LINKING TRUST IN GOVERNMENT WITH FEDERAL DISASTER RELIEF AID:
A CASE STUDY OF HURRICANE-PRONE GULF COAST RESIDENTS

by

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DEDICATION

This is dedicated to my dear heart and husband, Dr. Shariff Dunlap and our wonderful, beautiful children – Victoria, Elijah and Ava. It is my greatest privilege to be your mother.

ACKNOWLEDGEMENTS

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ABSTRACT

LINKING TRUST IN GOVERNMENT WITH FEDERAL DISASTER RELIEF AID:
A CASE STUDY OF HURRICANE-PRONE GULF COAST RESIDENTS

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George Mason University, 2022

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Political trust has declined drastically over decades; however, it is critical to disaster management efforts by the U.S. Federal Emergency Management Agency (FEMA) and its partners. Previous studies examined the impact of the public's critique of government performance as a precursor of political trust. Using Easton's adaptation of systems theory to the political system and a quantitative research design, this dissertation assesses whether an increase in federal disaster relief aid, as a proxy for government performance, will improve the public's trust. This dissertation leverages a constructed dataset which merged survey data on attitudes and beliefs of Gulf Coast residents concerning disaster preparedness and response and FEMA's program data. The findings could be used to craft policies concerning the allocation of emergency response funds to target specific communities where trust wanes.

CHAPTER 1: INTRODUCTION

Since late 1950s, the National Election Study has probed Americans on whether they trust the federal government to do what is right. At the time, approximately 3out of 4 Americans believed so until the 1960s when the country was riddled with the Watergate scandal, the war in Vietnam and an economic downturn.[1] While there were periods of recovery over the many decades, the Pew Research Center data (Figure 1) shows a precipitous and overall downward trend in the public's attitude toward government. This attitude remains historically low to this present day. This phenomenon has piqued the interest of many researchers and thus the concept of trust in government has been extensively studied in the scholarly framework.[2]

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[1] Pew Research Center, "Public Trust in Government: 1958-2021," Pew Research Center - U.S. Politics & Policy, May 17, 2021, https://www.pewresearch.org/politics/2021/05/17/public-trust-in-government-1958-2021/.

[2] Jack Citrin, "Comment: The Political Relevance of Trust in Government," *American Political Science Review* 68, no. 3 (1974): 973–88, https://doi.org/10.2307/1959141; Arthur H. Miller, "Political Issues and Trust in Government: 1964-1970," *The American Political Science Review* 68, no. 3 (1974): 951–72, https://doi.org/10.2307/1959140; Arthur H. Miller, "Rejoinder to 'Comment' by Jack Citrin: Political Discontent or Ritualism?," *American Political Science Review* 68, no. 3 (September 1974): 989–1001, https://doi.org/10.2307/1959142; Marc J. Hetherington, "The Political Relevance of Political Trust," *The American Political Science Review* 92, no. 4 (1998): 791–808, https://doi.org/10.2307/2586304.

Public trust in government remains near historic lows

Trust the federal government to do what is right just about always/most of the time...
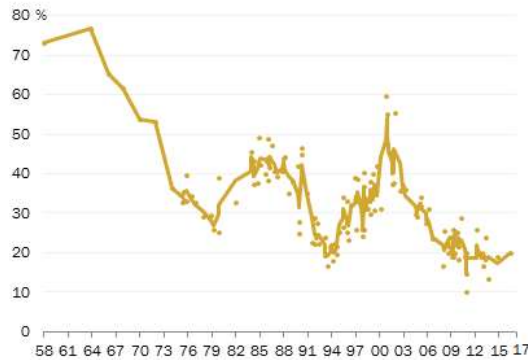
Notes: From 1976-2016 the trend line represents a three-survey moving average.
Source: Survey conducted April 5-11, 2017.
Trend sources: Pew Research Center, National Election Studies, Gallup, ABC/Washington Post, CBS/New York Times, and CNN polls.
PEW RESEARCH CENTER

Figure 1 Trust in government remains near historic lows, The Pew Research Center

The precipitous decline of the public's trust in government has been studied since the 1970s and the issue remains a central discussion in American politics to this day. Given the enormous body of literature on political trust,[3] the question and relevance of trust in government has lost none of its value as it intersects with issues most salient to the public regarding election legitimacy, police and minority communities, news media and Covid-19 pandemic. Many aspects revealed in the study of public trust center around personal security rather than any relative facts related to government behavior. For example, during the COVID-19 pandemic research found that older people trusted their government more than younger people.[4] Investigating deeper into the varying patterns of

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[3] Throughout this dissertation, I use the terms "political trust," "public's trust," and "trust in government" interchangeably. This approach is consistent with how other researchers discuss political trust.

[4] Giray Gozgor, "Global Evidence on the Determinants of Public Trust in Governments during the COVID-19," *Applied Research in Quality of Life*, February 5, 2021, https://doi.org/10.1007/s11482-020-09902-6.

trust, researchers have found that when governments were perceived to respond quickly to pandemic risks and engage the public in decision making this resulted in greater trust.[5]

While there is a plethora of studies that examine the impact of public's critique of government performance as precursors of political trust, to date no study exists that demonstrate the impact of federal disaster relief aid on political trust. Through constructing a single dataset which merges data from two central sources – a 2012 public opinion survey that captures attitudes and beliefs of Gulf Coast residents with respect to disaster preparedness and response and the Federal Emergency Management Agency's (FEMA) Public Assistance program database, this dissertation aims to examine the effects of federal disaster relief aid on political trust.

Statement of the Problem

Since the 1960s, the public's trust in government has declined precipitously. The public's trust is important and a critical component for effective government action, especially within the context of emergency management efforts. When the public believes that the government is performing poorly, the public's trust wanes.

Purpose of the Study

The central purpose of this study is to examine the effects of Federal disaster relief aid, as a proxy for government performance and output, on political trust among residents in hurricane-prone Gulf States. This study addresses whether the public's trust

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[5] Dadang Hartanto and Siti Masliana Siregar, "Determinants of Overall Public Trust in Local Government: Meditation of Government Response to COVID-19 in Indonesian Context," *Transforming Government: People, Process and Policy* 15, no. 2 (January 1, 2021): 261–74, https://doi.org/10.1108/TG-08-2020-0193; Shlomo Mizrahi, Eran Vigoda-Gadot, and Nissim Cohen, "How Well Do They Manage a Crisis? The Government's Effectiveness During the COVID-19 Pandemic," *Public Administration Review* 81, no. 6 (2021): 1120–30, https://doi.org/10.1111/puar.13370.

in local and state government is higher than the federal government with respect to emergency response to disasters.

Research Questions and Hypotheses

This dissertation addresses two central research questions:

- RQ_1 - What are the effects of FEMA disaster relief aid on public trust in government with respect to emergency response to disasters?

- RQ_2 – Is public trust in local and state government higher than federal government with respect to emergency response to disasters?

To explore these questions, the following hypotheses are formulized:

- H_1 – More FEMA disaster relief aid would yield a higher level of trust in government.

- H_2 – More FEMA disaster relief aid yields a higher level of trust in local and state government than federal government.

Dissertation Roadmap

This dissertation is organized as follows: Chapter 2 provides a background on the U.S. Federal Management Agency, explains notable disastrous events since the 9/11 terrorist attacks that have shaped emergency management policy and details new FEMA priorities with respect to environment and social justice issues. Chapter 3 discusses a literature review of the theoretical and seminal works and studies related to political trust and government performance and outputs which informs the study. Chapter 4 lays out the research design to conduct the proposed study to include information on data, procedures and methods of analysis as well as identifies specific research questions and hypotheses

formalized. Chapter 5 presents the results of study. Chapter 6 discusses conclusions,

policy implications, study limitations and suggestions for future research.

CHAPTER 2: U.S. FEDERAL EMERGENCY MANAGEMENT AGENCY

Overview

The Federal Emergency Management Agency, otherwise known as FEMA, was created on April 1, 1979. FEMA is a governmental agency tasked with helping the American people prepare, respond to, and recover from disasters.[6] While emergency management functions are carried out at the local and state levels of government, FEMA is the lead agency at the federal level, charged with the responsibility to help communities to mitigate, prepare, respond, and recover from a disaster. More recently, the agency has focused on building more resilient communities through its programs that provide insurance, mitigation and preparedness strategies and grant assistance.

FEMA is now one of the most important and called upon agencies in the country. However, decades ago, FEMA suffered from a lack of political support during budget allocation processes, a diminished presence within the executive branch and the absence of experience emergency management leadership. Scholars assessed that these issues were precursors to FEMA's failed responses to disasters, such as the Loma Prieta earthquake and Hurricane Hugo in 1989 and Hurricane Andrew in 1992.[7] There are times in which public policy is punctuated by an exogenous event in which results in the

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[6] U.S. Federal Emergency Management Agency, "About the Agency | FEMA.Gov," accessed February 24, 2018, https://www.fema.gov/about-agency.

[7] Louise K. Comfort, William L. Waugh, and Beverly A. Cigler, "Emergency Management Research and Practice in Public Administration: Emergence, Evolution, Expansion, and Future Directions," *Public Administration Review* 72, no. 4 (2012): 540–41, https://doi.org/10.1111/j.1540-6210.2012.02549.x.

creation of a new bureaucracy or change in mission.[8] Since its inception, FEMA has

experienced both incremental and drastic changes with respect to the core statutory laws

and subsequent amendments to existing laws. Exogenous events such as Three Mile

Island, the September 11th terrorist attacks and Hurricane Katrina resulted in a significant

policy response and changes in public law with respect to emergency management

policy, but these disaster events would not be the last that would alter the policy

landscape for the agency.

The purpose of this chapter is to provide an overview of FEMA's mission and the

role it plays in responding to disasters as well as highlight some of the important policy

shifts that has moved the agency to regroup and at times reorganize its priorities in

preparation for the next disaster. This chapter is organized beginning with a discussion on

FEMA's disaster relief assistance programs. The following subsection summarizes

several pivotal disasters and FEMA's response that has shaped emergency management

policy in the post-September 11th attack era. The chapter concludes with a discussion on

the efforts by the current administration to address social and racial injustice that natural

disasters have exposed and that federal disaster relief practices has exacerbated.

Disaster Relief Assistance Programs

Following a disaster, FEMA aids Americans, businesses, State, Local, Tribal and

Territorial partners by providing three types of Federal disaster relief assistance

programs—Public Assistance, Individual Assistance and Hazard Mitigation Assistance.

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[8] Donald F Kettl, *System Under Stress: Homeland Security and American Politics*, Homeland Security and American Politics (Washington, D.C.: CQ Press, 2004), 156–57.

The Public Assistance Program is the largest grant program that FEMA offers. The program helps assess and remove the debris after the disaster and helps fix or clear the roads and bridges by reimbursing the state and local governments.[9] The Public Assistance Program also helps to repair the water lines, utilities, and other critical infrastructure. It grants emergency protective measures, such as the stay in place order. FEMA provides services for the Public Assistance Program at a cost; the federal cost is no less than 75% of the cost, thus leaving the other 25% to the state or tribe.[10]

The Individual Assistance Program allows a person or household to receive funding to help with relocation or rebuilding.[11] It also allows individuals or families with medical or funeral expenses. The Individual Assistance program also helps with crisis counseling, unemployment due to the disaster, legal services for the disaster effects, and nutritional assistance programs to help those affected get food and clean water.

The Hazard Mitigation Assistance Program is for local, state, or tribal governments, as well as some nonprofit organizations, to help mitigate the cost and cleanup of any hazardous material.[12] The Hazard Mitigation Assistance Program is only used in a major disaster declaration. This program was implemented to reduce or prevent any long-term risk to a person's life or property due to the hazardous material.[13] For

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[9] U.S. Federal Emergency Management Agency, "Public Assistance Program and Policy Guide," April 2018, https://www.fema.gov/media-library-data/1525468328389-4a038bbef9081cd7dfe7538e7751aa9c/PAPPG_3.1_508_FINAL_5-4-2018.pdf.

[10] U.S. Federal Emergency Management Agency, "The Disaster Declaration Process," February 2020, https://www.fema.gov/disaster-declaration-process.

[11] U.S. Federal Emergency Management Agency, "Individual Assistance Program and Policy Guide" FP 104-009-03 (January 2019): 273.

[12] U.S. Federal Emergency Management Agency, "Hazard Mitigation Assistance Guidance," February 2015, https://www.fema.gov/sites/default/files/2020-04/HMA_Guidance_FY15.pdf.

[13] U.S. Federal Emergency Management Agency, "The Disaster Declaration Process."

example, FEMA allocates funding through this program to offer homeowners who has repeatedly experience flooding the option to sell their property.

The Impact of Historical Disasters on Emergency Management Policy Since 9/11

When terrorists hijacked planes and flew them into the World Trade Center buildings and the Pentagon on September 11th, U.S. federal agencies were caught off-guard, unprepared, and uncoordinated. The immediate response was implemented by first responders. The response by FEMA was flawed but the agency did provide support to state and local agencies. The agency was not prepared for the extent of the disaster. FEMA supported the efforts of state and local agencies with funding and equipment to help in the search and rescue and assess the extent of the disaster. During the attacks, FEMA did not communicate sufficiently with the country's top leaders. As a result, the response was delayed. The initial response by FEMA was slow and ineffective. According to a post-9/11 report, the FEMA director was slow to contact the President, and there was a lack of preparedness activities. FEMA was created with the purpose of responding to manmade and natural disasters. Once the agency got past the initial logistical challenges and communication breakdowns, President Bush and Congress implemented a $40 billion emergency response package.[14]

This heinous act on U.S. soil, followed by the dogged criticism of a lack of intelligence review and inter-agency coordination, led to the Homeland Security Act (HSA) of 2002, which birthed a new bureaucracy—the U.S. Department of Homeland

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[14] Michael A Crane et al., "The Response to September 11: A Disaster Case Study," *Annals of Global Health* 80, no. 4 (2014): 320–31, https://doi.org/10.1016/j.aogh.2014.08.215.

Security (DHS).[15] Under the HSA of 2002, DHS absorbed 22 other federal agencies, including FEMA, under a single mission to thwart further terrorist attacks from occurring in the U.S., and mitigate damages as a result of such attack.[16] FEMA's prominence, mission and influence to request resources were defused. The terrorist attacks highlighted the flaw in the emergency response and the lack of effective emergency preparedness and response plan. The National Response Plan was implemented in 2004 to establish the National Incident Management System to support efforts of Federal, local, and state agencies to share information about terrorist threats.

As terrorism became the new focal point of DHS, previous priorities under FEMA management regarding mitigating and responding to natural disasters diminished, which foretold the next poor response by FEMA and another shift in disaster relief policy following the mother of all hurricanes—Katrina in 2005. The remainder of this subsection summarizes several pivotal disasters and FEMA's response that has shaped emergency management policy in the post-September 11th attack era beginning with Hurricane Katrina. Additionally, Table 1 provides a summary of major emergency management policy shifts since the post-Sept 11th attacks.

