>Chi-squared .000</i> | | | |

So, in regards to the impact of race on ideology, the Control Hypothesis 2 that “Individuals who are white more likely to have a conservative ideology, as compared to individuals who are black” is upheld.

Education and Income on Ideology

Control Hypothesis 3 of the model states “Individuals with higher levels of education and higher levels of income are more likely to have a conservative ideology, as compared to individuals with lower levels of education and lower levels of income.”

For education level and ideology, 51.8 percent of college graduates and above indicated being conservative, compared to 46.1 of those with less than high school. This percentage difference between education for conservative ideology is 5.7 percent, and the Gamma value reflecting the minute relationship between the variables of education and ideology is only .012. The Chi-squared is significant at the <.025 level, indicating that this small relationship between education and ideology can be generalized to the entire survey population. See Table 15.

Table 15 Impact of Education on Ideology

| Ideology | Education | | | |
|--|-----------------------|----------------------|--------------|----------------------------|
| | Less than High School | High School Graduate | Some College | College Graduate and Above |
| Liberal | 21.7 | 20.6 | 26.7 | 19.7 |
| Moderate | 32.2 | 25.0 | 25.6 | 28.5 |
| Conservative | 46.1 | 54.5 | 47.7 | 51.8 |
| Totals | ~ 100 ~ | | | |
| N = 2,249 | 267 | 661 | 520 | 801 |
| <i>Chi-squared .011 Gamma value .012</i> | | | | |

For income level and ideology, 56.3 percent of those who earned above \$50,000 per year indicated being conservative, compared to 50.3 who earned below \$20,000. This percentage difference between income levels with conservative ideology is 6.0 percent, and the Gamma value reflecting the relationship between the variables of income and ideology is .125. The Chi-squared is significant at the <.001 level, indicating that this relationship between income and ideology can be generalized to the entire survey population. See Table 16.

Table 16 Impact of Income on Ideology

| Ideology | Income | | |
|--|----------------|-------------------|----------------|
| | Below \$20,000 | \$20,000-\$50,000 | Above \$50,000 |
| Liberal | 24.2 | 27.5 | 16.3 |
| Moderate | 25.5 | 27.9 | 27.4 |
| Conservative | 50.3 | 44.6 | 56.3 |
| Totals | ~ 100 ~ | | |
| N = 1,702 | 459 | 426 | 817 |
| <i>Chi-squared .000 Gamma value .125</i> | | | |

So, in regards to the impact of education and income on ideology, the Control Hypothesis 3 that “Individuals with higher levels of education and higher levels of income are more likely to have a conservative ideology, as compared to individuals with lower levels of education and lower levels of income” is upheld.

Education and Income on Quality of Life

Control Hypothesis 4 of the model states “Individuals with higher levels of education and higher levels of income are more likely to have a higher quality of life, as compared to individuals with lower levels of education and lower levels of income.”

For education and quality of life, 91.7 percent of college graduates and above indicated having a higher quality of life, compared to 62.7 percent of those with less than high school. This percentage difference between education levels in excellent quality of life is 29.0 percent, and the Gamma value reflecting the relationship between the variables of education and quality of life is -.451. The Chi-squared is significant at the <.001 level, indicating that this relationship between education and quality of life can be generalized to the entire survey population. See Table 17.

Table 17 Impact of Education on Quality of Life

| Quality of Life | Education | | | |
|---|-----------------------|----------------------|--------------|----------------------------|
| | Less than High School | High School Graduate | Some College | College Graduate and Above |
| Excellent | 62.7 | 72.6 | 81.7 | 91.7 |
| Fair | 29.2 | 23.8 | 16.0 | 7.5 |
| Poor | 8.2 | 3.5 | 2.3 | 0.8 |
| Totals | ~ 100 ~ | | | |
| N = 2,495 | 319 | 764 | 569 | 843 |
| <i>Chi-squared .000 Gamma value -.451</i> | | | | |

For income and quality of life, 89.6 percent of those who earned above \$50,000 per year indicated having a higher quality of life, compared to 63.6 of those who earned below \$20,000 per year. This percentage difference between income levels in excellent quality of life is 26.0 percent, and the Gamma value reflecting the relationship between the variables of income and quality of life is -.513. The Chi-squared is significant at the <.001 level, indicating that this relationship between income and quality of life can be generalized to the entire survey population. See Table 18.

Table 18 Impact of Income on Quality of Life

| Quality of Life | Income | | |
|---|----------------|-------------------|----------------|
| | Below \$20,000 | \$20,000-\$50,000 | Above \$50,000 |
| Excellent | 63.6 | 77.8 | 89.6 |
| Fair | 27.8 | 21.4 | 10.0 |
| Poor | 8.6 | 0.9 | 0.5 |
| Totals | ~ 100 ~ | | |
| N = 1,854 | 533 | 459 | 862 |
| <i>Chi-squared .000 Gamma value -.513</i> | | | |

So, in regards to the impact of education and income on quality of life, the Control Hypothesis 4 that “Individuals with higher levels of education and higher levels of income are more likely to have a higher quality of life, as compared to individuals with lower levels of education and lower levels of income” is upheld.

Education and Income on Trust in Government

Control Hypothesis 5 of the model states “Individuals with higher levels of education and higher levels of income are less likely to trust the government, as compared to individuals with lower levels of education and lower levels of income.”

For education and trust in government, 27.6 percent of college graduates and above indicated that they rarely trust the government, compared to 36.7 percent of those with less than high school. This percentage difference in education among those who rarely trust the government is 9.1 percent, and the Gamma value reflecting the relationship between the variables of education and quality of life is $-.071$. The Chi-squared is significant at the $<.025$ level, indicating that this relationship between education and trust in government can be generalized to the entire survey population, although the direction of the relationship is opposite from what was hypothesized. See Table 19.

Table 19 Impact of Education on Trust in Government

| Trust in Government | Education | | | |
|---|-----------------------|----------------------|--------------|----------------------------|
| | Less than High School | High School Graduate | Some College | College Graduate and Above |
| Most of the Time | 25.9 | 29.7 | 25.8 | 31.2 |
| Sometimes | 37.4 | 36.8 | 41.8 | 41.1 |
| Rarely | 36.7 | 33.6 | 32.4 | 27.6 |
| Totals | ~ 100 ~ | | | |
| N = 2,445 | 313 | 748 | 555 | 829 |
| <i>Chi-squared .017 Gamma value -.071</i> | | | | |

For income and trust in government, 29.5 percent of those who earned above \$50,000 per year indicated that they rarely trust the government, compared to 34.8 of those who earned below \$20,000 per year. This percentage difference in income among those who rarely trust the government is 5.3 percent, and the Gamma value reflecting the relationship between the variables of income and trust in government is $-.074$. The Chi-squared is significant at the $<.001$ level, indicating that this relationship between income

and trust in government can be generalized to the entire survey population, although the direction of the relationship is opposite from what was hypothesized. See Table 20.

Table 20 Impact of Income on Trust in Government

| Trust in Government | Income | | |
|---|----------------|----------------------|----------------|
| | Below \$20,000 | \$20,000 to \$50,000 | Above \$50,000 |
| Most of the Time | 29.0 | 23.0 | 32.2 |
| Sometimes | 36.2 | 45.7 | 38.3 |
| Rarely | 34.8 | 31.3 | 29.5 |
| Totals | ~ 100 ~ | | |
| N = 1,827 | 520 | 453 | 854 |
| <i>Chi-squared .001 Gamma value -.074</i> | | | |

So, in regards to the impact of education and income on trust in government, the Control Hypothesis 5 that “Individuals with higher levels of education and higher levels of income are less likely to trust the government, as compared to individuals with lower levels of education and lower levels of income” is not upheld.

Ideology on Quality of Life

Control Hypothesis 6 of the model states “Individuals who have a conservative ideology are more likely to have a higher quality of life, as compared to individuals who have a liberal ideology.”

For ideology and quality of life, 81.2 percent of conservatives indicated having a higher quality of life, compared to 79.4 of liberals. This percentage difference in ideology among excellent quality of life is 1.8 percent, and the Gamma value reflecting the relationship between the variables of ideology and quality of life is -.047. The Chi-squared is not significant at the <.050 level, indicating that this relationship between

ideology and quality of life cannot be generalized to the entire survey population. See Table 21.

Table 21 Impact of Ideology on Quality of Life

| Quality of Life | Ideology | | |
|---|----------|----------|--------------|
| | Liberal | Moderate | Conservative |
| Excellent | 79.4 | 79.2 | 81.2 |
| Fair | 17.5 | 18.0 | 16.1 |
| Poor | 3.1 | 2.8 | 2.6 |
| Totals | ~ 100 ~ | | |
| N = 2,242 | 486 | 615 | 1,141 |
| <i>Chi-squared .826 Gamma value -.047</i> | | | |

So, in regards to the impact of ideology on quality of life, the Control Hypothesis 6 that “Individuals who have a conservative ideology are more likely to have a higher quality of life, as compared to individuals who have a liberal ideology” is not upheld.

Ideology on Community Involvement

Control Hypothesis 7 of the model states “Individuals who have a conservative ideology are more likely to be actively involved in their community, as compared to individuals who have a liberal ideology.”

For ideology and community involvement, 56.7 percent of conservatives indicated being active in their community, compared to 49.4 for liberals. This percentage difference in ideology among active community involvement is 7.3 percent, and the Gamma value reflecting the relationship between the variables of ideology and community involvement is -.117. The Chi-squared is significant at the $<.025$ level, indicating that this relationship between ideology and community involvement can be generalized to the entire survey population. See Table 22.

Table 22 Impact of Ideology on Community Involvement

| Community Involvement | Ideology | | |
|---|----------|----------|--------------|
| | Liberal | Moderate | Conservative |
| Active | 49.4 | 50.0 | 56.7 |
| Neither Active nor Inactive | 5.5 | 8.5 | 7.3 |
| Inactive | 45.1 | 41.5 | 35.9 |
| Totals | ~ 100 ~ | | |
| N = 2,255 | 492 | 614 | 1,149 |
| <i>Chi-squared .002 Gamma value -.117</i> | | | |

So, in regards to the impact of ideology on community involvement, the Control Hypothesis 7 that “Individuals who have a conservative ideology are more likely to be actively involved in their community, as compared to individuals who have a liberal ideology” is upheld.

Ideology on Trust in Government

Control Hypothesis 8 of the model states “Individuals who have a conservative ideology are less likely to trust the government, as compared to individuals who have a liberal ideology.”

For ideology and trust in government, 36.4 percent of conservatives indicated that they rarely trust the government, compared to 24.5 for liberals. This percentage difference between ideologies for those who rarely trust the government is 11.9 percent, and the Gamma value reflecting the relationship between the variables of ideology and community involvement is .154. The Chi-squared is significant at the <.001 level, indicating that this relationship between ideology and trust in government can be generalized to the entire survey population. See Table 23.

Table 23 Impact of Ideology on Trust in Government

| Trust in Government | Ideology | | |
|---|----------|----------|--------------|
| | Liberal | Moderate | Conservative |
| Most of the Time | 31.4 | 34.7 | 26.1 |
| Sometimes | 44.1 | 40.4 | 37.4 |
| Rarely | 24.5 | 24.9 | 36.4 |
| Totals | ~ 100 ~ | | |
| N = 2,217 | 481 | 611 | 1,125 |
| <i>Chi-squared < .000 Gamma value .154</i> | | | |

So, in regards to the impact of ideology on trust in government, the Control Hypothesis 8 that “Individuals who have a conservative ideology are less likely to trust the government, as compared to individuals who have a liberal ideology” is upheld.