Hurricane Katrina

In the winter of 2004, DHS issued a report on the top 15 worst-case disastrous events, of which 12 were terrorism, and only one discussed the potential of a category

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[15] Louise K. Comfort et al., "Retrospectives and Prospectives on Hurricane Katrina: Five Years and Counting," *Public Administration Review* 70, no. 5 (2010): 669–78, https://doi.org/10.1111/j.1540-6210.2010.02194.x.
[16] Tonya Adamski, Beth Kline, and Tanya Tyrrell, "FEMA Reorganization and the Response to Hurricane Disaster Relief," *Perspectives in Public Affairs* 3 (Spring 2006): 10, http://www.asu.edu/mpa/FEMAReorganization.pdf.

five hurricane.[17] In 2005, Hurricane Katrina made landfall in in the southeastern U.S and wreaked havoc of everything in its path. While forecasts of the impact of Hurricane Katrina were known to government officials, FEMA demonstrated ineptness and egregious missteps with respect to providing federal assistance and supplies to impacted locations.[18] Numerous congressional hearings, investigations, and recommendations ensued. The result led to the reorganization and elevation of FEMA, which was granted greater statutory authority by Congress passing the Post-Katrina Emergency Management Reform Act of 2006.[19] The reform aimed to improve the agency's emergency management system by absorbing all emergency management elements to include preparedness, response and recovery.[20]

An analysis of FEMA's problems and response to Hurricane Katrina, scholars exposed that federal emergency management reform still failed to bring in state and local governments as partners and recognized as the "first responders in nearly all disasters," thereby eschewing federalism or centralization of power during disasters.[21] Birkland and Waterman conclude that "as long as emergency management is valued by the president and the executive branch primarily as a facet of 'homeland security' or 'national

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[17] Adamski, Kline, and Tyrrell, 11.
[18] Adamski, Kline, and Tyrrell, "FEMA Reorganization and the Response to Hurricane Disaster Relief"; William L Waugh Jr, "Local Emergency Management in the Post-9/11 World," in *Emergency Management: Principles and Practice for Local Government*, ed. William L. Waugh Jr and Kathleen J. Tierney, 2nd ed. (Washington D.C.: International City/County Management Association, 2007), 3–21.
[19] Comfort et al., "Retrospectives and Prospectives on Hurricane Katrina."
[20] Comfort et al.
[21] Thomas A. Birkland and Sarah Waterman, "Is Federalism the Reason for Policy Failure in Hurricane Katrina?," *Publius: The Journal of Federalism* 38, no. 1 (2008): 696.

security,' it is unlikely that the federal government will relinquish its domination of this domain, regardless of this stance's actual influence on governmental performance."[22]

Despite all the changes to FEMA, there was a failed national response to Hurricane Katrina. The main problems identified post-disaster were the leadership, communications, logistics, and command-and-control problems.[23] Similar to the attacks on September 11, 2001, repeated warnings about a lack of preparedness went unheeded. Government officials at the federal, state and local levels were not properly prepared despite efforts to reform the emergency response. The disaster exceeded the capabilities of local and state governments. The federal response was slow resulting in a higher number of victims and greater damage, especially in New Orleans. The emergency response was led by available first responders, regular citizens, and churches. The hurricane was the worst natural disaster in the country's history at the time. FEMA was not adequately prepared for a disaster that crossed four states. In Louisiana, there was no plan in the event the levees broke. As a result, many people were left with nowhere to go but the Superdome. Mississippi was the hardest-hit state. Emergency preparedness in the state resulted in the most effective response. Jurisdiction conflict also delayed the response by the federal government. The Post-Katrina Emergency Management Reform Act of 2006 revised the mission, leadership, organizational autonomy, and statutory authority of FEMA.[24] The legislation created new positions within FEMA and regional entities, including the National Integration Center.

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[22] Birkland and Waterman, 710.
[23] Birkland, T. A. Disasters, Catastrophes, and Policy, 2009.
[24] Birkland, T. A. Disasters, Catastrophes, and Policy, 2009.

BP Oil Spill

The Deepwater Horizon incident occurred in 2010 in the Gulf of Mexico. It is the largest oil spill in history.[25] The incident was caused by an explosion of the oil rig. The oil rig was owned and operated by BP Oil Company. The National Institute for Occupational Safety and Health (NIOSH), EPA, and OSHA responded immediately to the disaster. FEMA provided funding and logistical support. The agency experienced deployment issues due to a high number of responding agencies. There was a great deal of intergovernmental conflict creating challenges in the response. FEMA provided an effective emergency response to the conflict. One complaint is there should have been more federal direction, but the responsibility for the response was split between the federal and state governments impacted by the spill.[26] The National Response Framework was revised in 2013 to improve the emergency response. The law supported the development of a domestic incident management system and highlighted the crucial role of state and local governments and private and nonprofit organizations.[27] FEMA adopted a whole community" approach. The Presidential Preparedness Directive 8 was enacted in the same year. The goal of the legislation is to strengthen the security capabilities of the nation.

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[25] U.S. Coast Guard, "BP Deepwater Horizon Oil Spill: Incident Specific Preparedness Review (ISPR) Final Report" (Washington D.C., January 2011), file:///C:/Users/Owner/Downloads/7347.pdf.
[26] Thomas A. Birkland and Sarah E. DeYoung, "Emergency Response, Doctrinal Confusion, and Federalism in the Deepwater Horizon Oil Spill," *Publius: The Journal of Federalism* 41, no. 3 (January 1, 2011): 476, https://doi.org/10.1093/publius/pjr011.
[27] Harrald, J. R. Emergency Management Restructured, 2012.

Boston Marathon Bombings

The Boston Marathon bombing was a terrorist attack by two brothers that resulted in the deaths of three people and the maiming of 260 others. FEMA's response to the domestic terrorist attack was immediate. The federal agency supported the city of Boston and the state's efforts to respond to the attack. A proper emergency preparedness plan was in place. The failures identified in the response include a lack of security at the event and a lack of an all-hazards safety plan.[28] After the attack, city officials and state and federal agencies established a Unified Command Center leading to a more effective coordinated response. The National Disaster Recovery Framework was also implemented in 2011. The framework outlined core principles in disaster recovery and created six new recovery support functions.[29] The framework established the roles and responsibilities of key stakeholders and coordinators involved in recovery and provided a coordination structure for collaboration efforts.[30] The framework was applied to the response to the bombing.

Hurricane Sandy

Hurricane Sandy was the deadliest of the 2012 season; it hit the East coast of the United States, where hurricanes rarely happen, causing billions in damages and killing 233 people. States like New Jersey and New York were hardest hit by the storm. FEMA's response during Hurricane Sandy was to offer personnel, equipment, and funding to help cities and citizens get back on their feet. FEMA declared an emergency declaration and

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[28] Policing Institute, 2014
[29] FEMA, 2011
[30] Ibid, 2011

provided over 50 billion to rebuild the coast.[31] The Sandy Recovery Improvement Act of

2013 revised how FEMA delivered federal disaster assistance to victims and survivors. In

addition, the law implemented a debris removal program and made changes to the current

arbitration and appeals process.

2017 Hurricane Season – Harvey, Irma, and Maria

During the 2017 hurricane season, FEMA responds to three hurricanes and several

natural disasters. The agency is credited with providing an effective response despite

having to stretch the response and resources over several disasters. The agency has built a

culture of preparedness that has supported logistical efforts and promoted effective

communication. FEMA assisted local and state governments in search and resource

operations and supported the response with disaster relief funds.[32] The revisions to the

National Response Framework supported the coordinated efforts of all agencies. FEMA

has supported local and state governments by helping them build the capacity to respond

effectively to disasters.

Coronavirus Disease 2019 Pandemic

The unprecedented response to the Coronavirus Disease 2019 (COVID-19) by

FEMA began with the first confirmed case in the U.S. in late January 2020.[33] It is

believed that this person contracted the highly contagious virus during a trip to Wuhan,

China, which, according to the World Health Organization and Chinese officials has

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[31] Carbone, E. G., & Wright, M. Hurricane Sandy Recovery Science, 2016

[32] FEMA, 2019

[33] U.S. Federal Emergency Management Agency, "Pandemic Response to Coronavirus Disease 2019 (Covid-19): Initial Assessment Report: FEMA Operations January Through September 2020." (Washington, D.C, 2021), 13, https://www.fema.gov/sites/default/files/documents/fema_covid-19-initial-assessment-report_2021.pdf.

confirmed human infections. As the disease continued to spread throughout the U.S., resulting in alarming and frightening hospitalizations and deaths, the initial federal government response was chaotic, dismissive, uncoordinated, lacking commonsense, and often devoid of scientific expertise. As a result, there is an ongoing investigation by the House select subcommittee on the pandemic response in which the committee will delve into the Trump administration's political interference in response to the pandemic.[34]

The Trump administration is both credited for pushing the ineffective and potentially harmful treatment of hydroxychloroquine as well as accelerating the development and distribution of a viable vaccine through a public-private partnership called Operation Warp Speed. However, there were missed opportunities for a successful rollout of the vaccine due to a lack of coordination between the federal and state governments. Despite these challenges, FEMA worked directly with the Center for Disease Control and other federal agencies to implement an effective response to the pandemic along with state and local governments. FEMA continues to provide operational guidance, vaccine support and financial assistance.[35]

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[34] Dan Diamond, "House Panel Renews Probe into Trump Administration's Interference with Covid Response," *WP Company LLC d/b/a The Washington Post [Database Online]*, 2021.
[35] FEMA, 2021

Table 1 Major Policy Changes in Emergency Management post-Sept 11th attacks

Policy	Changes	Implementation
Homeland Security Act of 2002	• Established DHS, incorporating 22 government agencies, including FEMA (Birkland 2009)	• Coordination challenges among federal agencies • FEMA's mission and organizational shift (Birkland 2009)
National Response Plan (2004)	• Established National Incident Management System (a centralized and formalized coordinating system) (Harrald 2012) • Required state and local governments comply with the system (Harrald 2012; Kapucu 2009) • Emphasized terrorism and prevention (Birkland 2009) • Increased number of support functions and agencies, as well as the complexity of agency interactions	• A closed, centralized, and bureaucratic system (Birkland 2009) • Not fully implemented at the state and local government levels • Confusion about command, authorities, and responsibilities (Col 2007) • Formal and informal response systems became divided with restricted formal access for volunteer and emergent groups (Harrald 2012; Roberts, Ward, and Wamsley 2012)
Post-Katrina Emergency Management Reform Act of 2006	• Prescribed multiple changes to FEMA's mission, leadership, organizational autonomy, and statutory authority (Birkland 2009) • Created new positions within FEMA and regional entities, including the National Integration Center (Gall and Cutter 2012) • Protection added as a fifth CEM	• Local government still lacks capacity (Harrald 2012) • National Communication Systems remained under DHS, which could cause communication problems, as seen in Hurricanes Andrew and Katrina and September 11 (Gall and Cutter 2012) • National preparedness lacking for the medical and private sector industries, community recovery, and information sharing (Gall and Cutter 2012)
National Response Framework (2008, 2013)	• Refocused on all hazards and community capacity • Highlighted the crucial role of state and local governments and private and nonprofit organizations (Harrald 2012) • Revised in 2013 with a new focus on the whole community (FEMA 2013b)	• Interorganizational and cross-sector collaboration (Kapucu 2008, 2009) • Collaborative emergency management (Kapucu 2008, 2009) • Capacity building of local communities to deal with disasters (Birkland 2009)
Presidential Preparedness Directive 8 (2011)	• "Whole community" approach (FEMA 2011b) • National Preparedness Guidance with 15 scenarios (FEMA 2011b) • Created a new National Preparedness Goal (FEMA 2011b)	• National Preparedness System built to achieve the National Preparedness • Goal (FEMA 2011b)
National Disaster Recovery Framework (2011)	• Outlined core principles in disaster recovery and created six new recovery support functions (FEMA 2011a) • Defined roles and responsibilities of key stakeholders and coordinators involved in recovery and provided a coordination structure for collaboration efforts (FEMA 2011a)	• Collaborative efforts on building disaster resilience • Emphasis on collaborative emergency management (FEMA 2011a) • Still in the process of implementation at the state and local government levels
Sandy Recovery Improvement Act of 2013	• Changed how FEMA delivers federal disaster assistance and allowed for greater flexibility in federal funds (FEMA 2021a) • Implemented a debris removal program (FEMA 2021a)	• Provides grants for public assistance and increase funding levels • Funds the repair and replacement of public facilities • Revisions to the appeals process

| Disaster Recovery Reform Act of 2018 | • Reforms disaster response and recovery coordination and partnerships to improve collaboration. (FEMA 2021b)
• Reduces the complexity of FEMA and provides hazard mitigation grant funding (FEMA 2021b) | • Builds the nation's capacity for the next disaster
• Review current agency process and reports to Congress.
• Consolidate information collection |

Source: Qian Hu, Claire Connolly Knox, and Naim Kapucu, "What Have We Learned since September 11, 2001? A Network Study of the Boston Marathon Bombings Response," Public Administration Review 74, no. 6 (November 1, 2014): 698–712, https://doi.org/10.111

<u>Current FEMA Policies Addressing Environmental and Social Justice Issues</u>

While FEMA considers environmental justice when responding to disasters, disparities exist. The mission of FEMA is to avoid discrimination based on race, ethnicity, or national origin.[36] Federal agencies are required to provide populations impacted by disasters with equal assistance and resources in compliance with the Civil Rights Act. Minority populations living in impacted areas should have access to emergency preparedness and response mechanisms to reduce the disaster's impact and help them recover their lives.

Despite the goal of the agency to avoid discrimination, minority populations do not have access to the same resources or federal support.[37] When a disaster occurs, the disparities impacting minority populations only widen. This population is typically the last to be served by FEMA, and the type of compensation they receive does not equate to what other populations receive. President Biden has vowed to change the current approach, but politics have been in place for decades to prevent this type of discriminatory behavior.[38] Simply living in a low-income community will dictate how much compensation is received, this compensation is much lower than the middle-class and upper-class communities.

Along with receiving less aid, communities of color do not receive the same response. Their neighborhood is slow to be cleared of debris, and many are never

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[36] FEMA, 2022

[37] Flavelle, C. Why does disaster aid often favor white people, 2021

[38] The White House, "Executive Order 13985: On Advancing Racial Equity and Support for Underserved Communities Through the Federal Government | FEMA.Gov," The White House, January 20, 2021, https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/.

repaired. FEMA is struggling to address the systematic factors that are causing the disparities. In the past, they have simply been ignored. When minorities lose property and wealth in disasters, a lack of effective assistance makes recovery impossible. In areas with a large population of minorities, there will be no inspection or funds to make repairs.

Finally, FEMA must wrestle with the fact that its grant programs, such as Public Assistance, have historically had a disproportionate impact on low-income and minority communities. Examples of FEMA-funded projects through its disaster relief aid programs are indicated in Table 2 below.