Quality of Life on Disaster Impact and Disaster Responsibility

Independent Hypothesis 1 of the model states “Individuals with a higher quality of life are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals with a lower quality of life.”

For quality of life level and disaster impact, 78.5 percent of those who rated their quality of life as excellent indicated having no or a low disaster impact, compared to 59.7 of those who rated their quality of life as poor. This percentage difference in quality of life among no or a low disaster impact is 18.8 percent, and the Gamma value reflecting the relationship between the variables of quality of life and disaster impact is .269. The Chi-squared is significant at the <.001 level, indicating that this relationship between quality of life and disaster impact can be generalized to the entire survey population. See Table 24.

Table 24 Impact of Quality of Life on Disaster Impact

| Disaster Impact | Quality of Life | | |
|--|-----------------|------|------|
| | Excellent | Fair | Poor |
| None or Low | 78.5 | 68.1 | 59.7 |
| Medium | 11.3 | 16.5 | 13.9 |
| High | 10.3 | 15.5 | 26.4 |
| Totals | ~ 100 ~ | | |
| N = 2,439 | 1,960 | 407 | 72 |
| <i>Chi-squared .000 Gamma value .269</i> | | | |

So, in regards to the impact of quality of life on disaster impact, the Independent Hypothesis 1 “Individuals with a higher quality of life are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals with a lower quality of life,” is upheld.

Independent Hypothesis 2 of the model states “Individuals with a higher quality of life are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals with a lower quality of life.”

For quality of life level and disaster responsibility, 31.9 percent of those who rated their quality of life as excellent indicated that victims themselves should assume responsibility following a disaster, compared to 22.0 of those who rated their quality of life as fair. This percentage difference between quality of life levels for believing that victims themselves should assume disaster responsibility is 9.9 percent. The Chi-squared is significant at the $<.025$ level, indicating that this relationship between quality of life and disaster responsibility may somewhat be generalized to the entire survey population. The small sample size of those having a poor quality of life limits the ability to generalize about this small group. See Table 25.

Table 25 Impact of Quality of Life on Disaster Responsibility

| Disaster Responsibility | Quality of Life | | |
|-------------------------|-----------------|------|------|
| | Excellent | Fair | Poor |
| Victims Themselves | 31.9 | 22.0 | 34.1 |
| Private Organizations | 18.2 | 16.1 | 19.5 |
| Government Agencies | 44.2 | 56.1 | 39.0 |
| Nonprofit Organizations | 5.7 | 5.9 | 7.3 |
| Totals | ~ 100 ~ | | |
| N = 1,728 | 1382 | 305 | 41 |
| <i>Chi-squared .008</i> | | | |

So, in regards to the impact of quality of life on disaster responsibility, the Independent Hypothesis 2 “Individuals with a higher quality of life are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals with a lower quality of life” is upheld.

Community Involvement on Disaster Impact and Disaster Responsibility

Independent Hypothesis 3 of the model states “Individuals who are actively involved in their community are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals who are not actively involved in their community.”

For community involvement and disaster impact, 74.6 percent of those who are active in their community indicated having no or a low disaster impact, compared to 76.1 of those who are inactive. This percentage difference in community involvement among no or a low disaster impact is 1.5 percent, and the Gamma value reflecting the relationship between the variables of community involvement and disaster impact is -.059. The Chi-squared is not significant at the <.050 level, indicating that this small

relationship between community involvement and disaster impact cannot be generalized to the entire survey population. See Table 26.

Table 26 Impact of Community Involvement on Disaster Impact

| Disaster Impact | Community Involvement | | |
|---|-----------------------|-----------------------------|----------|
| | Active | Neither Active nor Inactive | Inactive |
| None or Low | 74.6 | 80.9 | 76.1 |
| Medium | 12.8 | 11.6 | 11.3 |
| High | 12.6 | 7.5 | 11.6 |
| Totals | ~ 100 ~ | | |
| N = 2,446 | 1,256 | 173 | 1,017 |
| <i>Chi-squared .239 Gamma value -.059</i> | | | |

So, in regards to the impact of community involvement on disaster impact, the Independent Hypothesis 3 “Individuals who are actively involved in their community are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals who are not actively involved in their community” is not upheld.

Independent Hypothesis 4 of the model states “Individuals who are actively involved in their community are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who are not actively involved in their community.”

For community involvement and disaster responsibility, 29.8 percent of those who are active in their community indicated that victims themselves should assume responsibility following a disaster, compared to 30.4 of those who are inactive. This percentage difference between community involvement levels in believing victims themselves should assume disaster responsibility is .6 percent. The Chi-squared is not

significant at the $<.050$ level, indicating that this tiny relationship between community involvement and disaster responsibility cannot be generalized to the entire survey population. See Table 27.

Table 27 Impact of Community Involvement on Disaster Responsibility

| Disaster Responsibility | Community Involvement | | |
|-------------------------|-----------------------|-----------------------------|----------|
| | Active | Neither Active nor Inactive | Inactive |
| Victims Themselves | 29.8 | 30.8 | 30.4 |
| Private Organizations | 17.4 | 28.2 | 17.3 |
| Government Agencies | 47.1 | 38.5 | 46.1 |
| Nonprofit Organizations | 5.7 | 2.6 | 6.3 |
| Totals | ~ 100 ~ | | |
| N = 1,727 | 892 | 117 | 718 |
| <i>Chi-squared .080</i> | | | |

So, in regards to the impact of community involvement on and disaster responsibility, the Independent Hypothesis 4 “Individuals who are actively involved in their community are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who are not actively involved in their community” is not upheld.

Trust in Government on Disaster Impact and Disaster Responsibility

Independent Hypothesis 5 of the model states “Individuals who are less likely to trust the government are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals who are more likely to trust in government.”

For trust in government and disaster impact, 74.0 percent of those who rarely trust the government indicated having no or a low disaster impact, compared to 76.4 of those who most of the time trust the government. This percentage difference in trust in

government among disaster impact is 2.4 percent, and the Gamma value reflecting the relationship between the variables of trust in government and disaster impact is .057. The Chi-squared is significant at the $<.025$ level, indicating that this relationship between trust in government and disaster impact can be generalized to the entire survey population although the direction of the relationship is opposite from what was hypothesized. See Table 28.

Table 28 Impact of Trust in Government on Disaster Impact

| Disaster Impact | Trust in Government | | |
|--|---------------------|-----------|--------|
| | Most of the Time | Sometimes | Rarely |
| None or Low | 76.4 | 77.2 | 74.0 |
| Medium | 13.8 | 11.8 | 10.8 |
| High | 9.8 | 11.0 | 15.2 |
| Totals | ~ 100 ~ | | |
| N = 2,395 | 683 | 955 | 757 |
| <i>Chi-squared .010 Gamma value .057</i> | | | |

So, in regards to the impact of trust in government on disaster impact, the Independent Hypothesis 5 “Individuals who are less likely to trust the government are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals who are more likely to trust in government” is not upheld, as the percentage differences are very small and opposite to what was hypothesized.

Independent Hypothesis 6 of the model states “Individuals who are less likely to trust the government are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who are more likely to trust in government.”

For trust in government and disaster responsibility, 38.3 percent of those who rarely trust the government indicated that victims themselves should assume responsibility following a disaster, compared to 22.6 of those who most of the time trust the government. This percentage difference between trust in government level in those believing victims themselves should assume disaster responsibility is 15.7 percent. The Chi-squared is significant at the $<.001$ level, indicating that this relationship between trust in government and disaster responsibility can be generalized to the entire survey population. See Table 29.

Table 29 Impact of Trust in Government on Disaster Responsibility

| Disaster Responsibility | Trust in Government | | |
|-------------------------|---------------------|-----------|--------|
| | Most of the Time | Sometimes | Rarely |
| Victims Themselves | 22.6 | 28.7 | 38.3 |
| Private Organizations | 14.4 | 20.3 | 19.4 |
| Government Agencies | 56.7 | 45.0 | 37.0 |
| Nonprofit Organizations | 6.3 | 5.9 | 5.3 |
| Totals | ~ 100 ~ | | |
| N = 1,689 | 522 | 644 | 532 |
| <i>Chi-squared .000</i> | | | |

So, in regards to the impact of trust in government on disaster responsibility, the Independent Hypothesis 6 “Individuals who are less likely to trust the government are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who are more likely to trust in government” is upheld.

Disaster Impact on Disaster Responsibility

Independent Hypothesis 7 of the model states “Individuals who indicate that the oil spill had no or a low impact on them are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who indicate the oil spill had a high impact on them.”

For disaster impact and disaster responsibility, 30.2 percent of those indicated that the oil spill had no or a low impact on them also indicated that victims themselves should assume responsibility following a disaster, compared to 31.9 who experienced a high impact. This percentage difference in disaster impact among disaster responsibility is only 1.7 percent. The Chi-squared is significant at the $<.025$ level, indicating that this minute relationship between disaster impact and disaster responsibility can be generalized to the entire survey population, but the direction of the weak relationship is the opposite from the hypothesis. See Table 30.

Table 30 Impact of Disaster Impact on Disaster Responsibility

| Disaster Responsibility | Disaster Impact | | |
|-------------------------|-----------------|--------|------|
| | No or Low | Medium | High |
| Victims Themselves | 30.2 | 28.9 | 31.9 |
| Private Organizations | 17.3 | 20.5 | 24.7 |
| Government Agencies | 46.1 | 47.4 | 41.8 |
| Nonprofit Organizations | 6.4 | 3.2 | 1.6 |
| Totals | ~ 100 ~ | | |
| N = 1,658 | 1,286 | 190 | 182 |
| <i>Chi-squared .021</i> | | | |

So, in regards to the impact of disaster impact on disaster responsibility, the Independent Hypothesis 7 “Individuals who indicate that the oil spill had no or a low impact on them are more likely to indicate that the victims themselves should assume the

majority of responsibility as compared to individuals who indicate the oil spill had a high impact on them” is not upheld, as the percentage differences are very small, and opposite to what was hypothesized.

Multivariate Analysis

After determining the empirical relationship between each of the control, independent, intervening, and dependent variables, it was necessary to control for the importance of which independent variables influence the dependent variable. Multivariate analysis was conducted to examine the relationship between a predictor and the dependent variable, after taking into effect the impact of a second predictor.

Quality of Life and Disaster Impact on Disaster Responsibility

The independent variable of quality of life, the intervening variable of disaster impact, and the dependent variable of disaster responsibility were analyzed together and suggest that 31.9 percent of those who rated their quality of life as excellent and experienced no or a low disaster impact also expressed that the victims themselves should assume the majority of responsibility following a disaster. This is a 3.8 percentage difference from those who experienced a high disaster impact at 35.7. The Chi-squared is significant at the $<.025$ level, indicating that this relationship between disaster impact and disaster responsibility among those who rated their quality of life as excellent can be generalized to the entire survey population, although the direction of the relationship is opposite from what was hypothesized. See Table 31.