Table 2 Common FEMA-Funded Projects with Environmental Justice Concerns

Project Type	FEMA Program	Potential Environmental Justice Concerns
Debris hauling	Public Assistance	The hauling route runs disproportionately through a low-income or minority community
Debris burning	Public Assistance, Hazard Mitigation Assistance	The debris burning is conducted disproportionately in or upwind of a low-income or minority community
Road repairs or mitigation	Public Assistance, Hazard Mitigation Assistance	Road closures that divert traffic primarily through low-income or minority neighborhood(s)
Relocation of public facilities (e.g., hospitals, fire stations, and parks)	Public Assistance	Disproportionate changes in environmental and health impacts from relocated facilities (such as contaminated sites or limiting available greenspace) or decrease in accessibility of relocated facilities
Closure, relocation, or consolidation of housing, employment opportunities, public schools	Public Assistance	Where the relocation would be to an area with disproportionate environmental and health hazards (such as contaminated sites, or an area with air quality issues), or a decrease in accessibility of relocated facilities
Utility return to pre-disaster condition	Public Assistance	Where the pre-disaster condition would perpetuate disproportionate and adverse impacts
Alternate/Improved Projects and New Construction, Mitigation Reconstruction, Construction of New Communication Towers	Public Assistance, Hazard Mitigation Assistance, Grant Programs Directorate	Disproportionate negative environmental and health impacts from new or improved facilities
Site locations of temporary housing or permanent housing construction	Individual Assistance	Location in an area with existing disproportionate and adverse environmental health hazards
Flood mitigation	Hazard Mitigation Assistance	Redirection of floodwaters that disproportionately affect low-income or minority communities

Source: "Executive Order 12898: Environmental Justice | FEMA.Gov," accessed July 13, 2022, https://www.fema.gov/fact-sheet/executive-order-12898-environmental-justice.

FEMA is attempting to overhaul current policies and procedures to eliminate the disparities by complying with Executive Order 12898 – Environmental Justice which "directs each federal agency to avoid disproportionately high and adverse human health or environmental effects on low-income and minority populations."[39]

<u>Summary</u>

Emergency management in the U.S. has had a long, sordid history of monumental blunders in responding to disasters. FEMA has received scorn and rebuke in the court of public opinion, nationally and internationally, for its response to certain disasters. The agency's performance during these crises has at times led to a major shift in emergency management policy and program creation. Whether responding to a hurricane disaster, distributing a vaccine, or enduring the disproportionate effects of disaster relief assistance on low-income and minority communities, FEMA's performance has shaped the public's trust in government. The waning of public trust in government institutions like FEMA creates serious challenges to their mission. Public trust is a central research aim of this study. The following section situates the research within the extant literature and current debate on the impact of governmental performance, both generally and specifically with respect to disaster response.

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[39] U.S. Federal Emergency Management Agency, "Executive Order 12898: Environmental Justice," accessed July 9, 2022, https://www.fema.gov/fact-sheet/executive-order-12898-environmental-justice.

CHAPTER 3: LITERATURE REVIEW

Introduction

This dissertation is informed by the scholarly literature on political trust. This chapter provides an evaluation of this literature; however, before probing into relevant studies, it is worth noting that political trust is difficult research to undertake. This literature review highlights studies where trust was operationalized as both dependent and independent variables. Also, there are different ways in which trust has been measured. Some scholars proxy for trust through election outcomes, while others leverage opinion polls and surveys that ask direct questions on trust. Therefore, the conceptualization of trust as well as the reverse causality is proof that this research is quite difficult and that questions that remain unsettled within the extant literature.

In spite of these inherent difficulties, it has done little to deter scholars from investigating explanatory factors on trust through empirical research both qualitatively and quantitatively. Political trust, and its opposite, cynicism, have far-reaching implications for how people engage with their governments.[40] Research has shown that in times of economic downturn, higher crime, and possible scandal in government all dramatically affect public perception and trust in government.[41] Essentially, this

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[40] Ben Seyd, "Handbook on Political Trust," *Political Studies Review* 16, no. 1 (February 2018): NP74–NP74, https://doi.org/10.1177/1478929917724127.
[41] Virginia A. Chanley, Thomas J. Rudolph, and Wendy M. Rahn, "The Origins and Consequences of Public Trust in Government: A Time Series Analysis," *Public Opinion Quarterly* 64, no. 3 (November 1,

downward trend in trust signifies that government leaders and their policies bare

responsibility for these issues. However, in times of crises and natural disasters, many

government leaders are held accountable for exogenous events that are ostensibly outside

their realm of power or control.[42] Whether it is reasonable or not to hold leaders

accountable following some act of God, there is no greater time when people in a well-

functioning representative government rely on government the most than in the wake of a

natural disaster or emergency. This dissertation aims to understand how a population

would react to the government's response to such a disaster or emergency event like a

hurricane.

The purpose of this chapter is to present an account of the scholarly literature that

informs this doctoral dissertation. This chapter is organized deductively, beginning with a

definition of trust and a summary of the early scholarship and debate from which a

theoretical framework is derived. The next subsection provides a general overview of

studies that focuses on an array of determinants of trust including political, demographic,

and government performance explanatory variables. This followed by a narrower focus

on studies that investigate the impact of government performance during times of a

disaster as a determinant of political trust. The chapter concludes by pointing out that

federal disaster relief assistance is an unexplored metric of government performance that

2000): 239–56, https://doi.org/10.1086/317987; Jack Citrin and Donald Green, "Presidential Leadership and the Resurgence of Trust in Government," ed. Jack Citrin, *British Journal of Political Science* 16 (1986): 431–53; Hetherington, "The Political Relevance of Political Trust"; Luke Keele, "Social Capital and the Dynamics of Trust in Government," *American Journal of Political Science* 51, no. 2 (2007): 241–54, https://doi.org/10.1111/j.1540-5907.2007.00248.x.

[42] Kevin Arceneaux and Robert M. Stein, "Who Is Held Responsible When Disaster Strikes? The Attribution of Responsibility for a Natural Disaster in an Urban Election," *Journal of Urban Affairs* 28, no. 1 (January 2006): 43–53, https://doi.org/10.1111/j.0735-2166.2006.00258.x.

could have a potential and relevant impact on the public's trust, thereby placing this dissertation within the academic debates.

<u>Defining Political Trust: A Theoretical Framework</u>

In order to study *trust*, one must rely on a clear definition. David Easton is widely credited for adapting 'systems theory' to the political system.[43] Figure 2 depicts Easton's conceptualization of the political system consisting of several relationships that impact each other. Easton asserts that the average citizen engages the political system by either expressing support or demanding changes (inputs) with respect to policies (outputs) of the state. Citizens engage the political system by simply voting or joining a political party or interest group. He argues that the citizen's trust (or distrust) towards the political system affects its legitimacy. He characterizes trust as an expression of how citizens are ***experiencing and evaluating their political system***.
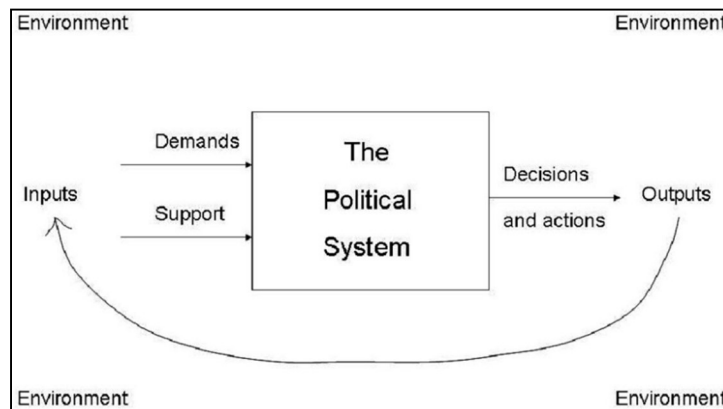
Figure 2 The Political System by David Easton, 1965

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[43] David Easton, *A Systems Analysis of Political Life* (New York, NY: John Wiley & Sons, Inc, 1965).

Easton, conceptually, splits the political system into "regimes" or governmental

entities and the "political authorities" or elected governmental officials.[44] He argues that

distrust of the regime is problematic to remedy through the electoral process and

undermines the government's existence. Conversely, Easton argues that distrust of

political authorities can be fixed through the electoral process. Easton's conceptualization

of trust and the political system laid the groundwork for fruitful empirical analysis and

debate between political scientists Arthur Miller and Jack Citrin on the determinants of

political trust and its steep decline (see Figure 1).

The Miller and Citrin debate in 1974 represented two competing schools of

thought with respect to understanding why trust in government plummeted during the

1960s and 1970s. Miller believed the sharp decline in trust reflected the public's

dissatisfaction towards what Easton coined as the "political regime."[45] Whereas Citrin

argued that the decline in trust in government was a manifestation of how the public

evaluated political authorities or incumbents.[46]

The debate began with a study by Miller, who sought to explore the mechanisms

through which political cynicism was formed.[47] His study measured trust by leveraging

responses to an election study conducted by The University of Michigan Survey Research

Center that asked voters, between 1964 – 1970, the following question: "How much of

the time do you think you can trust the government in Washington to do what is right?"[48]

Miller argued that a decline in trust reflects political cynicism and as the public's

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[44] Easton.
[45] Miller, "Political Issues and Trust in Government: 1964-1970."
[46] Citrin, "Comment."
[47] Miller, "Political Issues and Trust in Government: 1964-1970."
[48] Miller, 953.

disapproval of government performance increases, the public distrust will increase.[49] The main independent variables consisted of response to additional survey questions that focused on their reactions to political issues and public policies such as racial integration of schools and the Vietnam War.

One of the main conjectures entertained by Miller was that people were more likely to express political cynicism if dominant policies regarding central political issues were not aligned with their own expectations and, indeed, seemed very unlikely to ever be aligned. In further examination and follow-up to the study of the decline in trust, Miller surmises that political trust is inherently dependent on the notion that the central government's actions and outputs are in accordance with one's standard and expectations as to how the government should operate.[50]

Challenging Miller's findings, Citrin published a rejoinder in which he argued that trust represented an evaluation of political authorities rather than the U.S. political regime.[51] He supported his argument by highlighting other data and responses to the same election study conducted by the University of Michigan that Miller leveraged for his own empirical research. For example, Miller noted that the 1972 election study revealed that among respondents who had low trust in government, more than 70% were "proud of many things about our form of government," and 43% indicated that they wanted to keep our form of government that way it is.[52] The data appears to contradict Miller's claims

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[49] Miller, 952.
[50] Miller, "Rejoinder to 'Comment' by Jack Citrin," 989.
[51] Citrin, "Comment."
[52] Citrin, 975.

that the public's dissatisfaction is aimed at the political regime and that restoration of trust is contingent on the need for institutional and structural changes.

Considering the contours of the Miller-Citrin debate, this dissertation is more aligned with Citrin's perspective on trust than Miller's. Citrin leveraged an election study's responses on trust and government leadership performance. Similarly, this dissertation leverages survey responses among hurricane-prone residents to understand if disaster relief aid, as a proxy of government performance and response to hurricanes, would impact the public's trust. Therefore, this dissertation would test Citrin's assumption that trust is linked to how the public evaluates the government's response and performance in the aftermath of a hurricane.

Studies on the Determinants of Trust in Government

The scholarly literature on determinants of political trust has been numerous, and conclusions have varied. The following subsections acknowledge how scholars have sought to explain what influences the public's trust. In general, the explanatory variables can be organized as follows: political, demographic, and government performance and output variables.

Political IVs Effects

Some scholars examined the effects of political variables on trust in government; however, it is important to point out that outcomes on trust vary. For instance, some studies found that political trust increased when respondents share the same political

party affiliation as the party in charge of government.[53] Other studies showed a decrease in political trust when voting for the defeated candidate in an election and during times of governmental and political scandals.[54]

But even during times of scandals, the outcome of trust in government is more nuanced and perhaps can deviate from previous conclusions. For example, researchers Zhang and Kim investigated if "citizens' trust in government will increase or decrease as the number of public corruption convictions becomes greater, controlling for other variables."[55] An analysis of the researchers' panel dataset, which included numerous variables such as corruption convictions since 1976, the political ideology of individual citizens in the US and presidential party information, Zhang and Kim's study found that corruption convictions increased public trust, but with greater statistical significance when the president was a Republican.

Demographic IVs Effects

Scholars that focused on demographics as a predictor of political trust have also produced mixed results over time. Some studies have found low levels of the impact of demographics on political trust.[56] Cook and Gronke empirically showed that gender and

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[53] Citrin, "Comment"; Joseph Gershtenson, Jeffrey Ladewig, and Dennis L. Plane, "Parties, Institutional Control, and Trust in Government*," *Social Science Quarterly* 87, no. 4 (2006): 882–902, https://doi.org/10.1111/j.1540-6237.2006.00441.x.

[54] Christopher J. Anderson and Andrew J. Lotempio, "Winning, Losing and Political Trust in America," *British Journal Of Political Science* 32, no. 2 (2002): 335–51; Shaun Bowler and Jeffrey A. Karp, "Politicians, Scandals, and Trust in Government," *Political Behavior* 26, no. 3 (September 1, 2004): 271–87, https://doi.org/10.1023/B:POBE.0000043456.87303.3a.

[55] Yahong Zhang and Min-Hyu Kim, "Do Public Corruption Convictions Influence Citizens' Trust in Government? The Answer Might Not Be a Simple Yes or No," *The American Review of Public Administration* 48, no. 7 (October 1, 2018): 685–98, https://doi.org/10.1177/0275074017728792.

[56] Jack Citrin and Samantha Luks, "Political Trust Revisited; Deja vu All Over Again?," in *What Is It about Government That Americans Dislike?*, ed. John R. Hibbing, Elizabeth Theiss-Morse, and James H. Kuklinski (New York: Cambridge University Press, 2001), 9–27; Robert Z. Lawrence, "Is It Really the

religiosity were strong predictors, whereas education did not significantly affect trust in government.[57] One study affirmed the hypothesis that at the national level, blacks have lower trust in government and higher trust in local government.[58] The authors, Howell and Fagan point out that "whites are not very different locally and nationally" and conclude that blacks are more responsive to their political environment than are whites.[59] However, these factors may change over time, which is why the question continues to be studied. Given that demographics in the U.S. have shifted over time, as well as the timeframe of when the studies were conducted, it is understandable that there are mixed results with respect to trust in government.

A more recent study by Tanny and Al-Hossienie investigated factors impacting trust is government by first redefining the concept of trust.[60] Trust was clarified as two parties who hold favorable perceptions of each other, enabling each other's expectations to be fulfilled. This definition does not have a moral foundation and has more to do with perception and expectation. Studying this aspect of trust in government, the factors found to support trust include "socio-demographic variables, belongingness to social networks, fair and competitive election, presence of democratic governance, politicization-free watchdog institutions, effective economic & social policy, e-governance initiatives as

Economy, Stupid?," in *Why People Don't Trust Government* (Cambridge, Mass: Harvard University Press, 1997), 111–32; Timothy E. Cook and Paul Gronke, "The Skeptical American: Revisiting the Meanings of Trust in Government and Confidence in Institutions," *The Journal of Politics* 67, no. 3 (2005): 784–803, https://doi.org/10.1111/j.1468-2508.2005.00339.x.

[57] Cook and Gronke, "The Skeptical American."

[58] Susan E. Howell and Deborah Fagan, "Race and Trust in Government: Testing the Political Reality Model," *The Public Opinion Quarterly* 52, no. 3 (1988): 343–50.

[59] Howell and Fagan, 345–46.

[60] Tahmina Tanny and Chowdhury Al-Hossienie, "Trust in Government: Factors Affecting Public Trust and Distrust," June 1, 2019, 49–63.

well as decentralization of services."[61] The common theme in these factors is that people

will choose to trust the government when they choose to trust in the functions of

government that enable their freedom.