Table 31 Disaster Impact Difference in Disaster Responsibility by Quality of Life - Excellent

| Quality of Life / Disaster Responsibility | Disaster Impact | | |
|---|-----------------|--------|------|
| | None or Low | Medium | High |
| Victims Themselves | 31.9 | 29.9 | 35.7 |
| Private Organizations | 17.7 | 23.8 | 19.0 |
| Government Agencies | 44.0 | 45.6 | 43.7 |
| Nonprofit Organizations | 6.5 | 0.7 | 1.6 |
| Totals | ~ 100 ~ | | |
| N = 1,331 | 1,058 | 147 | 126 |
| <i>Chi-squared .017</i> | | | |

The independent variable of quality of life, the intervening variable of disaster impact, and the dependent variable of disaster responsibility were analyzed together and suggest that 20.4 percent of those who rated their quality of life as fair and experienced no or a low disaster impact also expressed that the victims themselves should assume the majority of responsibility following a disaster. This is a 5.1 percentage difference from those who experienced a high disaster impact at 25.5. The Chi-squared is significant at the $<.05$ level, indicating that this relationship between disaster impact and disaster responsibility among those who rated their quality of life as fair can be generalized to the entire survey population, although the direction of the relationship is opposite from what was hypothesized. See Table 32.

Table 32 Disaster Impact Difference in Disaster Responsibility by Quality of Life - Fair

| Quality of Life / Disaster Responsibility | Disaster Impact | | |
|---|-----------------|--------|------|
| | None or Low | Medium | High |
| Victims Themselves | 20.4 | 23.7 | 25.5 |
| Private Organizations | 15.3 | 10.5 | 29.8 |
| Government Agencies | 59.2 | 52.6 | 42.6 |
| Nonprofit Organizations | 5.1 | 13.2 | 2.1 |
| Totals | ~ 100 ~ | | |
| N = 281 | 196 | 38 | 47 |
| <i>Chi-squared .041</i> | | | |

The independent variable of quality of life, the intervening variable of disaster impact, and the dependent variable of disaster responsibility for those who rated their quality of life as poor and experienced no or a low disaster impact and also expressed that the victims themselves should assume the majority of responsibility following a disaster was not analyzed given that the sample size was too small to make any generalizations regardless of statistical significance.

Hence, the Independent Hypotheses 7 “Individuals who indicate that the oil spill had no or a low impact on them are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who indicate the oil spill had a high impact on them” as related to quality of life is not upheld since the relationship is reversed.

Community Involvement and Disaster Impact on Disaster Responsibility

The independent variable of community involvement, the intervening variable of disaster impact, and the dependent variable of disaster responsibility were analyzed together and suggest that 30.3 percent of those who indicated that they are active in their

community and experienced no or a low disaster impact also expressed that the victims themselves should assume the majority of responsibility following a disaster. This is a 1.0 percentage difference from those who experienced a high disaster impact at 29.3. The Chi-squared is significant at the $<.025$ level, indicating that this relationship between disaster impact and disaster responsibility among those who indicated that they are active in their community can be generalized to the entire survey population. See Table 33.

Table 33 Disaster Impact Difference in Disaster Responsibility by Community Involvement - Active

| Community Involvement / Disaster Responsibility | Disaster Impact | | |
|---|-----------------|--------|------|
| | None or Low | Medium | High |
| Active | | | |
| Victims Themselves | 30.3 | 27.0 | 29.3 |
| Private Organizations | 15.2 | 24.0 | 27.3 |
| Government Agencies | 48.1 | 48.0 | 42.4 |
| Nonprofit Organizations | 6.4 | 1.0 | 1.0 |
| Totals | ~ 100 ~ | | |
| N = 852 | 653 | 100 | 99 |
| <i>Chi-squared .004</i> | | | |

The independent variable of community involvement, the intervening variable of disaster impact, and the dependent variable of disaster responsibility for those who indicated that they are neither active nor inactive in their community and experienced no or a low disaster impact and also expressed that the victims themselves should assume the majority of responsibility following a disaster was not analyzed given that the sample size was too small to make any generalizations regardless of statistical significance.

The independent variable of community involvement, the intervening variable of disaster impact, and the dependent variable of disaster responsibility were analyzed

together and suggest that 30.3 percent of those who indicated that they are inactive in their community and experienced no or a low disaster impact also expressed that the victims themselves should assume the majority of responsibility following a disaster. This is a 4.0 percentage difference from those who experienced a high disaster impact at 34.3. The Chi-squared is not significant at the $<.05$ level, indicating that this relationship between disaster impact and disaster responsibility among those who indicated that they are inactive in their community cannot be generalized to the entire survey population. See Table 34.

Table 34 Disaster Impact Difference in Disaster Responsibility by Community Involvement – Inactive

| Community Involvement / Disaster Responsibility | Disaster Impact | | |
|---|-----------------|--------|------|
| | None or Low | Medium | High |
| Inactive | | | |
| Victims Themselves | 30.3 | 30.3 | 34.3 |
| Private Organizations | 17.7 | 17.1 | 20.0 |
| Government Agencies | 45.2 | 44.7 | 44.3 |
| Nonprofit Organizations | 6.9 | 7.9 | 1.4 |
| Totals | ~ 100 ~ | | |
| N = 684 | 538 | 76 | 70 |
| <i>Chi-squared .718</i> | | | |

Hence, the Independent Hypotheses 7 “Individuals who indicate that the oil spill had no or a low impact on them are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who indicate the oil spill had a high impact on them” as related to community involvement is not upheld, as the percentage differences are very small or not statistically significant.

Trust in Government and Disaster Impact on Disaster Responsibility

The independent variable of trust in government, the intervening variable of disaster impact, and the dependent variable of disaster responsibility were analyzed together and suggest that 25.5 percent of those who indicated that they most of the time trust the government and experienced no or a low disaster impact also expressed that the victims themselves should assume the majority of responsibility following a disaster. This is a 17.0 percentage difference from those who experienced a high disaster impact at 8.5. The Chi-squared is significant at the $<.001$ level, indicating that this relationship between disaster impact and disaster responsibility among those who indicated that they most of the time trust the government can be generalized to the entire survey population. This is the one condition under which Independent Hypothesis 7 is upheld. See Table 35.

Table 35 Disaster Impact Difference in Disaster Responsibility by Trust in Government – Most of the Time

| Trust in Government / Disaster Responsibility | Disaster Impact | | |
|---|-----------------|--------|------|
| | None or Low | Medium | High |
| Most of the Time | | | |
| Victims Themselves | 25.5 | 19.4 | 8.5 |
| Private Organizations | 11.8 | 19.4 | 34.0 |
| Government Agencies | 57.2 | 53.2 | 55.3 |
| Nonprofit Organizations | 5.5 | 8.1 | 2.1 |
| Totals | ~ 100 ~ | | |
| N = 490 | 381 | 62 | 47 |
| <i>Chi-squared .001</i> | | | |

The independent variable of trust in government, the intervening variable of disaster impact, and the dependent variable of disaster responsibility were analyzed together and suggest that 26.7 percent of those who indicated that they sometimes trust the government and experienced no or a low disaster impact also expressed that the

victims themselves should assume the majority of responsibility following a disaster. This is a 6.6 percentage difference from those who experienced a high disaster impact at 33.3. The Chi-squared is not significant at the $<.05$ level, indicating that this relationship between disaster impact and disaster responsibility among those who indicated that they sometimes trust the government cannot be generalized to the entire survey population. See Table 36.

Table 36 Disaster Impact Difference in Disaster Responsibility by Trust in Government - Sometimes

| Community Involvement / Disaster Responsibility | Disaster Impact | | |
|---|-----------------|--------|------|
| | None or Low | Medium | High |
| Sometimes | | | |
| Victims Themselves | 26.7 | 33.8 | 33.3 |
| Private Organizations | 20.0 | 23.9 | 19.0 |
| Government Agencies | 46.1 | 40.8 | 46.0 |
| Nonprofit Organizations | 7.3 | 1.4 | 1.6 |
| Totals | ~ 100 ~ | | |
| N = 629 | 495 | 71 | 63 |
| <i>Chi-squared .201</i> | | | |

The independent variable of trust in government, the intervening variable of disaster impact, and the dependent variable of disaster responsibility were analyzed together and suggest that 38.2 percent of those who indicated that they rarely trust the government and experienced no or a low disaster impact also expressed that the victims themselves should assume the majority of responsibility following a disaster. This is a 8.9 percentage difference from those who experienced a high disaster impact at 47.1. The Chi-squared is not significant at the $<.05$ level, indicating that this relationship between

disaster impact and disaster responsibility among those who indicated that they rarely trust the government cannot be generalized to the entire survey population. See Table 36.

Table 37 Disaster Impact Difference in Disaster Responsibility by Trust in Government - Rarely

| Trust in Government / Disaster Responsibility | Disaster Impact | | |
|---|-----------------|--------|------|
| | None or Low | Medium | High |
| Rarely | | | |
| Victims Themselves | 38.2 | 32.7 | 47.1 |
| Private Organizations | 19.5 | 18.2 | 21.4 |
| Government Agencies | 36.1 | 47.3 | 30.0 |
| Nonprofit Organizations | 6.2 | 1.8 | 1.4 |
| Totals | ~ 100 ~ | | |
| N = 510 | 385 | 55 | 70 |
| <i>Chi-squared .200</i> | | | |

Hence, the Independent Hypotheses 7 “Individuals who indicate that the oil spill had no or a low impact on them are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who indicate the oil spill had a high impact on them” as related to trust in government is partially upheld specifically for those who most of the time trust the government.

CHAPTER VI

CONCLUSION

Significance of Study

Public matters traditionally center on issues brought to the forefront of or actively undertaken by the government to: regulate commerce, promote financial stability, conduct foreign relations, provide for a common defense, and protect the rights and interest of its citizens (Eitzen and Zinn, 2006). The root causes of societal problems are often hidden away by a vast amount of intricacies. Given the realities of everyday life, the extent of social beliefs and political attitudes vary (Erikson and Tedin, 2007; Beierle and Konisky, 2000). Nie, Verba, and Petrocik (1979) maintain that the fabric of society changes, and, in effect, changes “the public response to that change;” thus, the consistency of the public remaining the same on each and every issue is nearly impossible (p1). First, ideologies differ among a range of social issues, and, second, the length of time surrounding a particular issue automatically superimposes political importance. Ideology, at its very core, is self-identification, and, as such, heeds a vested policy interest (Etzioni, 2000; Burstein, 2003). Per Wamsley (1998), a public philosophy as a continuum of concerns should be aspired that exhibits:

“a particular expression of social and political life...” that “occupies the intellectual space between philosophy in all its breadth [sic], and theory, which has come to have such a functionalist, positivist, and explanatory connotations...

And although a public philosophy is also affected by false consciousness created by ideology like any other aspect of society, still it connotes reflection and inquiry, whereas ideology is meant to overcome both and commit persons to a line of thought or action” (p361).

Ideologies “emerge in societies... to enhance coherence, “ and, thus, “simultaneously reveal and conceal something about the conditions which give birth to them, and, insofar as they conceal or obscure these conditions in thought, they tend to stabilize or perpetuate them in reality” (Wamsley 1998, p359). Characterizing societal issues is a critical factor in defining problems as it can serve as an effective tool to “typify” the dilemma and gain an advantage in public support. Yet, “problem definition is about much more than just finding someone or something to blame... [for] a situation’s perceived social [and political] significance, meaning, implications, and urgency” often dramatizes what is at play and what is at stake (Rochefort and Cobb, 1994, p3). Such an effort, thus, “require[s] a careful blending of [history,] science, and [skill]” with the input by the government and citizens to make sound legislation (Bonser, McGregor, and Oster, 2000, p272).

As a complex, process oriented activity, policymaking is the translation of social and political issues into governmental regulation and law (Beierle and Konisky, 2000; Smith and Larimer, 2009; Birkland, 2005; Dye, 2008). Per Bosner, McGregor, and Oster (2000), “In the simplest form, the policy process is a cycle of problem-solving activity involving problem definition, deciding on a policy response to the problem, and acting on the decision” (p65). Incorporating a wide range of decisional premises and contextual circumstances, policymaking is exceptionally broad and a slow and gradual

process (Rocheffort and Cobb, 1994; Kraft and Furlong 2007; Baumgartner and Jones, 1991; Lindblom, 1959; Lasswell, 1956). Policymakers, therefore, rely heavily on the policy analysts “for a careful blending of” historical, management, and scientific expertise in seeking credible, interdisciplinary solutions when dealing with a vast array of significant, societal problems (Bonser, McGregor, and Oster, 2000, p272).

Policymaking “is popularly described by the rational model of decision-making: [that] when faced with a problem, the decision maker” follows a gradual process of identifying a problem, establishing goals, creating alternatives, noting consequences, weighing costs and benefits, and monitoring progress (White, 1999, p66; Birkland, 2005; Smith and Larimer, 2009). Rather, decisions are evaluated in a relative sense with a particular objective. A change in the objective can, subsequently, cause a change in the evaluation of a decision. Decisions are complex admixtures of facts and values—decisions can be good, but not necessarily true or decisions can be true but not necessarily good. Factual statements are about the observable world and how it operates, which can be tested for true or false. Value statements are descriptive of a future state of affairs; they may or may not be factual in a strict empirical sense, but they possess an imperative quality. Therefore, fact and value seem to leave no room for judgment in decision making. As such, most ethical propositions have admixed with them factual elements, and every inclusion and omission included within an opinion. Communication and understanding are, therefore, key features in any process where decisional premises are being transmitted, especially among the fundamental activities occurring within a community.

Intellectual Merit

Policymakers have attempted to reduce the impacts associated with disasters by anticipating the unexpected; however, it is easy to under analyze the complexities of emergency management activities (Petak, 1985). First, disasters occur within fairly narrow settings and a limited geographical scope, which prohibit policymakers from making sound solutions. Second, traditional disaster management models developed by policymakers have typically focused on post-crisis response and recovery lessons learned from terrorist attacks, diverting attentions away from evaluating current practices or adopting new procedures until there is an imminent crisis (Wallace and DeBalough, 1985). And, third, policymakers are unequipped to handle many of the economic, health, and environmental elements of disasters, as well as incapable of fully seizing many of its social and political attributes (Weichselgartner, 2001; deLeon, 1999). Thus, given the limited opportunities for disaster-related experience, “decision-making, mental models, and situational awareness research on [crises] have highlighted a further need for effective emergency management” (Paton and Jackson, 2002, p115). Understanding the meaning, causality, severity, and incidence of disasters, both implied and actual, is essential to the problem-solving process (Birkland, 2006). Disaster planning, thus, needs to be investigated in terms of decisional premises so that a more comprehensive diagram of social and political resiliency can be developed (Brandsen, Boogers, and Tops, 2006; Brewer, 1974).

Discussion of Findings

This study was designed to provide statistical estimates about how social capital and political trust impact disaster responsibility with regard for the demographic

background. The following hypotheses were made. First, individuals who are white will have higher levels of education and income and a conservative ideology. Second, individuals who have higher levels of education and income will tend to have a conservative ideology, higher quality of life, and be less likely to trust the government. Third, individuals who are conservative will have a higher quality of life, be more actively involved in their community, and be less likely to trust the government. Fourth, individuals with a higher quality of life, who are actively involved in their community, and who are less likely to trust the government will indicate that the oil spill had no or a low impact on them. And, fifth, individuals with a higher quality of life, who are actively involved in their community, and who are less likely to trust the government will indicate that that the victims themselves should assume the majority of responsibility.

According to results from the research investigation, however, not all of the assumed hypotheses were upheld. First, it was found that race has a significant impact upon education, income, and ideology. Second, it was found that while education and income have a significant impact on ideology and quality of life, it does not have a significant impact upon trust in government. Third, it was found that while ideology does not have a significant impact upon quality of life, it does upon community involvement and trust in government. Fourth, it was found that quality of life has a significant impact upon disaster impact but not disaster responsibility. Fifth, it was found that community involvement does not have a significant impact upon disaster impact and disaster responsibility. Sixth, it was found that while trust in government does not have a significant impact upon disaster impact, it does have a significant impact upon disaster

responsibility. And, seventh, it was found that disaster impact does not have a significant impact upon disaster responsibility.

To address for these findings and better reflect the actuality behind possible social capital and political trust characteristics that impact disaster responsibility, the model and hypothesis have been adjusted.

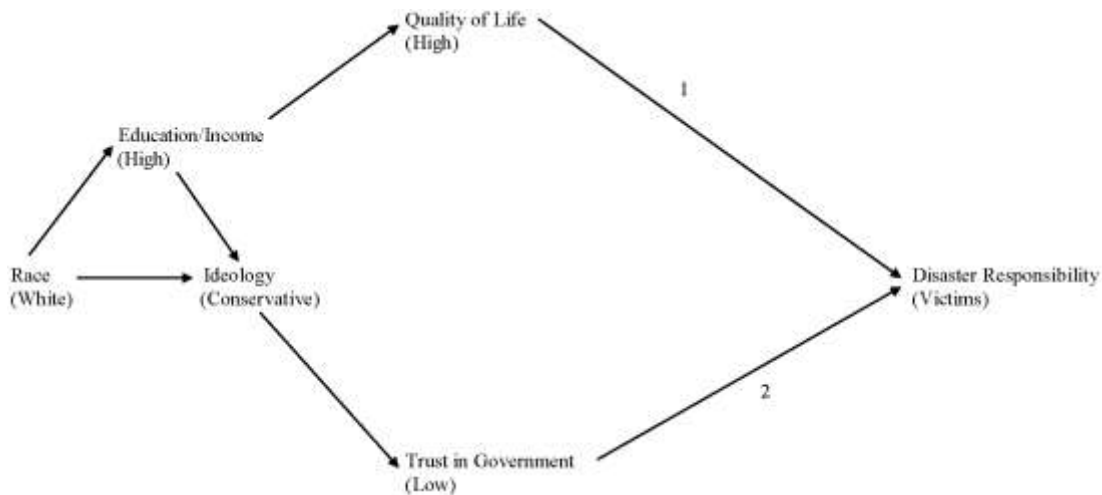


Figure 3 Redrawn Model

Reworked Hypotheses

For Control Hypothesis 1, it was found that race has a significant impact upon education and income. Thus, the hypothesis that “Individuals who are white are more likely to have higher levels of education and higher levels of income, as compared to individuals who are black” is upheld, and no changes have been more to the hypothesis or model to reflect these results.

For Control Hypothesis 2, it was found that race has a significant impact upon ideology. Thus, the hypothesis that “Individuals who are white are more likely to have a

conservative ideology, as compared to individuals who are black” is upheld, and no changes have been to the hypothesis or model to reflect these results.

For Control Hypothesis 3, it was found that education and income have a significant impact upon ideology. Thus, the hypothesis that “Individuals with higher levels of education and higher levels of income are more likely to have a conservative ideology, as compared to individuals with lower levels of education and lower levels of income” is upheld, and no changes have been made to the hypothesis to reflect these results.

For Control Hypothesis 4, it was found that education and income have a significant impact upon quality of life. Thus, the hypothesis that “Individuals with higher levels of education and higher levels of income are more likely to have a higher quality of life, as compared to individuals with lower levels of education and lower levels of income” is upheld, and no changes have been made to the hypothesis to reflect these results.

For Control Hypothesis 5, it was found that education and income do not have a significant impact upon trust in government. Thus, the hypothesis that “Individuals with higher levels of education and higher levels of income are less likely to trust the government, as compared to individuals with lower levels of education and lower levels of income” is not upheld, and this hypothesis has been removed to reflect these results.

For Control Hypothesis 6, it was found that ideology does not have a significant impact upon quality of life. Thus, the hypothesis that “Individuals who have a conservative ideology are more likely to have a higher quality of life, as compared to

individuals who have a liberal ideology” is not upheld, and this hypothesis has been removed to reflect these results.

For Control Hypothesis 7, it was found that ideology does have a significant impact upon community involvement. Thus, the hypothesis that “Individuals who have a conservative ideology are more likely to be actively involved in their community, as compared to individuals who have a liberal ideology” is upheld, however, this hypothesis has been removed to reflect that results that community involvement does not have a significant impact upon disaster impact or disaster responsibility.

For Control Hypothesis 8, it was found that ideology does have a significant impact upon trust in government. Thus, the hypothesis that “Individuals who have a conservative ideology are less likely to trust the government, as compared to individuals who have a liberal ideology” is upheld, and no changes have been made to the model and hypothesis to reflect these results.

For Independent Hypothesis 1, it was found that quality of life does not have a significant impact upon disaster impact. Thus, the hypothesis that “Individuals with a higher quality of life are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals with a lower quality of life” is not upheld, and this hypothesis has been removed to reflect that results that disaster impact does not have a significant impact upon disaster responsibility, except among those trusting in government.

For Independent Hypothesis 2, it was found that quality of life does have a significant impact upon disaster responsibility. Thus, the hypothesis that “Individuals with a higher quality of life are more likely to indicate that the victims themselves should

assume the majority of responsibility as compared to individuals with a lower quality of life” is upheld, and no changes have been made to the model and hypothesis to reflect these results.

For Independent Hypothesis 3, it was found that community involvement does not have a significant impact upon disaster impact. Thus, the hypothesis that “Individuals who are actively involved in their community are more likely to indicate that the oil spill had no or a low impact on them as compared to individuals who are not actively involved in their community” is not upheld, and the hypothesis has been removed to reflect these results.

For Independent Hypothesis 4, it was found that community involvement does not have a significant impact upon disaster responsibility. Thus, the hypothesis that “Individuals who are actively involved in their community are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who are not actively involved in their community” is not upheld, and the hypothesis has been removed to reflect these results.

For Independent Hypothesis 5, it was found that trust in government does not have a significant impact upon disaster impact. Thus, the hypothesis that “Individuals who are less likely to trust the government are more likely to indicate that the oil spill had a low impact on them as compared to individuals who are more likely to trust in government” is rejected, and this hypothesis has been removed to reflect that results that disaster impact does not have a significant impact upon disaster responsibility.

For Independent Hypothesis 6, it was found that trust in government does have a significant impact upon disaster responsibility. Thus, the hypothesis that “Individuals

who are less likely to trust the government are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who are more likely to trust in government” is upheld, and no changes have been made to the model and hypothesis to reflect these results.

For Independent Hypothesis 7, it was found that disaster impact does not have a significant impact upon disaster responsibility, except among those most trusting of government. Thus, the hypothesis that “Individuals who indicate that the oil spill had no or a low impact on them are more likely to indicate that the victims themselves should assume the majority of responsibility as compared to individuals who indicate the oil spill had a high impact on them” is not upheld, and the hypothesis has been removed to reflect these results.