Government Policy and Performance IVs Effects

It can be argued that one's perception of how well the government is performing,

regardless of policy preference, could significantly influence the public's trust in

government. The notion of government performance and its outputs (programs) is

multifaceted and wide-ranging, and thus scholars have found other research avenues with

respect to gauging the public's trust. For example, scholars investigating government

performance and outputs on political trust found that negative evaluations of the

President, unfavorable views of the economy, congressional misconduct, and distress

over crime are precursors of diminishing public trust in government.[62]

More recently, populist rhetoric is influencing relative trust and those who live

with inequality consistently experience mistrust.[63] Mark examined the impact of populist

politics and the model's anti-system rhetoric on the variable of public trust.[64] The

author's argument posited that populism could function as a corrective force that can

increase a population's willingness to trust centralized government institutions. The

author relied on a quantitative format that compared findings that described levels of

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[61] Tanny and Al-Hossienie, 49.

[62] Chanley, Rudolph, and Rahn, "The Origins and Consequences of Public Trust in Government"; Citrin and Green, "Presidential Leadership and the Resurgence of Trust in Government"; Citrin and Luks, "Political Trust Revisited; Deja vu All Over Again?"; Hetherington, "The Political Relevance of Political Trust."

[63] Suzanne Leland et al., "Policy Venue Preference and Relative Trust in Government in Federal Systems," *Governance* 34, no. 2 (2021): 373–93, https://doi.org/10.1111/gove.12501; Marlene Mauk, "Rebuilding Trust in Broken Systems? Populist Party Success and Citizens' Trust in Democratic Institutions," *Politics and Governance* 8, no. 3 (2020): 45–58, http://dx.doi.org/10.17645/pag.v8i3.2896.

[64] Mauk, "Rebuilding Trust in Broken Systems?"

public trust before and after implementing reform-minded government programs. Within this model, public trust served as the primary dependent variable while populist reform-guided programs operated as the study's independent variable. The report's findings indicated that populations tended to exhibit a higher degree of trust following the implementation of these programs.

In their article, Leland et al. explored the broader concept of public trust in government systems by comparing two variants.[65] In their qualitative study, the authors contrasted the tendency of the American public to exhibit increasing confidence in state-level governments even as they tend to distrust federal institutions. Leland et al. relied on a comparative-based qualitative assessment that assessed how state and federal approaches to social funding and support for critical programs impacted a population's relative degree of confidence. In this design, the variable of relative public trust represented the dependent variable while a complex range of federal and state-level programs functioned as the independent variable. The study's outcomes indicated that public trust tended to be highest as states increasingly assume responsibilities for funding such programs as unemployment benefits distribution, healthcare, and regional environmental policy.

So far in this literature review, trust has been leveraged as the dependent variable. However, as previously mentioned, trust can be operationalized as both a dependent and independent variable, making this research challenging. In a 2020 study, Macdonald examined the issue of public trust in the context of rising socioeconomic inequality

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[65] Leland et al., "Policy Venue Preference and Relative Trust in Government in Federal Systems."

within the U.S.[66] The researcher hypothesized that trust in government (independent variable) would yield more support for redistribution policies (dependent variable) aimed at closing the income inequality gap. According to Macdonald, public distrust in government institutions tended to rise concurrently with measured levels of expanding economic inequality.

The researcher examined this paradox by constructing a dataset that combines survey responses at the individual level from the Cumulative American National Election Studies (CANES) from 1984 to 2016 and state-level inequality statistics over the same period. Macdonald captures the support for redistribution policies by leveraging multiple survey questions from the CANES that asked the respondent for their opinion on government expenditures, a living wage supported by the government, and public versus private health care insurance. The researcher's independent variables of interest included a measure of trust in government that was captured in several survey questions to include "how often people trust the government to do the right thing"[67] and "how much tax money government wastes."[68] Another independent variable of interest in this study was the state income inequality which was measured as "the income share of the top 1 percent in a particular state-year."[69] The regression results supported the author's hypothesis that higher levels of trust in government positively and significantly impact the support for federal-level action on inequality through redistribution policies.

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[66] David Macdonald, "Trust in Government and the American Public's Responsiveness to Rising Inequality," *Political Research Quarterly* 73, no. 4 (December 1, 2020): 790–804, https://doi.org/10.1177/1065912919856110.
[67] Macdonald, 794.
[68] Macdonald, 794.
[69] Macdonald, 794.

The takeaways from these investigations indicated that in the short term, "political trust increases rather than decreases following populist party success and that this increase in trust is most pronounced in political systems that lack democratic quality, struggle with corruption, and deliver only meager government performance."[70] Macdonald finds that political trust is more moderate in those who experience inequality, which may relate their mistrust more to the idealism of redistribution of wealth rather than representative trust. Leland et al. reinforce these findings by emphasizing the concept of relative trust, which points out that citizen trust levels are relative to their levels of perceiving government funding of essential services.

What about the impact of government performance within the context of an exogenous event, such as a disaster or emergency, on the outcome of political trust? While it is important to examine the trends in the public's trust when a President falls short of expectations or when the country is dealing with an economic downturn, socioeconomic inequality, or crime, these circumstances don't have an immediate and catastrophic impact on the public in the same way a disastrous or emergency does. In fact, there is no other situation in which people viscerally need a competent and responsive government, more so than during a disaster or emergency event. Therefore, it is worth exploring the effects of government policy and performance within the context of a disaster or emergency event on the outcome of political trust. The following subsection provides an account of how scholars have investigated this nuanced aspect of

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[70] Mauk, "Rebuilding Trust in Broken Systems?," 45.

government policy and performance following a disaster or emergency as a predictor of trust.

Government Policy and Performance IVs Effects within Disaster Event Context

How a government responds to a disaster or emergency could understandably impact the public's trust and perception. Some scholars focus on the effects of poor governmental performance in disaster management on trust.

Forgette, King, and Dettrey studied a central question on how one's race determined one's perception of governmental response to Hurricane Katrina.[71] The researchers found that among survivors of Katrina, minorities tend to harbor more cynical and negative views towards the disaster response.

Nicholls and Picou also focus on the residents of Katrina-affected areas and their negative perceptions and experience concerning the government's response as the independent variable in their study.[72] In their study, respondents were asked about their level of trust in government which was leveraged as the dependent variable. The authors confirmed their hypothesis that "negative correlations are expected: the greater the severity of the hurricane experience, the lower the level of trust,"[73] especially in the federal government since the federal agency FEMA was primarily responsible for

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[71] Richard Forgette, Marvin King, and Bryan Dettrey, "Race, Hurricane Katrina, and Government Satisfaction: Examining the Role of Race in Assessing Blame," *Publius*, Publius: The Journal of Federalism, 38, no. 4 (2008): 671–91, https://doi.org/10.1093/publius/pjn017.
[72] Keith Nicholls and J. Steven Picou, "The Impact of Hurricane Katrina on Trust in Government," *Social Science Quarterly* 94, no. 2 (2013): 344–61, https://doi.org/10.1111/j.1540-6237.2012.00932.x.
[73] Nicholls and Picou, 354.

carrying out the hurricane response. The researchers also found that respondents had somewhat higher levels of trust in state and local governments than the federal level.[74]

Similarly, Gasper and Reeves focused on a wider population sample in examining the impact of weather events and governmental performance on gubernatorial and presidential elections from 1970 to 2006.[75] The researchers modeled the vote share for incumbents as a "function of previous electoral performance, the median income of the county, the magnitude of weather damage, and the respective responses of the president and governor."[76] The researchers measured governmental response by examining the instances of disaster declarations at the county level, which they expect would favor the electoral wins for both presidents and governors. This study showed that voters were unwilling to support the presidents and governors at the polls when a severe weather event leaves significant damage behind. However, this finding is eclipsed by the voter's attentiveness to their government's response and actions. The results also showed that voters rebuked the President when he rejected the governor's request for disaster aid relief aid and generally supported the governor at the polls.

Arceneaux and Stein found that support for the incumbent mayor diminished after a 500-year flood caused by a tropical storm in 2001 if the voter felt that their local government was responsible for flood preparation.[77] In this study, the researchers leveraged a unique opportunity where a mayoral election in Houston occurred after

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[74] Nicholls and Picou, 353–54.
[75] John T. Gasper and Andrew Reeves, "Make It Rain? Retrospection and the Attentive Electorate in the Context of Natural Disasters," *American Journal of Political Science* 55, no. 2 (2011): 340–55, https://doi.org/10.1111/j.1540-5907.2010.00503.x.
[76] Gasper and Reeves, 345.
[77] Arceneaux and Stein, "Who Is Held Responsible When Disaster Strikes?"

Tropical Storm Allison made landfall in 2001. Through a survey instrument administered just after the storm hit the city and months before the election, the researchers asked Houstonians a series of questions that gauge their opinions on governmental policies aimed at flood preparation as well as which level of government should be blamed for inadequate preparation for these events. The respondent's vote preference for mayor was a proxy for political trust. A logit regression model showed voters held their elected officials accountable for what is perceived as poor government performance and response to a natural disaster.

Opposite of the prevailing conclusion that poor government performance during disasters is associated with diminished trust in government, Chanley found trust in the American government actually rose following the 9/11 attacks.[78] This was somewhat counterintuitive since the 9/11 attacks were a clear example of the government failing to keep the people safe, which could be expected to lead to declines in levels of political trust. Chanley argued that the 9/11 attacks may have been an example of the government failing to protect the people, but it also focused on an entirely foreign enemy who had just attacked the American homeland and taken American lives. In this context, any resentment that most Americans might have previously felt against the government would have paled in comparison to the fact that all Americans were united in the face of this frightening new and existential threat.

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[78] Virginia A. Chanley, "Trust in Government in the Aftermath of 9/11: Determinants and Consequences," *Political Psychology* 23, no. 3 (2002): 469–83, https://doi.org/10.1111/0162-895X.00294.

Federal Disaster Relief Spending IV Effects

Within the context of disaster or emergency events, a scant number of studies have investigated the relationship between disaster relief expenditures, as a form of government performance and output, as a predictor of trust. In other words, a government's response to these types of exogenous events is often expressed through spending. To date, a limited number of studies in the U.S. context have devoted some attention to understanding disaster relief spending as a determinant of trust.

In Healy and Malhotra's study, the researchers' model leveraged disaster damage and relief spending for more than 3,000 counties or county-equivalent in the U.S. as an explanatory variable, and the presidential election results from 1988 through 2004 was used to construct the dependent variables.[79] The researchers questioned whether voters held the president accountable for governmental responses due to weather events. They found that voters showed support for the incumbent presidential candidate at the polls when disaster relief aid was spent prior to an election. However, these voters showed little support for the incumbent for spending on disaster preparedness. The study estimated that a "$1 spent on preparedness is worth about $15 in terms of future damage it mitigates."[80] Therefore, the lack of political support for the incumbent is a disincentive to push for more investment in disaster preparedness and life-saving governmental policies.

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[79] Andrew Healy and Neil Malhotra, "Myopic Voters and Natural Disaster Policy," *The American Political Science Review* 103, no. 3 (2009): 387–406, https://doi.org/10.2307/27798512.
[80] Healy and Malhotra, 387.

There are two studies that also attempt to address this gap in the literature; however, the researchers focused on another form of post-disaster relief expenditures as a function of government performance and output. FEMA's housing buyout program enables the federal government to acquire flooded properties from individual homeowners. Siders examined the decision-making model used by government officials to determine which homes to offer a buyout.[81] The case study of eight property acquisition programs found that some of the factors in the decision-making model, such as the subjectivity of the government's cost-benefit analysis and lack of attention to historically marginalized communities affected the legitimacy of the program and reduced the participation rates. While FEMA's buyout program aimed to relocate vulnerable populations as a preemptive measure, the program's decision-making process of acquiring properties that are susceptible to flooding, created a sense of distrust among potential homebuyers.

In a similar study, Schwaller et al. employ a mixed-method, qualitative research design to inquire about "what features of the buyout process deteriorates public trust?"[82] The researchers point out that "the success of buyout programs hinges on successful coordination and implementation by local administrators, who represent buyout participants, manage the buyout process at the community level, and connect them to state and federal resources."[83] The authors' findings suggest that public trust is

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[81] A. R. Siders, "Social Justice Implications of US Managed Retreat Buyout Programs," *Climatic Change* 152, no. 2 (January 2019): 239–57, http://dx.doi.org/10.1007/s10584-018-2272-5.
[82] Nora Louise Schwaller et al., "(Mis)Trusting the Process: How Post-Disaster Home Buyout Processes Can Degrade Public Trust," *Natural Hazards*, January 25, 2022, 2, https://doi.org/10.1007/s11069-021-05153-2.
[83] Schwaller et al., 1.

diminished when there is a lengthy buyout process, a lack of transparency about program guidelines as well as the perception of misinformation or incomplete information from government officials.

Summary

The purpose of this literature review is to present the scholarly literature on political trust. The rapid decline in trust in government, as illustrated in Figure 1, has been a hot topic to study over many decades, for which scholars have sought to explain this phenomenon. In so doing, it is noteworthy that the study of trust is complicated research because of the ways researchers have tried to capture and operationalize trust, as well as the way measures of trust have been leveraged as both an independent and dependent variable.

This dissertation adopts Easton's definition of political trust as an expression of how citizens are experiencing and evaluating their political system. Easton's conceptualization of the political system as a dichotomy of "regimes" or governmental entities and the "political authorities" or elected governmental officials has laid the groundwork for fruitful empirical research and discussion on what explains the decline in trust beginning with the Miller-Citrin debate. This dissertation's theoretical framework aligns closely with Citrin's view that when the public expresses low trust in government, it represents a dissatisfaction with political incumbents' policies and government performance rather than the political regime.

After a review of the extensive literature on trust, it is generally accepted among scholars that unfavorable opinions on the economy, negative evaluations of presidents,

scandals, and diminished social capital have explained diminished trust in government.[84] This review has also revealed that sometimes the outcome of trust can vary given a similar independent variable of interest. For example, some studies showed that political trust increased when the respondents shared the same political party identification.[85] Conversely, another study showed that political trust waned when voting for the defeated candidate in an election.[86] Adding to the challenges of investigating trends in the trust literature, demographics have shifted in the U.S. over time, and therefore studies examining its impact on the outcome of trust have produced mixed results.[87]

Finally, this chapter brings into focus a specific area of inquiry within the trust literature in, which few scholars have sought to address: How might the government's performance and response to a disaster or emergency event influence the public's trust and perception? To date, studies investigating the outcome of trust within the context of a disaster or emergency are mixed. Researchers Nicholls and Picou found a negative correlation between the severity of Hurricane Katrina and the respondent's level of trust in government.[88] Oppositely, Healy and Malhotra's study found that voters supported the incumbent presidential candidate when disaster relief aid was spent before an election.[89] The following hypothesis is formulized below:

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[84] Chanley, "Trust in Government in the Aftermath of 9/11: Determinants and Consequences"; Citrin and Green, "Presidential Leadership and the Resurgence of Trust in Government"; Hetherington, "The Political Relevance of Political Trust."

[85] Citrin, "Comment"; Gershtenson, Ladewig, and Plane, "Parties, Institutional Control, and Trust in Government*."

[86] Anderson and Lotempio, "Winning, Losing and Political Trust in America."