Recommendations

The complexity of hazards is so great, that becoming resilient to disasters requires a holistic approach (McEntire, 2001; Nelson, 2006). It is axiomatic that the more advanced civilizations become, the more complex disasters become. Since disasters are typically dynamic and fluid in nature, there is a need for an improved means of understanding not only the governmental but also the communal response to disasters (Gregory, McDaniels, and Fields, 2001; Henstra, 2010). This is especially the case for technological disasters, such as in the aftermath of the DWH oil spill, leaving a number of social and political impacts unanswered (Kurtz, 2008). Inclination among policymakers should, therefore, be to view emergency management as an integrated framework, taking into account all levels of governmental activity as well as consideration for communal attitudes, beliefs, and practices. Given the impact of social capital and political trust on

democratic citizens and governance, it is essential to know what influences the public's perception of disaster responsibility (Vigoda, 2002; Irvin and Stansbury, 2004; Page and Shapiro, 1983; Page, Shapiro, and Dempsey, 1987). See Figure 4.

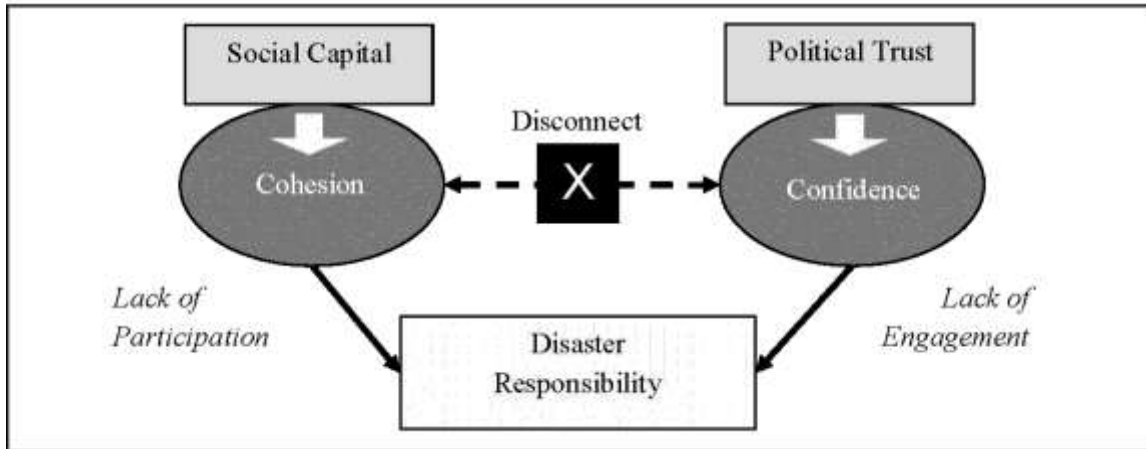


Figure 4 Social and Political Resiliency Model

Co-operation in times of disasters should, therefore, be recognized as important and viewed as a relevant means to ideological bridge building that aims to strengthen cohesion and confidence so that a more effective and integrated approach to disaster planning can be developed (Kouzmin, Alan, and Rosenthal, 1995; Trim, 2004; Tierney, Lindell, and Perry, 2001; Drabek, 2006).

REFERENCES

- Abbott, P., 2004, *Natural Disasters*, 4th ed., New York, NY: McGraw Hill.
- The Argus, 2010, "Oil leaking from sunken US rig," *The Argus*, available at: <http://www.argus.ie/breaking-news/world-news/oil-platform-sinks-after-blast-2149136.html>.
- The Associated Press, 2010, "Evacuated workers sought after oil rig explosion," *The Seattle Times*, available at: http://seattletimes.nwsourc.com/html/nationworld/2011658472_apuslouisianaoilrigexplosion.html.
- Balfour, D., and W. Mesaros, 1994, "Connecting the local narratives: Public administration as a hermeneutic Science," *Public Administrative Review*, 54(6): 559-564.
- Baumgartner, F., and B. Jones, 1991, "Agenda dynamics and policy subsystems," *The Journal of Politics*, 53(4): 1044-1074.
- Beierle, T., and D. Konisky, 2000, "Values, conflict, trust in participatory environmental planning," *Journal of Policy Analysis and Management*, 19(4): 587-602.
- Bell, J., and S. Borenstein, 2010, "2010's world gone wild: Quakes, floods, blizzards," *NBC News*, available at: http://www.nbcnews.com/id/40739667/ns/us_news-2010_year_in_review/t/s-world-gone-wild-quakes-floods-blizzards/#.UxtimPldW8A.
- Birkland, T., 1996, "Natural disaster as focusing events: Policy communities and political response," *International Journal of Mass Emergencies and Disasters*, 14(2): 221-243.
- Birkland, T., 2005, *An introduction to the policy process: Theories, concepts, and models of public policy*, Armonk, NY: M. E. Sharpe, Inc.
- Birkland, T., 2006, *Lessons of disaster: Policy change after catastrophic events*, Washington, DC: Georgetown University Press.
- Blendon, R., Benson, J., Morin, R., Altman, D., Brodie, M., and M. Brossard, 1997, "Changing attitudes in America," in J. Nye, P. Zelikow, and D. C. King (Eds.), *Why people don't trust government*, Cambridge, MA: Harvard University Press.

- Blunt, A., 2005, "Cultural geography: Cultural geographies of home," *Progress in Human Geography*, 29(4): 505-515.
- Boin, A., and A. McConnell, 2007, "Preparing for critical infrastructure breakdowns: the limits of crisis management and the need for resilience," *Journal of Contingencies and Crisis Management*, 15(1): 50-59.
- Bolstad, E., Washburn, M., and J. Lebovich, 2010, "3 companies expected to blame each other for Gulf oil spill," *Miami Herald*, available at: <http://www.miamiherald.com/2010/05/11/1623583/3-companies-expected-to-blame.html>.
- Bonser, C., McGregor, E., Jr., and C. Oster, Jr., 2000, *American public policy problems: An introductory guide*, 2nd ed., Upper Saddle River, NJ: Prentice Hall.
- Brandsen, T., Boogers, M., and P. Tops, 2006, "Soft governance, hard consequences: The ambiguous status of unofficial guidelines," *Public Administration Review*, 66(4): 546-553.
- Brennan, P., and J. Burke, 2010, "British Petroleum's oil well leak may take months to shut after rig sinks," *Bloomberg Businessweek*, available at: <http://www.businessweek.com/news/2010-04-25/British-Petroleum-s-gulf-well-leaking-1-000-barrels-a-day-after-fire-update1-.html>.
- Brewer, G., 1974, "The policy sciences emerge: To nurture and structure a discipline," *Policy Sciences*, 5(3): 239-244.
- Burdeau, C. #1, 2010, "New discovery: Well beneath sunken rig off Louisiana has serious oil leak," *The Associated Press*, available at: http://seattletimes.nwsourc.com/html/nationworld/2011695704_rig25.html.
- Burdeau C. #2, 2010, "Oil cleanup at Gulf rig blast site delayed again," *The Associated Press*, available at: <http://www.google.com/hostednews/ap/article/ALeqM5g5gnWbqZ9SqBHvSYqJeE2AT5KebwD9FA6D000>.
- Burstein, P., 2003, "The impact of public opinion on public policy: A review and an agenda," *Political Research Quarterly*, 56(1): 29-40.
- Campbell, J., 2001, *Map Use and Analysis*, 4th ed., New York, NY: McGraw Hill.
- Chiras, D., Reganold, J., and O. Owen, 2000, *Natural Resource Conservation*, 8th ed., Upper Saddle River, NJ: Prentice Hall, Inc.
- CNN News, 2000, "With Gulf oil well almost dead, what lies ahead," *CNN News*, available at: http://articles.cnn.com/2010-09-18/us/gulf.oil.disaster_1_blowout-preventer-chief-executive-tony-hayward-gulf-of-mexico-oil?_s=PM:US.

- de Blij, H., and A. Alexander, 2000, *Culture, society, and space*, 7th ed., Hoboken, NJ: John Wiley and Sons, Inc.
- deLeon, P., 1999, "The stages approach to the policy process: What has it done? Where is it going," edited by P. A. Sabatier in *Theories of the Policy Process*, Boulder, CO: Westview Press.
- Drabek, T., 2006, "Social problems perspective, disaster research and emergency management: Intellectual contexts, theoretical extensions, and policy implications," American Sociological Association Annual Meeting E. L. Quarantelli Theory Award Lecture.
- Drabek, T., and D. McEntire, 2003, "Emergent phenomena and the sociology of disaster: lessons, trends and opportunities from the research literature," *Disaster Prevention and Management*, 12(2): 97-112.
- Durkheim, E., 1984, *The Division of Labor in Society*, New York, NY: The Free Press.
- Dworkin, R., 2003, "Equality, luck and hierarchy," *Philosophy and Public Affairs*, 31(2): 190-198.
- Dye, T., 2008, *Understanding public policy*, 12th ed., Upper Saddle River, NJ: Pearson Education, Inc.
- Eitzen, D., and M. Zinn, 2006, *Social problems*, 10th ed., Boston, MA: Pearson Custom Publishing Inc.
- Environmental Protection Agency (EPA #1), 2010, "National Environmental Policy Act (NEPA): Basic information," *Environmental Protection Agency*, available at: <http://www.epa.gov/oecaerth/basics/nepa.html>.
- Environmental Protection Agency (EPA #2), 2010, "Oil Pollution Act overview," *Environmental Protection Agency*, available at: <http://www.epa.gov/oem/content/lawsregs/opaover.htm>.
- Erikson, R., and K. Tedin, 2007, *American public opinion: Its origins, content, and impact*, 7th ed., New York, NY: Pearson Education, Inc.
- Etzioni, A., 1996, "A moderate communitarian proposal," *Political Theory*, 24(2): 151-171.
- Etzioni, A., 2000, "Creating good communities and good societies," *Contemporary Sociology*, 29(1): 188-195.
- Federal Emergency Management Agency (FEMA), 2010, "The Federal Emergency Management Agency," *Federal Emergency Management Agency*, available at: <http://www.fema.gov/pdf/about/pub1.pdf>.

- Firestone, J., 2002, "Agency governance and enforcement: The influence of mission on environmental decisionmaking," *Journal of Policy Analysis and Management*, 21(3): 409-426.
- Fitzpatrick K. and M. LaGory, 2001, *Unhealthy Places: The Ecology of Risk in the Urban Landscape*, New York, NY: Routledge.
- Geering, J., 2004, "What is a case study and what is it good for," *American Political Science Review*, 98(2): 341-354.
- Geertz, C., 1973, *The interpretation of cultures*, New York, NY: Basic Books.
- Gettis, A., Gettis, J., and I. Quastler, 2001, *The United States and Canada: The land and the people*, New York, NY: McGraw Hill.
- Gill, D., and J. S. Picou, 1991, "The social psychological impacts of a technological accident: Disaster structure, collective stress, and perceived health risks," *Journal of Hazardous Materials*, 27(1): 77-89.
- Gilligan, C., 1987, "Moral orientation and moral development," in E. Kitlay and D. Meyos (Eds), *Women and Moral Theory*, Totowa, NJ: Rowman and Littlefield.
- Givel, M., 2010, "The evolution of the theoretical foundations of punctuated equilibrium theory in public policy," *Review of Policy Research*, 27(2): 187-198.
- Goddard, J., 2010, "Engineers build underwater dome to contain Gulf of Mexico oil spill," *TimeOnline*, available at: <http://www.timesonline.co.uk/tol/news/environment/article7108909.ece>.
- Goodin, R., 1985, "Vulnerabilities and responsibilities: An ethical defense of the welfare state," *The American Political Science Review*, 79(3): 775-787.
- Gregory, R., McDaniels, T., and D. Fields, 2001, "Decision-aiding, not dispute resolution: Creating insights through structured environmental decisions," *Journal of Policy Analysis and Management*, 20(3): 415-432.
- Groves, R., 1990, "Theories and methods of telephone surveys," *Annual Review of Sociology*, 16: 221-240.
- Haddow, G., Bullock, J., and D. Cappola, 2008, *Introduction to Emergency Management*, 3rd ed., Homeland Security Series, New York, NY: Elsevier.
- Henstra, D., 2010, "Evaluating local government emergency management programs: What framework should public managers adopt," *Public Administration Review*, 70(2): 236-246.

- Herron, J., 2010 “2nd update: British Petroleum pursues many options to halt oil leak in US Gulf,” *The Wall Street Journal*, available at: http://online.wsj.com/article_email/BT-CO-20100426-711156-kIyVDAAtMUMwTzAtNDIwMDQxWj.html.
- Hetherington, M., 2005, *Why trust matters: Declining political trust and the demise of American liberalism*. Princeton, NJ: Princeton University Press.
- Hill, A., 1998, “Seduced by recovery: The consequences of misunderstanding disaster,” *Journal of Contingencies and Crisis Management*, 6(3): 162-170.
- Hoffman, S., and A. Oliver-Smith, 2001, *Catastrophe and culture: The anthropology of disaster*, Santa Fe, NM: School of American Research Press.
- Irvin, R., and J. Stansbury, 2004, “Citizen participation in decision making: Is it worth the effort?” *Public Administration Review*, 64(1): 55-65.
- Jones, B., and F. Baumgartner, 2005, “A model of choice for public policy,” *Journal of Public Administrative Theory*, 15(3): 325-351.
- Kingdon, J., 1984, *Agendas, alternatives, and public policies*, New York, NY: Harpers Collins Publishers.
- Kouzmin, A., Alan, M., and U. Rosenthal, 1995, “Inter-organizational policy processes in disaster management,” *Disaster Prevention and Management*, 4(2): 20-37.
- Kraft, M., and S. Furlong, 2007, *Public policy: Politics, analysis, and alternatives*, 2nd ed., Washington, DC: CQ Press.
- Kuhn, T., 1962, *The structure of scientific revolutions*, 3rd Ed., Chicago, IL: University of Chicago Press.
- Kurtz, R., 2008, “Coastal oil spill preparedness and response: the Morris J. Berman incident,” *Review of Policy Research*, 25(5): 473-486.
- Lasswell, H., 1956, *The decision process*, College Park, MD: University of Maryland Press.
- Lenson, J., and R. Rodgers, 2001, “Cumulating the intellectual gold of case study research,” *Public Administration Review*, 61(2): 235-246.
- Lindblom, C., 1959, “The science of muddling through,” *Public Administrative Review*, 19(2): 79-88.
- Lindell, M., Prater, C., and R. Perry, 2007, *Introduction to Emergency Management*, Hoboken, NJ: John Wiley and Sons.

- McEntire, D., 2001, "Triggering agents, vulnerabilities, and disaster reduction: Towards a holistic paradigm," *Disaster Prevention and Management*, 10(3): 189-196.
- McEntire, D., 2006, *Disaster Response and Recovery: Strategies and Tactics for Resilience*, Hoboken, NJ: Wiley and Sons.
- McLoughlin, D., 1985, "A framework for integrated emergency management," *Public Administration Review*, SI: 165-172.
- Mileti, D, 1999, *Disasters by design: A reassessment of natural hazards in the United States*, Washington, DC: National Academy Press.
- Morgan Stanley, 2010, "Oil services, drilling and equipment: Deep dive into the deepwater horizon incident," *Morgan Stanley Research North America*, available at: http://thehinsons.net/wp-content/uploads/2010/05/Horizon3_-_Deep_Dive_into_Deepwater_Horizon_Incident.pdf
- Murphy, B., 2007, "Locating social capital in resilient community-level emergency management," *Natural Hazards*, 41(2): 297-315.
- Murray, M., 2010, "Oil rig explosion injures workers and causes raging force off Louisiana coast," *ABC World News*, available at: <http://abcnews.go.com/WN/oil-rig-explosion-drilling-rig-off-louisiana-coast/story?id=10437155>.
- Mushkatel, A. and L. Weschler, 1985, "Emergency management and the intergovernmental system," *Public Administration Review*, SI: 49-56.
- National Oceanic and Atmospheric Administration (NOAA), 2010, "NOAA closes commercial and recreational fishing in oil-affected portion of Gulf of Mexico," *National Oceanic and Atmospheric Administration*, available at: <http://www.noaanews.noaa.gov/stories2010/20100502_fisheries.html>.
- Neaves, T., Feierabend, N., Butts, C., and L. Weiskopf, 2008, "A portrait of the delta: Enduring hope and despair," *Journal of Health and Human Services Administration*, 31(1): 10-29.
- Nelson, R., 2006, *Punctuated equilibrium and the dynamics of U.S. environmental policy*, New Haven, CN: Yale University Press.
- Nie, N., Verba, S., and J. Petrocik, 1979, *The changing American voter*, Cambridge, MA: Harvard University Press.
- Occupational Safety and Health Administration (OSHA #1), 2010, "Deepwater Horizon response: Unified command," *Occupational Safety and Health Administration*, available at: <http://www.osha.gov/oilspills/index.html>.

- Occupational Safety and Health Administration (OSHA #2), 2010, "Well control," *Occupational Safety and Health Administration*, available at: <http://www.osha.gov/SLTC/etools/oilandgas/drilling/wellcontrol.html>.
- Oil Gas Glossary, 2010, "Blowout," *Oil and Gas Field Technical Terms Glossary*, available at: <http://oilgassglossary.com/?s=blowout>.
- Page, B., and R. Shapiro, 1983, "Effects of public opinion on policy," *The American Political Science Review*, 77(1): 175-190.
- Page, B., Shapiro, R., and G. Dempsey, 1987, "What moves public opinion," *The American Political Science Review*, 81(1): 23-43.
- Paton, D., and D. Johnston, 2001, "Disaster and communities: vulnerability, resilience and preparedness," *Disaster Prevention and Management*, 10(4): 270-277.
- Paton, D., and D. Johnston, 2006, *Disaster resilience: An integrated approach*, Springfield, IL: Charles C. Thomas Publisher, Ltd.
- Paton, D., and D. Jackson, 2002, "Developing disaster management capability: an assessment centre approach," *Disaster Prevention and Management*, 11(2): 115-122.
- Paton, D., and R. Fin, 1999, "Disaster stress: an emergency management perspective," *Disaster Prevention and Management*, 8(4): 261-267.
- Patterson, O., Weil, F., and K. Patel, 2010, "The role of community in disaster response: Conceptual models," *Population Research Policy Review*, 29: 127-141.
- Perry, R., and M. Lindell, 2003, "Preparedness for emergency response: guidelines for the emergency planning process," *Disasters*, 27(4): 336-350.
- Petak, W., 1985, "Emergency management: A challenge for public administration," *Public Administration Review*, SI: 3-7.
- Picou, J., and D. Gill, 1997, Conclusions: lessons learned from the Exxon Valdez Oil Spill, In J. Picou, D. Gill and M. Cohen (Eds.). *The Exxon Valdez disaster: Readings on a modern social problem*. Dubuque, IA: Kendall-Hunt.
- Picou, J., Gill, D., and M. Cohen, 2008. *The Exxon Valdez disaster: Readings on a modern social problem*, Dubuque, IA: Kendall-Hunt.
- Putnam, R., 2000, *Bowling alone: The collapse and revival of American community*, New York, NY: Simon and Schuster.

- Quarantelli, E., 1996, "Emergent behaviors and groups in the crisis time of disasters," In *Individuality and Social Control: Essays in Honor of Tamotsu Shibutani*, edited by K. Kwan, Greenwich, CT: JAI Press.
- Rawls, J., 1971, *A theory of justice*, Cambridge, MA: Harvard University Press.
- Rocheftort, D., and R. Cobb, 1994, *The politics of problem definition: Shaping the policy agenda*, Lawrence, KS: University Press of Kansas.
- Rodriguez, H., and J. Barnshaw. 2006, "The social construction of disasters: From heat waves to worst-case scenarios," *Contemporary Sociology*, 35(3): 218-223.
- Rothstein, B., and E. Uslaner, 2006, "All for all: Equality, corruption, and social trust," *World Politics*, 58(1):652-654.
- Rozario, K., 2007, *The culture of calamity: Disaster and the making of modern America*, Chicago, IL: University of Chicago Press.
- Sandel, M., 1984, "The procedural republic and the unencumbered self," *Political Theory*, 12(1): 81-96.
- Schmollinger, C., and J. Polson, 2010, "British Petroleum expects to finish sealing ill-fated Macondo well today," *Bloomberg Businessweek*, available at: <http://www.businessweek.com/news/2010-09-18/British-Petroleum-expects-to-finish-sealing-ill-fated-macondo-well-today.html>.
- Seba, E., 2010, "WRAPUP 7-British Petroleum tries a new US Gulf spill fix, as slick spreads," *Reuters*, available at: <http://www.reuters.com/article/idUSN1016775020100510?type=marketsNews>.
- Simon, H., 1969, *Sciences of the Artificial*, Cambridge, MA: The MIT Press.
- Smith, K., and C. Larimer, 2009, *The public policy theory primer*, Philadelphia, PA: Westview Press.
- Smith, V., and A. Breed, 2010, "Giant box could be key to bottling spill," *The Associated Press*, available at: <http://www.2theadvocate.com/news/92838609.html?showAll=y&c=y>>
- Smith, W., and J. Dowell, 2000, "A case study of co-ordinative decision-making in disaster management," *Ergonomics*, 43(8): 1153-1166.
- Stake, R., 1995, *The art of case study research*, Thousand Oaks, CA: Sage Publications.
- Steinberg, T., 2000, *Acts of God: The Unnatural History of Natural Disasters in America*, New York, NY: Oxford University Press.

- Stoneall, L., 1983, *Country life, city life: Five theories of community*, New York, NY: Praeger.
- Sturgis, P., Read, S., Hatemi, P., Zhu, G., Trull, T., Wright, M., and N. Martin, 2010, "A genetic basis for social trust," *Political Behavior*, 32: 205-230.
- Sylves, R., 1998, "How the Exxon Valdez disaster changed America's oil spill management," *International Journal of Mass Emergencies and Disasters*, 16(1): 13-43.
- Sylves, R., 2008, *Disaster policy and politics: Emergency management and homeland security*, Washington, DC: CQ Press.
- Sylves R., and L. Comfort, 2012, "The Exxon Valdez and BP Deepwater Horizon Oil Spills: Reducing risk to socio-technical systems," *American Behavioral Scientist*, 56(1): 76-103.
- Tierney, K., Lindell, M., and R. Perry, 2001, *Facing the unexpected: Disaster preparedness and response in the United States*, Washington, DC: John Henry Press.
- Tönnies, F., 1988, *Community and society: Gemeinschaft and Gesellschaft*, Edison, NJ: Transaction Publishers.
- Trim, P., 2004, "An integrated approach to disaster management and planning," *Disaster Prevention and Management*, 13(3): 218-225.
- True, J., Jones, B., and F. Baumgartner, 1999, "Punctuated equilibrium theory: Explaining stability and change in American policymaking," In P. Sabatier (Ed.), *Theories of the policy process*, Boulder, CO: Westview Press.
- United Press International, 2010, "Explosion-damaged oil rig sinks," *United Press International*, available at: <
http://www.upi.com/Top_News/US/2010/04/22/Explosion-damaged-oil-rig-sinks/UPI-44921271937457/>.
- Urbina, I., 2010, "Conflict of interest worries raised in spill tests," *The New York Times*, available at: <http://www.nytimes.com/2010/05/21/science/earth/21conflict.html>.
- Vigoda, E., 2002, "From responsiveness to collaboration: Governance, citizens, and the next generation of public administration," *Public Administration Review*, 62(5): 527-540.
- Wallace, W., and F. DeBalough, 1985, "Decision support systems for disaster management," *Public Administrative Review*, SI: 134-146.