[87] Citrin and Luks, "Political Trust Revisited; Deja vu All Over Again?"; Howell and Fagan, "Race and Trust in Government"; Lawrence, "Is It Really the Economy, Stupid?"

[88] Nicholls and Picou, "The Impact of Hurricane Katrina on Trust in Government."

[89] Healy and Malhotra, "Myopic Voters and Natural Disaster Policy."

Hypothesis #1: More FEMA disaster relief aid yields a higher level of trust in

government.

Fewer studies have focused specifically on the effects of government performance

and response with respect to a disaster or emergency on a higher level of trust in local

and state governments than the federal government. Nicolls and Picou found respondents

who had a negative experience with hurricanes had somewhat higher levels of trust in

state and local governments than the federal level.[90] In Gasper and Reaves's study, the

researchers found that voters were unwilling to support both presidents and governors

with their vote when severe weather events result in significant damage.[91] These results,

however, also revealed that when disaster declarations for aid relief were denied by the

President, voters punished the President but supported the governor at the polls.

Arceneaux and Stein found that voters held their elected local officials accountable for

what was perceived as poor government response and performance in dealing with the

flooding from a tropical storm in Texas.[92] The following hypothesis is formulized below:

Hypothesis #2: More FEMA disaster relief aid yields a higher level of trust in

local and state government than the Federal government.

This dissertation adopts a line of scholarly research that examines political trust

through the prism of the public's satisfaction (or dissatisfaction) with government

performance relative to their expectations of how the government should respond in a

post-disaster context. Despite the voluminous body of literature on trust, it is clear from

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[90] Nicholls and Picou, "The Impact of Hurricane Katrina on Trust in Government," 352–53.
[91] Gasper and Reeves, "Make It Rain?"
[92] Arceneaux and Stein, "Who Is Held Responsible When Disaster Strikes?"

this literature review that FEMA's largest disaster relief aid, through the Public

Assistance program, as a proxy for government performance and output, remains an

understudied variable of interest in the political trust literature. This dissertation satisfies

this gap by formulating the following research questions:

- RQ_1 – What are the effects of FEMA disaster relief grants on public trust in

    government with respect to emergency response to disasters?

- RQ_2 – Is public trust in local and state governments higher than in federal

    government with respect to emergency response to disasters?

CHAPTER 4: RESEARCH METHODOLOGY

Introduction

The purpose of this study was to examine the impact of FEMA disaster relief aid on trust in government. In Chapter 4, the research design and methodology as well as the sampling procedures, operationalization of study variables, data analysis and the study's limitations are discussed.

Design and Methodology

In this study, the impact of FEMA disaster aid on trust in government was examined using quantitative methods, which are most appropriate for examining the effects of FEMA disaster aid on trust in government.[93] In contrast, a qualitative approach is most suitable for exploring information concealed in the participants' responses.[94] A predictive design aligns with the research questions and is appropriate for measuring the impact of FEMA disaster aid on trust in government.[95]

In this study, an ordered probit regression analysis was used to analyze the determinants of trust in government, specifically, FEMA disaster relief aid in the form of public assistance grants. An ordered probit regression model is appropriate because the responses to the survey question leveraged as the dependent variable, "how often do you

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[93] Donald R. Cooper and Pamela S. Schindler, *Business Research Methods*, 12th ed. (Boston, MA: Irwin/McGraw-Hill, 2014).

[94] Paul D. Leedy and Jeanee Ellis Ormrod, *Practical Research: Planning and Design*, 12th edition (NY, NY: Pearson, 2019).

[95] Leedy and Ormrod.

trust the government to do what is right?" are ordinal rather than continuous. Specifically, the responses are coded from 1 to 5 and ordered as follows: Never, Rarely, Sometimes, Most of the Time, and Almost Always. Given the ordinal nature of the responses of the dependent variable, an ordinary least squares regression technique would result in spurious probabilities and negative variance estimates and therefore not appropriate for the study.[96]

Also in this study, a multinomial logit regression analysis was used to determine if disaster relief aid yields more trust in local and state government than the Federal government. A multinomial logit regression model is appropriate because the responses to the survey question leveraged for the dependent variable, "who do you trust more?" are categorical and unordered. Specifically, the responses are coded from 1 to 4, where 1 = none, 2 = local government, 3 = state government, and 4 = Federal government. Given that the responses are categorical however unordered, the multinomial logit model is calibrated to relate the propensity to trust a particular level of government (or no level of government at all) to several determinants. In this regard, the independent variable of interest is FEMA disaster relief aid.

Finally, this study examines the effects of various socioeconomic, demographic, and political ideology control variables on both dependent variables. Given its ability to compute predicted or expected values, Stata's margins command allows for more substantive analysis and can illuminate the findings in a more pragmatic and meaningful

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[96] William H. Greene, *Econometric Analysis*, 7th ed. (Boston: Prentice Hall, 2012).

way.[97] Following the margins output, margins plots were created to visually display the results.

<div align="center">**Population and Sampling**</div>

The dataset for the study was constructed by merging the 2012 Enhancing the Coastal IQ Survey: Measuring Knowledge and Attitudes of Gulf Coast Residents with FEMA's Public Assistance Funded Project data. The Mississippi State University's Social Science Research Center conducted the survey. The target population was residents in 10 counties across three Gulf Coast states (i.e., Geneva and Mobile counties in Alabama, East Baton Rouge, Jefferson, Lafourche, Orleans, and St. Charles parishes in Louisiana, and Harrison, Jackson, and Stone counties of Mississippi). Thus, the inclusion criteria were residents in 10 counties across three Gulf Coast states, whereas the exclusion criteria were residents in the Non-Gulf Coast States.

The Social Science Research Center used an enhanced stratified Random Digit Dialing (RDD) sampling design to select the households from their target communities. The RDD sampling design is appropriate because it can draw a sample of families from a group of telephone numbers.[98] In the RDD sampling design, the individual participant's unit of analysis extends to the family or home.

FEMA's Public Assistance Funded Project dataset, accessible on www.FEMA.gov, provides information on the obligated funding for Public Assistance

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[97] Richard Williams, "Using the Margins Command to Estimate and Interpret Adjusted Predictions and Marginal Effects," *The Stata Journal* 12, no. 2 (June 1, 2012): 308–31, https://doi.org/10.1177/1536867X1201200209.
[98] Cooper and Schindler, *Business Research Methods*.

projects. The financial obligation amount per capita was calculated based on census data for each of the ten counties in the study.

While the 2012 Enhancing the Coastal IQ Survey data is at the individual level, and the FEMA Public Assistance data is at the county level, each respondent indicated the county for which they resided, and therefore, the two datasets were joined at the county level.

Operationalization of Study Variables

Dependent Variables

The 2012 Enhancing the Coastal IQ Survey was used to measure public trust in government. The 2012 Enhancing the Coastal IQ Survey is appropriate for the study because it is suitable for measuring public trust in government. The first dependent variable, **TrustGov**, was measured using the following question: "In general, how often do you trust the government to do what is right?" The categorical responses were recorded on a 1 to 5 response scale from "Never" (1) to "Almost Always" (5). In the data set, there were 1,200 respondents, and 33 responded with a noncommittal option. Therefore, the data set remaining for the analysis had 1,167 participants. The survey question is most appropriate for measuring trust in government at the federal level because the question assesses executive and legislative branch performance (Cook & Gronke, 2005). This variable answered how often participants trusted the government. Therefore, this variable is most suitable for measuring how often people trust the government.

The second dependent variable, **TrustMore**, was measured using the following question: "Who do you trust more—Federal, state, or local government? The categorical responses were recorded on a 1 to 4 scale from "None" (1) to "Federal Government" (4). Of the 1,200 respondents, 11 respondents gave evasive answers. Therefore, the data set remaining for the analysis had 1,899 participants. This variable answered how likely people trusted the federal government—and more specifically, if they trusted it over other forms of government. Therefore, this variable is most suitable for measuring if people trust the federal government over other forms of government.

The Social Science Research Center tested the reliability and construct validity of the 2012 Enhancing the Coastal IQ Survey. Cronbach's alphas were adequate (> .7), showing high reliability.[99] There were significant correlations between measures, showing high construct validity (r>.70).

Independent Variable

FEMA's Public Assistance Funded Project dataset provided the federal obligate amount for public assistance grants. The independent variable, **q4public_assistance**, is an ordinal variable that represents the total federal obligated amount per capita in millions for public assistance grants awarded to each county in the study as a response to Hurricanes Dennis (2005), Katrina (2005), Rita (2008), Ike (2008) and Gustav (2008). The total financial obligation amount per capita in millions was aggregated for all of the weather events as a continuous variable, "public_assistance," which was then converted into an ordinal variable on a 1 to 4 scale (1 = "No Public Assistance," 2 = "Low PA," 3 =

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[99] J.C. Nunnally, *Psychometric Theory*, *Psychometric Theory*, 2nd ed., McGraw-Hill Series in Psychology (New York: McGraw-Hill, 1978).

"Medium PA" and 4 = "High PA."). The converted independent variable was labeled "**q4public_assistance**."

Hurricane Severity Comparison

This study leverages the federal expenditures of public assistance grants for Hurricanes Dennis (2005), Katrina (2005), Rita (2008), Ike (2008) and Gustav (2008). This section compares the severity of each hurricane in terms of its destruction when it made landfall in the U.S. Table 3 presents a comparison of attributes of the five hurricane events of the study to include its duration, the Saffir-Simpson Category Index value, hurricane severity index, the total amount of damages exacted, and a breakdown of the hurricane's effects in the states selected for this dissertation.

The hurricane severity index (HSI) is a hurricane rating system on a 50-point scale that classifies a hurricane according to its strength and potential destruction.[100] It considers the size of the wind field (Size: 1-25 points) and wind speed, and force of the wind (Intensity: 1-25 points). HSI was developed to give emergency responders a more accurate picture of a tropical cyclone's potential for destruction. Comparatively, the Saffir-Simpson scale (ranging from category 1 to 5) classifies each hurricane according to its max wind speed but does not consider other deadly associate factors to include storm surge, flooding, and tornadoes.[101] As an example, Hurricane Katrina was a Category 3 storm on the Saffir-Simpson scale; however, it was then updated to Category 5 due to the severity of the storm's surge and flooding.

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[100] Christopher G Hebert, Robert A Weinzapfel, and Mark A Chambers, "Hurricane Severity Index: A New Way of Estimating Hurricane Destructive Potential" (Tucson, Arizona: American Meteorological Society, 2010), 4, http://ams.confex.com/ams/29Hurricanes/techprogram/paper_168529.htm.
[101] Hebert, Weinzapfel, and Chambers.

Table 3 shows a hurricane severity comparison of the five hurricane events included in this dissertation. Hurricane Katrina has the highest HSI at 36 out of 50 points, followed by Hurricane Ike at 30. Hurricanes Rita and Gustav are ranked third and fourth, respectively, while Hurricane Dennis is ranked the lowest among the weather events.

Table 3 Hurricane Severity Comparison[102]

	Hurricane Dennis	Hurricane Katrina	Hurricane Rita	Hurricane Ike	Hurricane Gustav
Duration	July 4-13, 2005	August 23-31, 2005	Sept. 18-26, 2005	Sept. 1-15, 2008	August 25 – Sept. 7, 2008
Saffir-Simpson Category* (1 to 5 scale)	4	5	5	4	4
Hurricane Severity Index (50-point scale)	18	36	26	30	20
Total damage in billions (U.S.)	$4	$125	$18.5	$38	$8.3
Impact in Alabama	Modest damage; $127 million, 3 injuries, no fatalities	2 fatalities	No fatalities reported	No damage or fatalities reported	Minimal damage. No fatalities reported
Impact in Louisiana	No damage or fatalities reported	986-1,577 fatalities	$8 billion; 1 fatality	8 fatalities	48 fatalities
Impact in Mississippi	Less damage; $2.6 million, 1 fatality	238 fatalities	$2.5 million; 4 fatalities	No damage or fatalities reported	Minimal damage. 2 fatalities

Note: (*) Classification at the storm's peak intensity

Figure 3 compares several well-known tropical cyclones, including the five hurricanes in this study, according to their category classification on the Saffir-Simpson

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[102] National Oceanic and Atmospheric Administration, "Chronological List of All Hurricanes Which Affected the Continental United States: 1851-2007," 2008, https://web.archive.org/web/20080921102626/http://www.aoml.noaa.gov/hrd/hurdat/ushurrlist18512007.txt.

scale and HSI rating. It graphically depicts Hurricanes Katrina and Rita having higher

HSI values than the other hurricanes in this study.
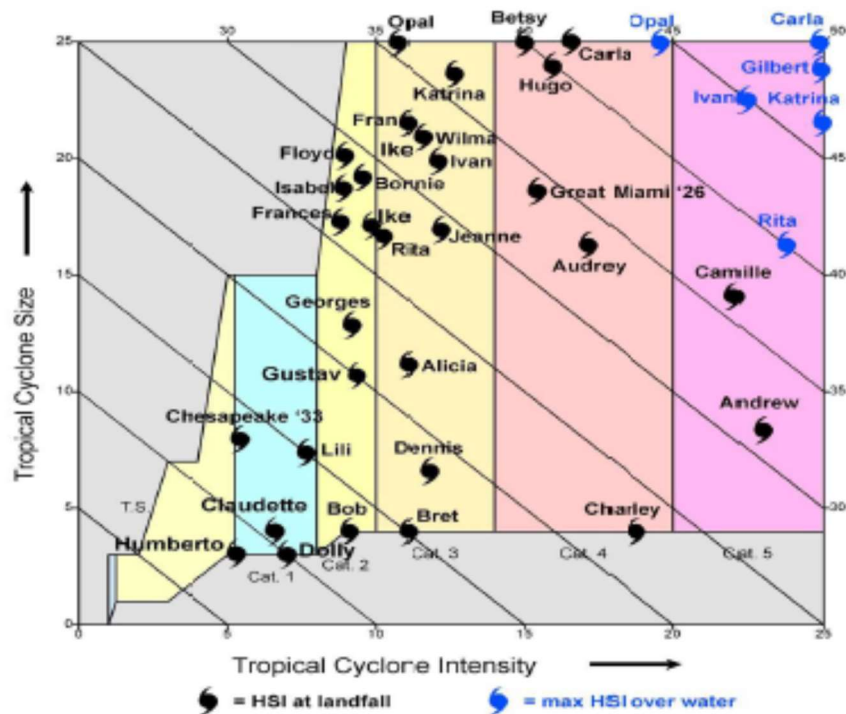
Figure 3 Hurricane severity index comparison for well-known tropical cyclones[103]

Control Variables

Table 4 provides a description of the control variables of the study to include

measurement and coding information.

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[103] Hebert, Weinzapfel, and Chambers, "Hurricane Severity Index: A New Way of Estimating Hurricane Destructive Potential."