- Walzer, M., 1990, "The communitarian critique of liberalism," *Political Theory*, 18(1): 6-23.
- Wamsley, G., 1996, "A public philosophy and ontological disclosure as the basis for normatively grounded theorizing in public administration," in G. Wamsley and J. Wolf (Eds), *Refounding democratic public administration, modern paradoxes, postmodern challenges*, Thousand Oaks, CA: Sage.
- Waugh, W., Jr., 2000, *Living with hazards, dealing with disasters: An introduction to emergency management*, Armonk, NY: M.E. Sharpe Inc.
- Weber, H., and C. John, 2010, "British Petroleum struggles with list of ways to plug Gulf gusher," *The Associated Press*, available at: <http://www.google.com/hostednews/ap/article/ALeqM5gIXWYBTpLtSayJtg41LKXpxSxVPAD9FJVJHO0>.
- Weber, H., and V. Smith, 2010, "Gulf Coast watches, waits for path of oil spill," *The Associated Press*, available at: http://hosted.ap.org/dynamic/stories/U/US_GULF_OIL_SPILL?SITE=OHLIM&SECTION=HOME&TEMPLATE=DEFAULT.
- Weeks, J., 2002, *Population: An introduction to concepts and issues*, 8th Ed., Belmont, CA: Thomson Learning.
- Weichselgartner, J., 2001, "Disaster mitigation: the concept of vulnerability revisited." *Disaster Prevention and Management*, 10(2):85-95.
- White, J., 1999, *Taking language seriously: The narrative foundations of public administration research*, Washington, DC: Georgetown University Press.
- Wilson, J., 1993, "The moral sense," *American Political Science Review*, 87(1): 1-11.
- Winter, S., and P. May, 2001, "Motivation for compliance with environmental regulations," *Journal of Policy Analysis and Management*, 20(4): 675-698.
- Yin, R., 2009, *Case study research: Design and methods*, Thousand Oaks, CA: Sage Publications.
- Zmerli, S. and K. Newton, 2008, "Social trust and attitudes toward democracy," *Public Opinion Quarterly*, 72(4): 706-724.

APPENDIX A
SURVEY QUESTIONNAIRE

Social Capital Questions

How would you rate your quality of life? Would you say:

1. Excellent
2. Good
3. Fair
4. Poor
5. Don't know/not sure
6. Refused

How likely are you to recommend your community to a friend or associate as a place to live? Would you say:

1. Very likely
2. Somewhat likely
3. Neither likely nor unlikely
4. Somewhat unlikely
5. Very unlikely
6. Don't know/not sure
7. Refused

How active would you say you are in your community, such as in local government or volunteer organizations? Are you:

1. Very active
2. Somewhat active
3. Neither active nor inactive
4. Somewhat inactive
5. Very inactive
6. Don't know/not sure
7. Refused

Political Trust Questions

In general, how often do you trust the government to do what is right? Would you say:

1. Almost always
2. Most of the time
3. Some of the time
4. Rarely
5. Never
6. Don't know/not sure
7. Refused

In general, how often do you feel like your local officials would listen to you if you talked to them about a policy issue? Would you say:

1. Almost always
2. Most of the time

3. Some of the time
4. Rarely
5. Never
6. Don't know/not sure
7. Refused

When responding to disasters, how prepared do you think the federal government is today as compared to its response following Hurricane Katrina? Would you say:

1. Much better
2. Somewhat better
3. About the same
4. Somewhat worse
5. Much worse
6. Don't know/not sure
7. Refused

How much confidence do you have in the evacuation notices issued by government officials prior to an approaching hurricane? Would you say:

1. A great deal
2. Quite a bit
3. Just some
4. Only a little
5. None at all
6. Don't know/not sure
7. Refused

How much confidence do you have in the storm predictions issued by weather forecasters prior to an approaching hurricane? Would you say:

1. A great deal
2. Quite a bit
3. Just some
4. Only a little
5. None at all
6. Don't know/not sure
7. Refused

Policy Beliefs Questions

Following a disaster, who should assume the majority of the responsibility for taking care of victims and their families?

1. The victims themselves
2. Privately funded organizations such as the Red Cross, Salvation Army, churches, etc.
3. Government agencies such as the Federal Emergency Management Agency
4. Non-profits organizations

5. Combination/shared responsibility
6. Other --- specify
7. Don't know/not sure
8. Refused

Which of the following is most important to you?

1. Protecting coastal wetlands and wildlife
2. Continuing offshore drilling and oil production
3. Neither
4. Don't know/not sure
5. Refused

Would you support a one-quarter cent increase in state sales tax to pay for disaster preparedness or emergency management?

1. Yes
2. No
3. Don't know/not sure
4. Refused

Disaster Impact and Disaster Responsibility Questions

Before the oil spill, how supportive were you of offshore oil drilling? Would you say:

1. Very supportive
2. Somewhat supportive
3. Not supportive
4. Don't know/not sure
5. Refused

What about offshore oil drilling in the future? Would you say:

1. Very supportive
2. Somewhat supportive
3. Not supportive
4. Don't know/not sure
5. Refused

Who do you think was most at fault for the oil spill in the Gulf? Would you say:

1. British Petroleum
2. Unites States Government
3. Haliburton
4. Transocean
5. Cameron International
6. Other --- specify
7. Don't know/not sure
8. Refused

Who do you think was most responsible for cleaning up the oil spill? Would you say:

1. British Petroleum
2. Haliburton
3. Transocean
4. Cameron International
5. Federal Government
6. State Government
7. Local Government
8. Local Community
9. Other --- specify
10. Don't know/not sure
11. Refused

Please tell me if the following individuals and organizations were very effective, somewhat effective, or not at all effective at all in their response to the oil spill.

British Petroleum

1. Very effective
2. Somewhat effective
3. Not too effective
4. Don't know/not sure
5. Refused

The oil and gas industry overall

1. Very effective
2. Somewhat effective
3. Not too effective
4. Don't know/not sure
5. Refused

President Obama

1. Very effective
2. Somewhat effective
3. Not too effective
4. Don't know/not sure
5. Refused

The federal government

1. Very effective
2. Somewhat effective
3. Not too effective
4. Don't know/not sure
5. Refused

Which of the following statement best describes your opinion regarding the oil spill? The oil spill was:

1. The result of a mechanical failure that can be corrected with better engineering

2. Just a disaster and there was little government or industry could have done to prevent it
3. The result of a government failure to properly regulate the oil and gas industry
4. The result of British Petroleum's careless business practices
5. Don't know/not sure
6. Refused

Please tell me if you think the oil spill has had a great, moderate, little, or no affect at all on the following industries.

The fishing and seafood industry

1. Very effective
2. Somewhat effective
3. Not too effective
4. Don't know/not sure
5. Refused

The oil and gas industry

1. Very effective
2. Somewhat effective
3. Not too effective
4. Don't know/not sure
5. Refused

The service and tourism industry

1. Very effective
2. Somewhat effective
3. Not too effective
4. Don't know/not sure
5. Refused

On a scale of 1 to 5, with 1 being no impact and 5 being the highest impact, how much of an impact do you think the oil spill had on you? {Enter exact number; enter 6 if don't know; enter 7 if refused.}

Demographic Questions

Would you say that in general your health is:

1. Excellent
2. Good
3. Fair
4. Poor
5. Don't know/not sure
6. Refused

How long have you lived in your community?

1. Less than 1 year

2. 1-5 years
3. 6-10 years
4. 11-20 years
5. More than 20 years
6. Your whole life
7. Don't know/not sure
8. Refused

Do you currently live in a residence that you own or are renting?

1. Own
2. Rent
3. Neither
4. Don't know/not sure
5. Refused

What type of housing structure do you currently live in? Is it a:

1. Single family home
2. Multi-family home or duplex
3. Apartment or condominium
4. Mobile home
5. Other --- specify
6. Don't know/not sure
7. Refused

Do you currently have homeowner or renter's insurance?

1. Yes
2. No
3. Don't know/not sure
4. Refused

Which of the following information sources or social media do you use to obtain information or communicate with family, friends, and officials? {Select all that apply.}

1. Email
2. Facebook
3. Twitter
4. Internet
5. Text messaging
6. Don't know/not sure
7. Refused

What influences you the most when making decisions? Would you say:

1. Your morals and beliefs
2. Your family and friends
3. Your religion or beliefs
4. The law

5. Other --- specify
6. Don't know/not sure
7. Refused

What do you consider to be your political ideology, would you say:

1. Very liberal
2. Somewhat liberal
3. Moderate
4. Somewhat conservative
5. Very conservative
6. Don't know/not sure
7. Refused

How often do you attend church services?

1. At least once a week
2. A couple times a month
3. A couple times a year
4. Almost never
5. Don't attend church services
6. Don't know/not sure
7. Refused

What was the last grade in school you completed?

1. Grades 11th or less
2. Completed high school or 12th grade equivalent
3. Some college
4. Completed college
5. Some graduate work
6. Don't know/not sure
7. Refused

I am going to read some income categories, stop me when I get to the one that best describes your total 2010 household income from all sources before taxes.

1. Below \$20,000
2. \$20,000 to \$50,000
3. \$50,000 to \$75,000
4. \$75,000 to \$100,000
5. \$100,000 to \$125,000
6. \$125,000 to \$150,000
7. \$150,000 to \$175,000
8. \$175,000 to \$200,000
9. Above \$200,000
10. Don't know/not sure
11. Refused

In what year were you born? {Enter last two digits for year; enter 0 if born before 1901; enter 98 if don't know; enter 99 if refused.}

Are you currently:

1. Married
2. Member of an unmarried couple living together
3. Single (never married)
4. Separated
5. Divorced
6. Widowed
7. Don't know/not sure
8. Refused

Including yourself, how many adults, 18 years of age or older, live in your household? {Enter exact amount, none is 0.}

How many children under 18 years of age live in your household? {Enter exact amount, none is 0.}

What is your race?

1. White or Caucasian
2. Black or African American
3. American Indian or Native Alaskan
4. Asian
5. Native Hawaiian or other Pacific Islander
6. Respondent indicates multi-racial
7. Respondent indicates some other race
8. Don't know/not sure
9. Refused

Do you consider yourself of Hispanic or Latino ethnicity?