Table 4 Description of control variables

Control variables	Measurement
Political factors	
PolitIdeo	What do you consider to be your political ideology? "Very Liberal" (1) to "Very Conservative" (5)
Socioeconomic-demographics factors	
Age	How old are you? "18-24" (1) to "65-99" (5).
Male	= 1; Female = 0
Race:	
White	= 1; 0 = other
Black	= 1; 0 = other
Ethnicity	= 1, respondent is Hispanic or Latino; 0 = other
Income	Last year, what was your total family income before taxes? The categorical responses were recorded on a 1 to 9 response scale from "Below $20,000" (1) to "$200,000 and above" (9)
Education	What was the last grade in school you completed? "Grades 11th or Less" (1) to "Some Graduate Work" (5)
Insurance	Do you currently have homeowner or renter's insurance? "Yes" (1) to "No" (0).
House	What type of housing structure do you currently live in? "Single Family Home" (1) to "Other" (0).
Own	Do you currently live in a residence that you own or are renting? "Own" (1) to "Rent" (0).
Lived	How long have you lived in your community? "Less than 1 Year" (1) to "Your Whole Life" (6).
Policy beliefs	
Responsibility	After a disaster, who should assume the majority of the responsibility for victims? "Privately Funded Organizations" (1), "government agencies" (2), "The victims" (3)
Hurricane awareness	
EvacZone	Is your home located in a hurricane evacuation zone? "Yes" (1) to "No" (0).
LikeliDam	How likely is your home to be flooded or damaged due to wind from a major hurricane? "Very unlikely" (1) to "Very likely" (5)

Data Analysis

This dissertation aims to address two research questions:

- RQ1 – What are the effects of FEMA disaster relief grants on public trust in government with respect to emergency response to disasters?

- RQ2 – Is public trust in local and state governments higher than federal government with respect to emergency response to disasters?

The following hypotheses were formulized to explore these questions:

- H1 - More FEMA disaster relief aid yields a higher level of trust in government.

- H2 – More FEMA disaster relief aid yields a higher level of trust in local and state government than Federal government.

This section describes the procedures employed to test each hypothesis. The first hypothesis was tested using an ordered probit regression model. The second hypothesis was tested using a multinomial logit regression model.

Hypothesis Testing Procedures

Hypothesis #1: More FEMA disaster relief aid yields a higher level of trust in government.

The ordered probit model can determine if there is a statistically significant relationship between more FEMA disaster relief aid (explanatory variable) and a higher level of trust in government (dependent variable: TrustGov). Moreover, the model can reveal unequal differences between ordinal response categories in the dependent variable. In statistics, the ordered probit model is most suitable when the dependent variable has

more than two outcomes and the outcomes are ordered (i.e., TrustGov = *How often do you trust government to do what is right?* 1= Never, 2 = Rarely, 3 = Some of the time, 4 =Most of the time, 5 = Almost always).

The ordered probit model can be expressed as:

$$y_i^* = x_i'\beta + \varepsilon_i$$

where y_i^* is the dependent variable and unobservable representing a level of trust in government; X_i is an explanatory variable that impacts trust in government (FEMA disaster relief aid); B_i is the coefficient for X_i; and e_i is the error term.

In this study, *y* represents the dependent variable, TrustGov, (*How often do you trust government to do what is right?*), which has the following five categorical responses that was considered for the model:

y	=	*1*	*Never*
	=	*2*	*Rarely*
	=	*3*	*Some of the time*
	=	*4*	*Most of the time*
	=	*5*	*Almost Always*

In the ordered probit model, *y** is unobservable until it crosses a threshold. So, in this case, the latent continuous variable is divided into five groups with four thresholds or cut off points between the different categories. The continuous independent variable, public_assistance, was converted into an ordinal scale ("No Public Assistance", "Low PA", "Medium PA" and "High PA.") is the main explanatory variable of interest. The control variables include political ideology, income, education, gender, race, ethnicity,

age, insurance, house (i.e., living in a house), own (i.e., owning a residence), responsibility, EvacZone (i.e., a hurricane evacuation zone), LikeliDam (i.e., damage of home), Lived (i.e., living in a community). The empirical model for hypotheses #1 is expressed as:

> TrustGov = f (Public Assistance, political ideology, income, education, gender, race, ethnicity, age, insurance, house, own, responsibility, EvacZone, LikeliDam, Lived)

The ordered probit regression can predict the probability that a respondent has trust in government among:

- those who felt that they could *never* trust government

- those who felt that they could *rarely* trust government

- those who felt that they could trust government *sometimes*

- those who felt that they could trust government *most of the time*

- those who felt that they could *almost always* trust government

Hypothesis #2: More FEMA disaster relief aid yields a higher level of trust in local and state governments than Federal government.

The multinomial logit model can determine if there is a statistically significant relationship between more FEMA disaster relief aid (explanatory variable) and a higher level of trust in a specific level of government or no trust at all (dependent variable: TrustMore). The multinomial logit results in choice probabilities of the dependent variable (i.e., a respondent has a higher level of trust in local and state government than Federal government) which allows for an easy interpretation of the coefficients.

Moreover, the model allows the coefficients of variables to vary for different categories so that the different impact of variables for each preferred level of government is clearly shown. In statistics, the multinomial logit model is appropriate when the dependent variable has more than two outcomes and there is no order for the responses (i.e., TrustMore = *Who do you trust more?* 1 = None, 2 = Local, 3 = State, 4 = Federal government).

A multinomial logistic regression can be expressed as:

$$P_k(Y_{ij} \leq i|X_j) = \frac{\exp(\alpha_i + \sum_{i=1}^{I} \beta_{ij}X_{ij})}{1 + \exp(\alpha_i + \sum_{i=1}^{I} \beta_{ij}X_{ij})}$$

where Y = is the dependent variable, TrustMore, which has *i* degrees, sequenced with values (1 = None or "No government", 2 = local government, 3 = state government, 4 = Federal government). X_{ij} represents the independent variables and *j* is the number of predictors. Also, a_i, and B_{ij}, represent the constant for the respondent having more trust in a particular level of government or no level of government at all (i), and the regression coefficient, respectively.

$P_k Y_{ij} \leq i \mid X_j$ is the cumulative probability Y_{ij} under the conditional form of i | X_j regarding the respondent having more trust in:

Y = 1	*None or no level of government*
Y = 2	*Local government*
Y = 3	*State government*
Y = 4	*Federal government* and $\sum_{i=1}^{I} P_k(Y_{ij} \leq i|X_j) = 1.$

For this multinomial logit regression model, the respondent's preferred choice in level of government that is trusted the most is modeled using FEMA disaster relief aid (public assistance) as well as the control variables in the study. The baseline comparison group for the model is "Federal government." The comparison groups are "No Government," "Local Government," and "State Government." The continuous independent variable, public_assistance, was converted into an ordinal scale ("No Public Assistance", "Low PA", "Medium PA" and "High PA.") is the main explanatory variable of interest. The control variables include political ideology, income, education, gender, race, ethnicity, age, insurance, house (i.e., living in a house), own (i.e., owning a residence), responsibility, EvacZone (i.e., a hurricane evacuation zone), LikeliDam (i.e., damage of home), Lived (i.e., living in a community). The empirical model for hypotheses #2 is expressed as:

TrustMore = f (Public Assistance, political ideology, income, education, gender, race, ethnicity, age, insurance, house, own, responsibility, EvacZone, LikeliDam, Lived)

The multinomial probit regression model can predict the probability that a respondent has more trust in local and state government than Federal government among:

- those who felt that they could not trust Federal, state, or local government
- those who felt that they could trust local government more than state and Federal government
- those who felt that they could trust state government more than local and Federal government

- among those who felt that they could trust Federal government more than local and state government

It is important to note that the results of this model are expressed in terms of the relative risk ratios (RRR) of the coefficient which will allows for determining whether an increase in FEMA public assistance will more likely result in the respondent falling into one of the comparison groups (i.e. "Having no trust in any level government," "More trust in local government" or "More trust in state government") compared to the baseline or referent group (i.e. More trust in Federal government).[104] Therefore, the interpretation of the RRR of the coefficients is as follows:

- If RRR > 1, then there's a higher probability the respondent doesn't have trust in any level of government or has more trust in local or state government (the comparison groups) than having more trust in the Federal government (the referent group).

- If the RRR <1, then there's a higher probability that the respondent has more trust in Federal government (the referent group) than the comparison groups ((i.e. Having no trust in any government, More trust in local government or more trust in state government).

Additional Statistical Procedures

Stata's margin tool allows for more interpretation and ascribe meaning of the ordered probit and multinomial logit regression results in this dissertation by generating

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[104] UCLA: Statistical Consulting Group, "Multinomial Logistic Regression | Stata Data Analysis Examples," accessed July 31, 2022, https://stats.oarc.ucla.edu/stata/dae/multinomiallogistic-regression/.

the adjusted predicted probabilities of trust.[105] Additionally, Stata's margins plot tool provides a graphical representation of the predicted probabilities.[106] This study uses the Stata tool "margins" and "margins plot" to understand the effects and significance of political, demographic or socio-economic independent variables of the study.

Limitations

There were three limitations in the study. First, the important variables were measured by using a self-report questionnaire. My reliance on a self-reported questionnaire can overestimate the reliabilities among the constructs. Second, the target population was residents in 10 counties across three Gulf Coast states. The findings cannot be generalized to other states.[107] Adding other states would lead to more substantial future research.

Third, the history threat can happen when participants experience events affecting public trust in government but are not correlated with FEMA disaster relief aid.[108] The regression threat can occur when participants may pursue increased public trust in government by other means.[109] Controlling for the history threat and the regression threat would lead to more vital future research.

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[105] "Stata | Margins," Stata.com, accessed May 3, 2022, https://www.stata.com/manuals13/rmargins.pdf.

[106] "Stata | Margins Plots," Stata.com, accessed May 3, 2022, https://www.stata.com/stata12/margins-plots/.

[107] Dahlia K. Remler and Gregg Van Ryzin, *Research Methods in Practice: Strategies for Description and Causation* (Thousand Oaks, CA: SAGE Publications, 2010).

[108] John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 3rd ed. (Los Angeles: Sage, 2009); John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 4th ed. (Thousand Oaks, California: SAGE Publications, 2014).

[109] Vijay Vaishnavi, *Design Science Research Methods and Patterns: Innovating Information and Communication Technology*, 2nd ed. (Boca Raton, Florida: CRC Press, 2015), https://doi.org/10.1201/b18448.

Summary

The purpose of this quantitative predictive study was to examine the impact of FEMA disaster aid on trust in government. The independent variable was the total federal obligated amount per capita for public assistance awarded during Hurricanes Dennis, Katrina, Rita, Ike and Gustav. The dependent variables were TRUSTGOV and TRUSTMORE. The target population was residents in 10 counties across three Gulf Coast states. An ordered probit regression model was used to test hypothesis #1 while a multinomial logistic regression was used to test the hypothesis #2.

CHAPTER 5: RESULTS

Chapter 5 presents the results of the analysis considering the research hypotheses and questions being addressed. First, descriptive statistics provided to provide some contextual background and assessment of the statistical properties of the variables. Next, the results of the regression models for each hypothesis are presented.

Descriptive Statistics

The sample is a diverse demographic representation of the country and therefore it can be argued that the study is potentially generalizable rather than specifically for the Southeastern region of the U.S.

Figure 4 shows that when asked, *"How often do you trust government to do what is right?"* a plurality of respondents is somewhat skeptical and either rarely or sometimes trust government. Figure 5 shows that when asked, *"Who do you trust more?"* most respondents have more trust in local government (41%). Trusting state government or no level of government at all were 21% and 20% of the survey respondents, respectively. This is followed by only 18% of the respondents that trust the Federal government more.

Table 5 shows that more than half of the respondents (52%) identify as conservative, less than 30% identify as moderates and the balance of respondents are liberal.

Table 6 presents the demographic characteristics of the sample. The majority of the respondents are older (age 50-99, 63% of respondents), female (59%), and white (75%). The mean household's income is approximately $74,000 and educated with more than half of the respondents having some college experience or college graduate.

Table 7 shows that the respondents are mostly homeowners (82%), live in a single-family home (80%) and have insurance (82%). Additionally, more than half live in an evacuation zone within the study' geographic scope and the have lived in their community for more than 20 years or their whole lives.
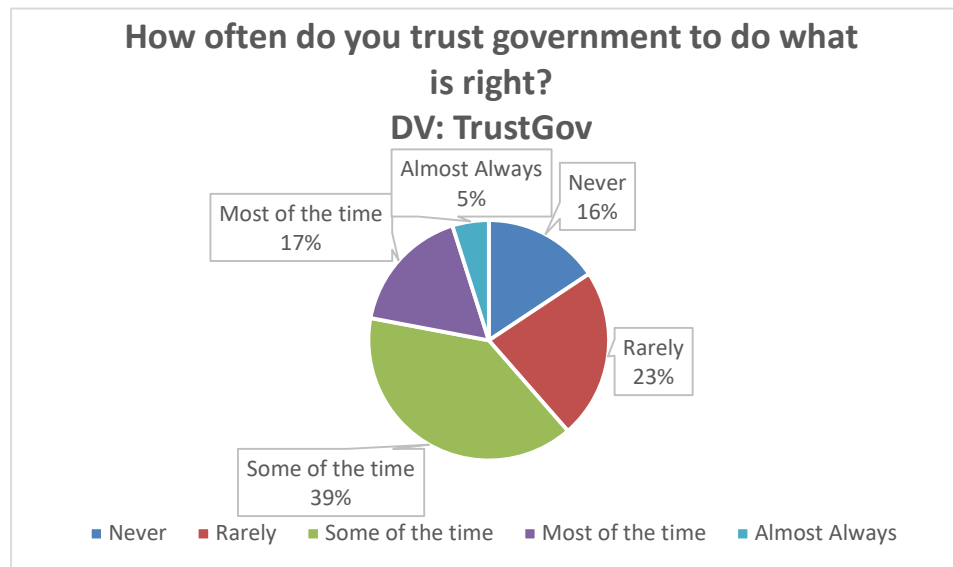
Figure 4 How often do you trust government? (DV: TrustGov)
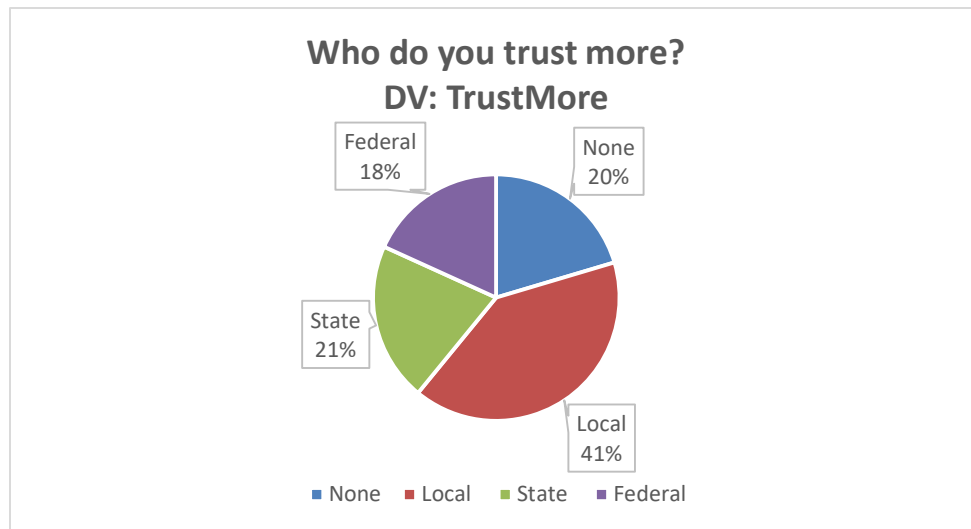
Figure 5 Who do you trust more? (DV: TrustMore)

Table 5 Political ideology of respondents

	Freq.	Percent
What do you consider to be your political ideology?		
Very liberal	67	6.23
Somewhat liberal	141	13.12
Moderate	304	28.28
Somewhat conservative	325	30.23
Very conservative	238	22.14
Total	1,075	100.00

Table 6 Demographics Characteristics

	Freq.	Percent
Age		
18-24	62	5.17
25-34	131	10.92
35-49	240	20
50-64	353	29.42
65-99	414	34.5
Income		
Below $20,000	262	28.85
$25,000 to $50,000	247	27.2
$50,000 to $75,000	177	19.49
$75,000 to $100,000	102	11.23
$100,000 to $125,000	46	5.07
$125,000 to $150,000	35	3.85
$150,000 to $175,000	15	1.65
$175,000 to $200,000	7	0.77
$200,000 and above	17	1.87
Education		
Grades 11th or less	139	12.19
Complete High School or 12th Grade Equivalent	357	31.32
Some College	306	26.84
Complete College	274	24.04
Some Graduate Work	64	5.61
Gender		
Female	719	59.97
Male	480	40.03
Race		
Other	288	24.51
White	887	75.49
Ethnicity (Hispanic or Latino)		
No	1,152	97.3
Yes	32	2.7

Table 7 Individual Data

	Freq.	Percent
Insurance		
No	212	17.91
Yes	972	82.09
House		
Other	234	19.53
Single family home	964	80.47
Own		
Rent	204	17.57
Own	957	82.43
Is your home located in a hurricane evacuation zone?		
No	406	38.34
Yes	653	61.66
How long have you lived in your community?		
1-5 years	131	11.25
6-10 years	145	12.46
11-20 years	143	12.29
More than 20 years	469	40.29
Your whole life	276	23.71

Table 8 Households' Income Total

	Mean	Std. Dev.	Min	Max
Households' income total	74052.64	62904.37	5995	166543

Quantitative Results for Hypothesis #1

An ordered probit regression model was leveraged to examine hypothesis #1:

More FEMA disaster relief aid yields a higher level of trust in government.
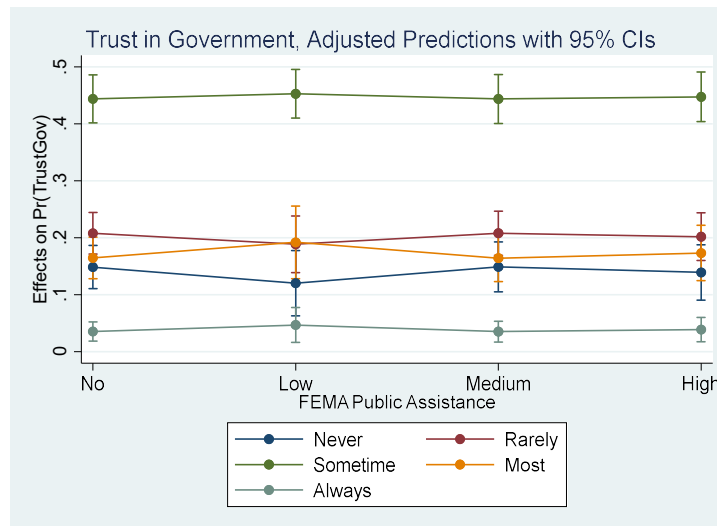
Figure 6 Margins plot of effects of FEMA Public Assistance on trust in government

The results of the ordered probit regression as shown in Table 9, do not support the hypothesis. Specifically, **public assistance IV** was positive and not significant at the 10% level (b = 0.008, s.e. = 0.038, p-value = 0.824). Formally speaking, the more public assistance awarded to a respondent's county, the more likely the respondent has a modestly higher level of trust in government. However, other than the sign of the coefficient, public assistance was not a significant predictor of trust in government. Therefore, the study fails to reject the null hypothesis. Additionally, the margins plot in Figure 6 shows a flattened trend indicating little to no effects of FEMA public assistance on trust in government.

There are some interesting demographic results worth noting. Specifically, the results show that **white** respondents and younger respondents (25-49 years of age) are more likely to have lower trust in government, while **black** respondents are more likely

to trust government. **Race** (White v. other and Black v. other) and **age** (younger

categories of 25-49 years old) were significant at the 10% level. Therefore, race and age

are such significant predictors of trust in government, that an increase in disaster relief

spending makes little to no difference in the level of trust among these specific

demographic groups. Figures 7 - 11 shows the effects of race on trust in government for

the different levels of FEMA disaster relief aid. In general, regardless of the level of

FEMA disaster relief aid, white respondents are consistently more skeptical and

distrustful of government than other races.

Meanwhile, respondents with more conservative political leanings, less educated,

male, and who lived in their community longer tended to have less trust in government.

Except for a few income categories, if the respondent had more income, they were more

likely to have less trust in the government. However, these predictors were not

significant.

Table 9 Ordered Probit Regression Results (H1) DV: TrustGov

```
Ordered probit regression                        Number of obs =     597
                                                 LR chi2(32)   =   43.97
                                                 Prob > chi2   =  0.0774
Log likelihood = -821.83499                      Pseudo R2     =  0.0261
```

TrustGov	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
q4public_assistance	.0085714	.038549	0.22	0.824	-.0669833	.084126
PolitIdeo	-.0490194	.0399351	-1.23	0.220	-.1272907	.0292519
Male	-.0969388	.0912168	-1.06	0.288	-.2757205	.0818428
White	-.2069753	.1121654	-1.85	0.065	-.4268154	.0128648
Black						
Black or African American	.2693606	.1144366	2.35	0.019	.0450689	.4936523
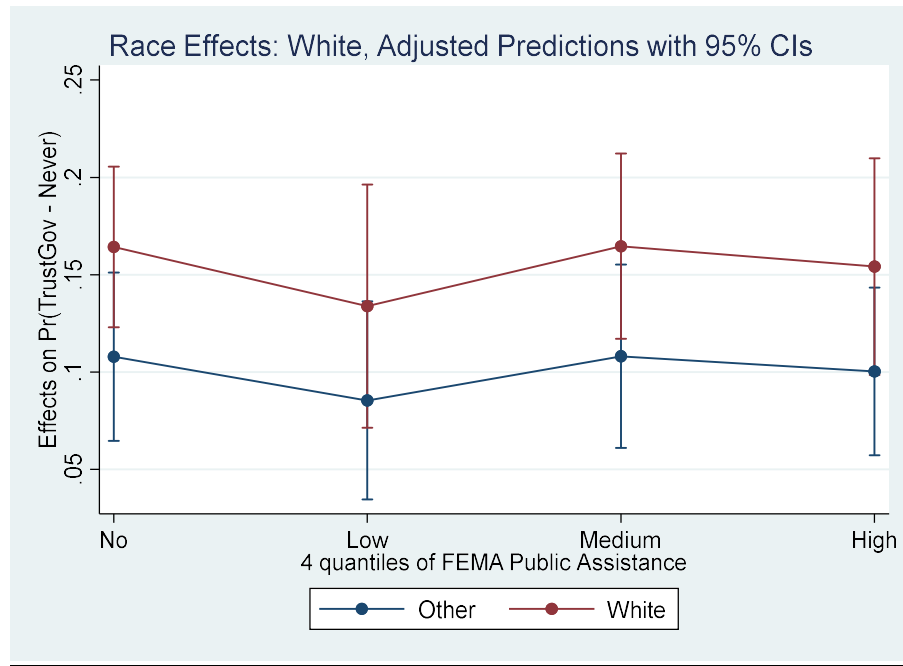
Figure 7 Margins plot of race effects on trust in government for those who never trust
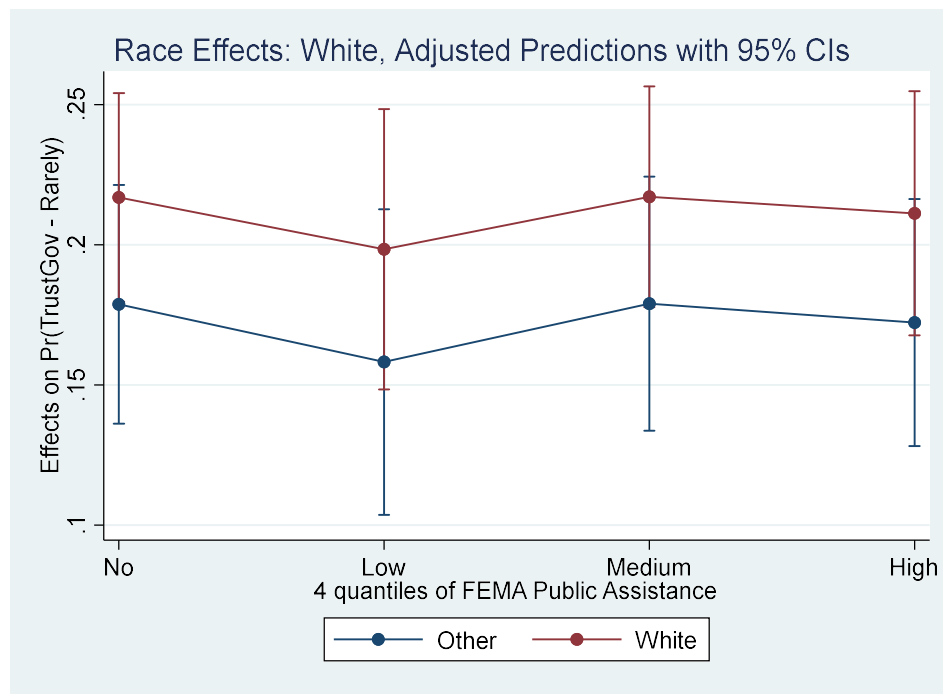
Figure 8 Margins plot of race effects on trust in government for those who rarely trust
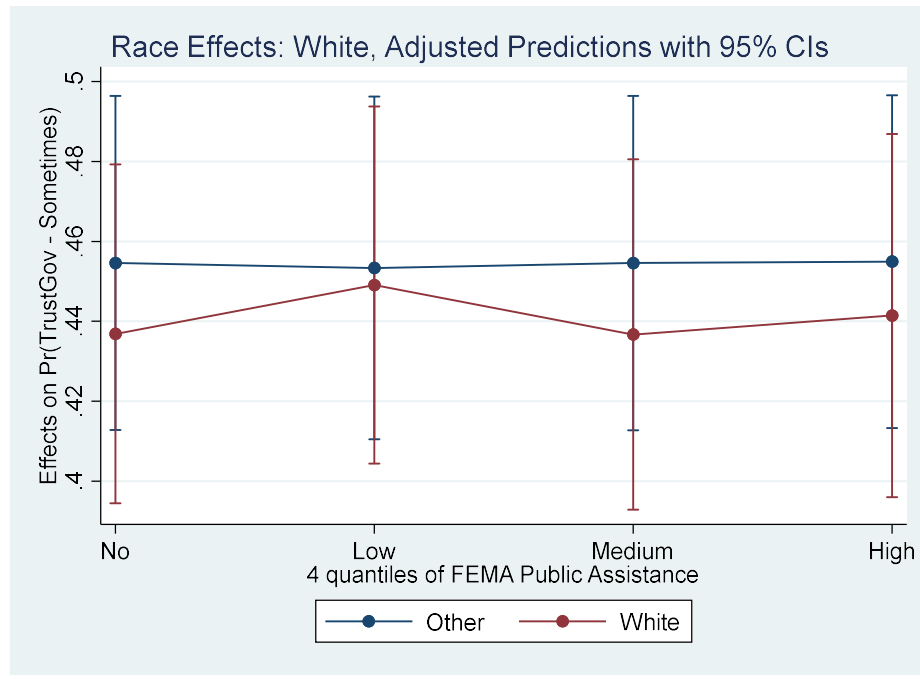
Figure 9 Margins plot of race effects on trust in government for those who sometimes trust
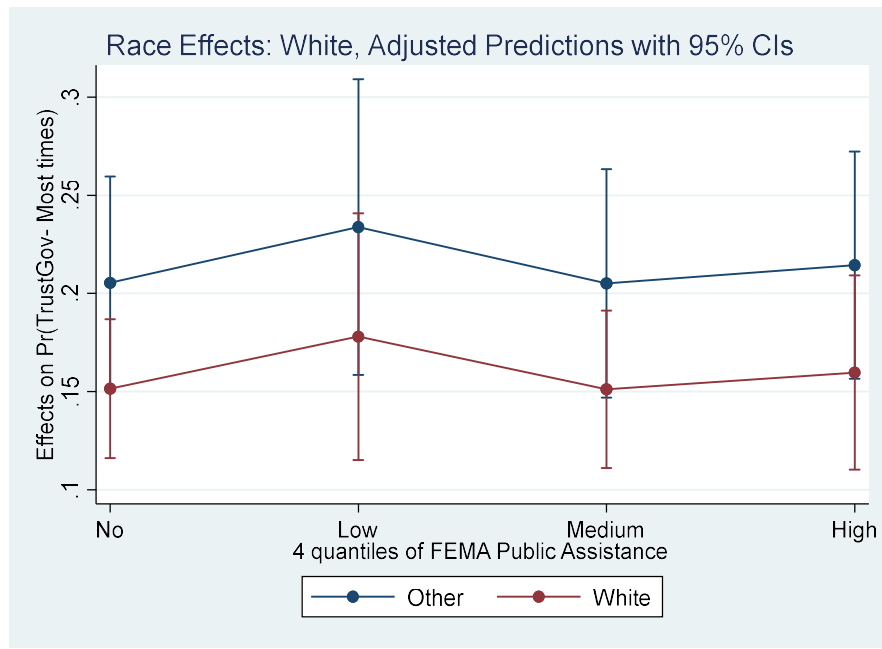
Figure 10 Margins plot of race effects on trust in government for those who mostly trust
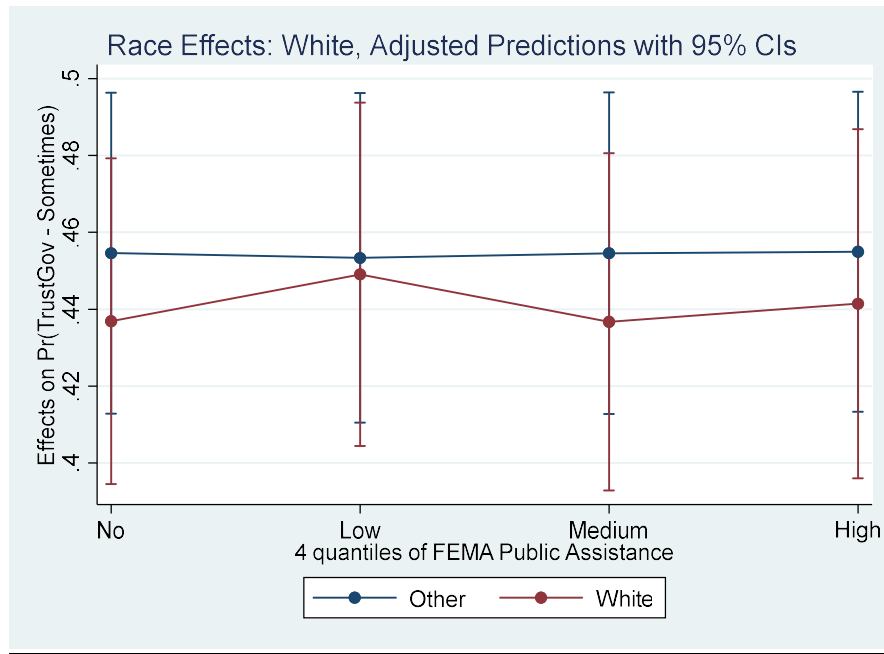
Figure 11 Margins plot of race effects on trust in government for those who always trust

Quantitative Results for Hypothesis #2

A multinomial logit regression analysis was used to examine the hypothesis #2:

More FEMA disaster relief aid yields a higher level of trust in local and state

government than Federal government.