1. Yes
2. No
3. Don't know/not sure
4. Refused

What is your gender? {If you cannot tell the gender of the respondent, ask now.}

1. Male
2. Female
3. Don't know/not sure
4. Refused

APPENDIX B
RESEARCH ADMINISTRATION APPROVAL



MISSISSIPPI STATE
UNIVERSITY

Compliance Division
Administrative Offices
Animal Care and Use (IACUC)
Human Research Protection
Program (IRB)
1207 Hwy 182 West
Starkville, MS 39759
(662) 325-3496 - fax

Safety Division
Biosafety (IBC)
Radiation Safety
Hazardous Waste
Chemical & Lab Safety
Fire & Life Safety
70 Morgan Avenue
Mississippi State, MS 39762
(662) 325-8776 - fax

<http://www.orc.msstate.edu>
compliance@research.msstate.edu
(662) 325-3294

June 3, 2010

Tonya Thornton-Neaves
SSRC
Mailstop 9628

RE: IRB Study #10-150: The Social Climate for Disaster Preparedness

Dear Ms. Thornton-Neaves:

The above referenced project was reviewed and approved via administrative review on 6/3/2010 in accordance with 45 CFR 46.101(b)(2). Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months. These changes will be posted online at <http://www.orc.msstate.edu/human/aahrpp.php>. The first of these changes is the implementation of an approval stamp for consent forms. The approval stamp will assist in ensuring the IRB approved version of the consent form is used in the actual conduct of research.

Please refer to your IRB number (#10-150) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at cwilliams@research.msstate.edu or call 662-325-5220.

Sincerely,

Christine Williams
IRB Compliance Administrator

cc: SPA

Office of Regulatory Compliance • Post Office Box 6223 • Mississippi State, MS 39762

APPENDIX C
POPULATION SUMMARY TABLES

| Race - "What is your race?" | | | | | |
|---|-----------|-------|-------|-------|-----------------|
| (Percentage responding by all people surveyed by column, N-2473) | | | | | |
| Characteristic | N Size | White | Black | Other | Chi / Gamma |
| Total | | 53.5 | 11.1 | 35.4 | |
| State | | | | | |
| Alabama | 272 | 13.5 | 23.1 | 3.4 | .000 / .408 |
| Florida | 620 | 30.7 | 22.0 | 17.5 | |
| Louisiana | 313 | 14.0 | 19.9 | 8.3 | |
| Mississippi | 271 | 15.1 | 17.7 | 2.6 | |
| Texas | 998 | 26.8 | 17.3 | 68.1 | |
| Gender | | | | | |
| Male | 1167 | 47.9 | 46.0 | 46.6 | .770 / |
| Female | 1304 | 52.1 | 54.0 | 53.4 | .023 |
| Age | | | | | |
| 18-24 Years | 329 | 12.1 | 16.6 | 15.8 | .000 / -.055 |
| 25-44 Years | 771 | 33.3 | 39.9 | 29.8 | |
| 45-64 Years | 857 | 35.3 | 32.8 | 38.9 | |
| 65+ Years | 399 | 19.3 | 10.7 | 15.5 | |
| Education | | | | | |
| Less than High School | 320 | 9.1 | 13.6 | 18.8 | .000 / -.175 |
| High School Graduate | 752 | 29.2 | 39.6 | 30.0 | |
| Some College | 559 | 23.8 | 22.0 | 21.4 | |
| College Graduate and Above | 823 | 37.9 | 24.9 | 29.7 | |
| Income | | | | | |
| Below \$20,000 | 528 | 22.5 | 40.0 | 34.3 | .000 / -.201 |
| \$20,000 to \$50,000 | 458 | 24.2 | 33.3 | 23.2 | |
| Above \$50,000 | 855 | 53.3 | 26.7 | 42.5 | |
| Ideology | | | | | |
| Liberal | 482 | 17.2 | 30.5 | 26.2 | .000 / -.167 |
| Moderate | 603 | 27.1 | 28.1 | 27.4 | |
| Conservative | 1122 | 55.7 | 41.4 | 46.5 | |
| Note: The tests do not include those who responded "Don't know/not sure" or those who "Refused" to answer the question. | | | | | |

| Education - "What was the last grade in school you completed?" | | | | | | |
|---|--------|-----------------------|----------------------|--------------|----------------------------|-------------------------|
| (Percentage responding by all people surveyed by column, N=2515) | | | | | | |
| Characteristic | N Size | Less than High School | High School Graduate | Some College | College Graduate and Above | Chi / Gamma |
| Total | | 12.9 | 30.6 | 22.7 | 33.8 | |
| State | | | | | | |
| Alabama | 278 | 10.2 | 14.0 | 10.9 | 8.8 | <i>.000 / -.006</i> |
| Florida | 633 | 18.2 | 22.0 | 27.0 | 29.4 | |
| Louisiana | 315 | 17.0 | 14.1 | 9.1 | 11.6 | |
| Mississippi | 271 | 12.7 | 11.7 | 10.9 | 9.2 | |
| Texas | 1018 | 42.0 | 38.1 | 42.1 | 40.9 | |
| Race | | | | | | |
| White | 1309 | 37.2 | 50.8 | 55.8 | 60.3 | <i>.000 / -.175</i> |
| Black | 273 | 11.6 | 14.4 | 10.7 | 8.3 | |
| Other | 872 | 51.3 | 34.8 | 33.5 | 31.5 | |
| Gender | | | | | | |
| Male | 1182 | 53.7 | 48.8 | 38.1 | 48.9 | <i>.000 / .043</i> |
| Female | 1331 | 46.3 | 51.2 | 61.9 | 51.1 | |
| Age | | | | | | |
| 18-24 Years | 331 | 20.8 | 18.2 | 20.3 | 2.9 | <i>.000 / .033</i> |
| 25-44 Years | 781 | 19.9 | 27.8 | 32.2 | 42.4 | |
| 45-64 Years | 876 | 37.2 | 37.2 | 31.1 | 39.4 | |
| 65+ Years | 406 | 22.1 | 16.8 | 16.5 | 15.4 | |
| Income | | | | | | |
| Below \$20,000 | 537 | 66.3 | 37.3 | 27.0 | 7.7 | <i>.000 / .568</i> |
| \$20,000 to \$50,000 | 460 | 13.9 | 32.7 | 31.5 | 17.5 | |
| Above \$50,000 | 867 | 19.8 | 30.0 | 41.5 | 74.8 | |
| Ideology | | | | | | |
| Liberal | 491 | 21.7 | 20.6 | 26.7 | 19.7 | <i>.011 / .012</i> |
| Moderate | 612 | 32.2 | 25.0 | 25.6 | 28.5 | |
| Conservative | 1146 | 46.1 | 54.5 | 47.7 | 51.8 | |
| Note: The tests do not include those who responded "Don't know/not sure" or those who "Refused" to answer the question. | | | | | | |

Income - "I am going to read some income categories, stop me when I get to the one that best describes your total 2010 household income from all sources before taxes."

(Percentage responding by all people surveyed by column, N-1866)

| Characteristic | N Size | Below \$20,000 | \$20,000 to \$50,000 | Above \$50,000 | Chi / Gamma |
|----------------------------|-----------|-------------------|----------------------------|-------------------|-----------------|
| Total | | 28.8 | 24.6 | 46.6 | |
| State | | | | | |
| Alabama | 192 | 12.3 | 12.4 | 7.9 | .001 / .068 |
| Florida | 466 | 23.0 | 28.3 | 24.4 | |
| Louisiana | 229 | 11.0 | 14.2 | 12.1 | |
| Mississippi | 204 | 11.5 | 12.2 | 9.9 | |
| Texas | 774 | 42.2 | 32.9 | 45.6 | |
| Race | | | | | |
| White | 975 | 41.5 | 51.5 | 60.8 | .000 / -.201 |
| Black | 210 | 15.9 | 15.3 | 6.5 | |
| Other | 656 | 42.6 | 33.2 | 32.6 | |
| Gender | | | | | |
| Male | 888 | 39.8 | 50.1 | 51.2 | .000 / -.149 |
| Female | 977 | 60.2 | 49.9 | 48.8 | |
| Age | | | | | |
| 18-24 Years | 224 | 18.3 | 13.5 | 7.7 | .000 / -.037 |
| 25-44 Years | 640 | 24.8 | 35.2 | 41.3 | |
| 45-64 Years | 695 | 37.4 | 34.1 | 40.5 | |
| 65+ Years | 271 | 19.5 | 17.2 | 10.6 | |
| Education | | | | | |
| Less than High School | 252 | 31.1 | 7.6 | 5.8 | .000 / .568 |
| High School Graduate | 557 | 38.7 | 39.6 | 19.3 | |
| Some College | 419 | 21.0 | 28.7 | 20.1 | |
| College Graduate and Above | 636 | 9.1 | 24.1 | 54.9 | |
| Ideology | | | | | |
| Liberal | 361 | 24.2 | 27.5 | 16.3 | .000 / .125 |
| Moderate | 460 | 25.5 | 27.9 | 27.4 | |
| Conservative | 881 | 50.3 | 44.6 | 56.3 | |

Note: The tests do not include those who responded "Don't know/not sure" or those who "Refused" to answer the question.

| Ideology - "What do you consider to be your political ideology, would you say?" | | | | | |
|---|--------|---------|---------------|-------------------|------------------|
| (Percentage responding by all people surveyed by column, N=2261) | | | | | |
| Characteristic | N Size | Liberal | Mod- erate | Conser- vative | Chi / Gamma |
| Total | | 21.8 | 27.3 | 50.9 | |
| State | | | | | |
| Alabama | 240 | 9.9 | 10.0 | 11.2 | .000 / .001 |
| Florida | 572 | 22.1 | 31.9 | 23.1 | |
| Louisiana | 286 | 14.0 | 13.0 | 11.9 | |
| Mississippi | 256 | 9.7 | 9.4 | 13.0 | |
| Texas | 908 | 44.3 | 35.7 | 40.7 | |
| Race | | | | | |
| White | 1183 | 42.1 | 53.2 | 58.7 | .000 / - .167 |
| Black | 249 | 15.8 | 11.6 | 9.2 | |
| Other | 775 | 42.1 | 35.2 | 32.1 | |
| Gender | | | | | |
| Male | 1085 | 42.6 | 49.9 | 49.3 | .023 / -.072 |
| Female | 1174 | 57.4 | 50.1 | 50.7 | |
| Age | | | | | |
| 18-24 Years | 296 | 17.3 | 17.3 | 10.2 | .000 / .134 |
| 25-44 Years | 699 | 33.8 | 34.0 | 30.8 | |
| 45-64 Years | 814 | 36.2 | 30.6 | 42.1 | |
| 65+ Years | 323 | 12.7 | 18.0 | 17.0 | |
| Education | | | | | |
| Less than High School | 267 | 11.8 | 14.1 | 10.7 | .011 / .012 |
| High School Graduate | 661 | 27.7 | 27.0 | 31.4 | |
| Some College | 520 | 28.3 | 21.7 | 21.6 | |
| College Graduate and Above | 801 | 32.2 | 37.3 | 36.2 | |
| Income | | | | | |
| Below \$20,000 | 459 | 30.7 | 25.4 | 26.2 | .000 / .125 |
| \$20,000 to \$50,000 | 426 | 32.4 | 25.9 | 21.6 | |
| Above \$50,000 | 817 | 36.8 | 48.7 | 52.2 | |
| Note: The tests do not include those who responded "Don't know/not sure" or those who "Refused" to answer the question. | | | | | |