The results of the multinomial logit regression as shown in Table 10, do not

support the hypothesis. It is important to note that the model's output, as shown in Table

10, provides the relative risk ratios of the coefficient which can be interpreted as the

probability that a respondent falls in one of the comparison groups ("No trust in any level

of government," "more trust in local government," or "more trust in state government")

versus the referent group ("More trust in Federal government") given the increase in

Federal disaster relief spending IV. The following discussion compares the likelihood of a respondent falling into one of the comparison groups as opposed to the referent group.

Comparing "no trust in any level of government" (comparison group) to "more trust in Federal government" (referent group)

If **public assistance IV** increases by one unit, the probability of a respondent having no trust in any level of government compared to having more trust in Federal government would be expected to decrease by a factor of 0.753 (p-value = 0.039) given the other variables in the model are held constant. This is statistically significant at the 5% level. Formally speaking, we can say that *if the respondent's county has an increase in public assistance per capita, in millions, the respondent would be expected to have <u>more trust in the Federal government</u> as compared to not having trust in any level of government.* In other words, as Federal disaster relief aid increases, the respondent is more likely to fall into the referent group category (i.e., Having more trust in Federal government) than the comparison group category (i.e., Having no trust in government).

While the results, in general, shows a sample of the population that is more likely to trust the Federal government rather than having no trust any level of government, there are some interesting findings with respect to the demographic attributes of the sample. Specifically, the more conservative leaning in the respondent's **political ideology**, the probability that the respondent not having trust in any level of government compared to having more trust in Federal government would be expected to increase by a factor of 1.254 (p-value = 0.106) given the other variables in the model are held constant. The finding is somewhat significant near the 10% level.

For **male** respondents relative to females, the probability of the respondent not having trust in any level of government compared to having more trust in Federal government would be expected to increase by a factor of 1.966 (p-value = 0.046) given the other variables in the model are held constant. This is statistically significant at the 5% significance level. In other words, males are more likely than females to have no trust in any level of government compared to having trust in Federal government.

For **White** respondents relative to respondents of other races, the probability of the respondent not having trust in any level of government compared to having more trust in Federal government would be expected to increase by a factor of 4.15 (p-value = 0.000) given the other variables in the model are held constant.

Oppositely, **Black** respondents relative to respondents of other races, the probability of the respondent no having trust in any level of government compared to having more trust in the Federal government would be expected to decrease by a factor of 0.232 (p-value = 0.000) given the other variables in the model are held constant.

Comparing "more trust in local government" (comparison group) to "more trust in Federal government" (referent group)

If **public assistance IV** increase by one unit, the probability for a respondent having more trust in local government compared to having more trust in Federal government would be expected to decrease by a factor of 0.772 (p-value = 0.040) given the other variables in the model are held constant. This is statistically significant the 5% level. Formally speaking, we can say that *if the respondent's county has an increase in*

public assistance per capita, in millions, the respondent would be expected to have

<u>more trust in the Federal government</u> as compared to local government. In other words,

as Federal disaster relief aid increases, the respondent is more likely to fall into the

referent group category (i.e. Having more trust in Federal government) than the

comparison group category (i.e. Having more trust in local government).

While the results, in general, shows a sample of the population that is more likely

to trust the Federal government rather than having trust local government, there are some

interesting findings with respect to the demographic attributes of the sample. Specifically,

if the respondent's **political ideology** was more conservative, the probability of the

respondent having more trust in local government compared to having more trust in

Federal government would be expected to increase by a factor of 1.048 (p-value = 0.735)

given the other variables in the model are held constant.

For **male** respondents relative to females, the probability of the respondent has

more trust in local government compared to having more trust in Federal government

would be expected to increase by a factor of 1.603 (p-value = 0.131) given the other

variables in the model are held constant. This finding is somewhat marginally statistically

significant at the 10% significant level.

For **White** respondents relative to other races, the probability of the has more trust

in local government compared to having more trust in Federal government would be

expected to increase by a factor of 11.927 (p-value = 0.000) given the other variables in

the model are held constant.

Oppositely, **Black** respondents relative to other races, the probability of the respondent has more trust in local government compared to having more trust in the Federal government would be expected to decrease by a factor of 0.0837 (p-value = 0.000) given the other variables in the model are held constant.

Comparing "more trust in state government" (comparison group) to "more trust in Federal government" (referent group)

If **public assistance IV** increase by one unit, the probability for a respondent having more trust in state government compared to having more trust in Federal government would be expected to decrease by a factor of 0.795 (p-value = 0.106) given the other variables in the model are held constant. This finding is relatively statistically significant at the 10% level. Formally speaking, we can say that *if the respondent's county has an increase in public assistance per capita, in millions, the respondent would be expected to have <u>more trust in the Federal government</u> as compared to state government.* In other words, as Federal disaster relief aid increases, the respondent is more likely to fall into the referent group category (i.e. Having more trust in Federal government) than the comparison group category (i.e. Having more trust in state government).

While the results, in general, shows a sample of the population that is more likely to trust the Federal government rather than having trust state government, there are some interesting findings with respect to the demographic attributes of the sample. Specifically, if the respondent's **political ideology** was more conservative, the probability of the respondent having more trust in state government compared to having more trust in

Federal government would be expected to increase by a factor of 1.319 (p-value = 0.057) given the other variables in the model are held constant.

For **Male** respondents relative to females, the probability that a respondent has more trust in state government compared to having more trust in Federal government would be expected to increase by a factor of 1.341 (p-value = 0.400) given the other variables in the model are held constant. However, this finding was not statistically significant.

For **White** respondents relative to other races, the probability of the has more trust in state government compared to having more trust in Federal government would be expected to increase by a factor of 15.121 (p-value = 0.000) given the other variables in the model are held constant.

Oppositely, **Black** respondents relative to other races, the probability of the respondent has more trust in state government compared to having more trust in the Federal government would be expected to decrease by a factor of 0.0773 (p-value = 0.000) given the other variables in the model are held constant.

Table 10 Multinomial Logistic Regression Results (H2) DV: TrustMore

Multinomial Logistic Regression: DV: TrustMore (Who do you trust more?)

Reference Category: Federal Government

	No Government		Local Government		State Government	
	RRR (95% CIs)	p-value	RRR (95% CIs)	p-value	RRR (95% CIs)	p-value
Public Assistance	0.7530 (0.575-0.986)	0.039	0.772 (0.604-0.988)	0.040	0.795 (0.602-1.049)	0.106
Political Ideology	1.254 (0.952-1.651)	0.106	1.043 (0.814-1.336)	0.735	1.319 (0.991-1.755)	0.057
Male	1.966 (1.010-3.824)	0.046	1.603 (0.869-2.957)	0.131	1.341 (0.676-2.662)	0.400
White	4.157 (2.039-8.47)	0.000	11.927 (6.124-23.226)	0.000	15.121 (6.531-35.008)	0.000
Black	0.232 (0.113-0.475)	0.000	0.083 (0.0426-0.164)	0.000	0.0773 (0.033-0.177)	0.000

N = 569

LR chi2(95) = 262.32

Prob > chi2 = 0.0000

Pseudo R2 = 0.1752

CHAPTER 6: CONCLUSIONS

Chapter 6 provides a summary and discussion of the quantitative findings, the theoretical and policy implications, study limitations and suggestions for future research.

Summary of Quantitative Findings

H1 aimed to examine if more FEMA disaster relief aid would more likely yield a higher level of trust in government.

This dissertation found that *more FEMA disaster relief aid had <u>little to no effect</u> on the public's trust in government.* Also, the FEMA disaster relief aid IV was insignificant and did not predict the dependent variable. These findings do not align with the current literature that demonstrated that FEMA disaster aid is correlated with trust in government.[110] Specifically, Nicholls and Picou found that " the greater the severity of the hurricane experience, the lower the level of trust" in the federal government since the federal agency FEMA was primarily responsible for carrying out the hurricane response.[111] While Healy and Malhotra found that voters showed support for the incumbent presidential candidate when disaster relief aid was spent prior to an election, this study leverages a survey that directly solicits a response on the participant's trust in government, whereas Healy and Malhotra's study relies on voting behavior as a proxy.

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[110] Healy and Malhotra, "Myopic Voters and Natural Disaster Policy"; Nicholls and Picou, "The Impact of Hurricane Katrina on Trust in Government."

[111] Nicholls and Picou, "The Impact of Hurricane Katrina on Trust in Government," 354.

Therefore, the survey instrument utilized in this dissertation is more reliable than utilizing the vote share to proxy for trust in this regard.[112]

While this finding does not support the hypothesis, the regression results reveal other interesting demographic results. It showed that race (i.e., White v. other, Black v. other) is highly significant and can explain why FEMA disaster relief aid had little to no effect on the public's trust in government. Specifically, white respondents have less trust in the government to do what's right concerning an emergency response than Black respondents. Given that race is such a significant predictor of trust, no amount of disaster relief aid would change the respondent's opinion on trusting the government.

H2 aimed to examine if more FEMA disaster relief aid would yield more trust in local and state government than Federal government.

This dissertation found that ***more FEMA disaster relief aid did <u>not</u> yield more trust in local and state government than Federal government***. More importantly, the FEMA disaster relief aid IV is a significant predictor and the regression results revealed that there is a higher probability that a respondent, whose county received more FEMA disaster aid, would likely have more trust in the Federal government compared to having trust in local or state government. These findings do not align with the current literature that demonstrated that the impact of FEMA disaster aid yielded a higher level of trust in local and state governments than the federal government. Nicolls and Picou found respondents who had a negative experience with hurricanes had somewhat higher levels

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[112] Healy and Malhotra, "Myopic Voters and Natural Disaster Policy."

of trust in state and local governments than the federal level.[113] However, this study offers a more robust methodological approach to include demographic and political ideology information lacking from the Nicholls and Picou study. Gasper and Reeves found that while voters punished the President when he rejected the governor's request for disaster aid relief aid, the voters generally supported the governor at the polls.[114]

While this finding does not support the hypothesis, there are some interesting demographic results to highlight. Specifically, race, gender and political ideology IV effects are significant and could provide more insight.

Race (i.e., White v. other, Black v. Other) is a significant predictor of which level of government the respondent trusts more. White respondents are more likely not to have any trust in any level of government as well as having more trust in local and state than Federal government. Whereas Black respondents are likely to have more trust in the Federal government and less likely to trust local or state government or not having any trust in any level of government.

The results also showed that male respondents, compared to female respondents, are more likely not to have trust in any level of government and more likely to trust the local government as opposed to the Federal government.

Finally, more conservative-leaning respondents compared to more liberal leaning respondents are more likely to have no trust in any level of government and more likely to have trust in state government than Federal government.

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[113] Nicholls and Picou, "The Impact of Hurricane Katrina on Trust in Government."
[114] Gasper and Reeves, "Make It Rain?"

Discussion of Findings

A range of factors can potentially explain why disaster relief spending (i.e., public assistance IV) went against the first hypothesis (H1) and was not able to effectively predict the dependent variable (i.e., *How often do you trust government will do what is right?*). The general question that was being asked involved the issue of how often the respondent trusts that the government does what is right following a disaster and the significance of the interrelated factors that are associated with this question. It is also necessary to be able to effectively explain why the level of disaster relief spending (i.e., public assistance IV) went against the second hypothesis (H2) and whether or not it was able to predict the dependent variable concerning the issue of whether the respondent trusted the Federal, state or local government to a greater degree, or whether the respondent trusted none of these and the level of significance that was involved.[115] The primary factor that must be considered involves the degree to which particular variables shaped the overall outcome of the findings. There is a relationship between the experience of trust in government on the part of individual citizens and the provision of effective disaster relief measures.

During a time of crisis, citizens often become desperate and look to established authority figures as a source of guidance and assistance. A disaster involves a personal calamity for many people and individuals become aware of their own vulnerability. The degree to which public authorities can provide relief becomes a paramount consideration

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[115] Bowler and Karp, "Politicians, Scandals, and Trust in Government."

regarding building public trust in institutions.[116] When the government at any level fails to overwhelmingly respond in a way that provides massive levels of assistance, government will likely be seen as ineffective at best and negligent or even malevolent at worst. It also appears frequently that the level of assistance that is expected from government rises along with the higher level of government because there is a perception that higher levels of government possess a greater among of economic power and the political power necessary to effectively coordinate a relief effort.

Theoretical Implications

The results that have been identified in this dissertation inform the wider theoretical framework that is associated with Easton's systems theory adaptation to the political system. Easton's theoretical model is applicable in this contextual setting for several reasons. First, it needs to be recognized that systems have their own unique dynamics and function in a way that is inclusive of a divergent set of operational processes. Systems are comprised of organizations, and each organization that is part of a system also possesses its own unique culture.[117] Organizations formulate interlocking relationships with each other in a systemic context. Organizations formulate interlocking relationships with each other in a systemic context. However, it subsequently becomes necessary for the systems of organizations involved to adapt to the situational contexts present in particular disaster situations. The level of adaptability that is determined by the organizational culture and its functional apparatus will be a primary determining factor in the ability of organizations to provide effective relief efforts.

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[116] Chanley, "Trust in Government in the Aftermath of 9/11: Determinants and Consequences."
[117] Hetherington, "The Political Relevance of Political Trust."

Developmental factors are often critical to the operational context that allows organizations and the systemic processes of which they are a part to cultivate relief efforts that meet public needs when a natural disaster occurs. It is important to consider the full range of factors involved in applying internal procedures to the disaster management effort that is being pursued.[118] The ability of federal, state, and local governments to cultivate relief models in ways that include the developmental features that are conducive to the attainment of a high level of public trust is essential. However, perception is also important, and the modal framework identified by Easton implies that there is a correlation between perception and effectiveness.

A core aspect of Easton's theoretical model involves the question of to what degree political systems are sealed by identifiable or concrete boundaries and to what degree a political system is fluid and dynamic. A case could be made, for example, that the American political system is extraordinarily fluid given the multiplicity of changes the United States has experienced in its political history.[119] During a period of fewer than 250 years, the USA had evolved from a confederation of states to a constitutional republic to a centralized national state to a mass democracy to a welfare state to a civil rights regime, with each of these evolutionary steps taking place in ways that involved sweeping changes.

Similarly, the Federal government has increasingly assumed an important role in such factors as the provision of disaster relief, a practice that the majority of Americans

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[118] Anderson and Lotempio, "Winning, Losing and Political Trust in America."
[119] Deborah S.K. Thomas et al., *Social Vulnerability to Disasters*, 1st Edition (Boca Raton, FL: CRC Press, an imprint of Taylor and Francis, 2011).

have come to expect from the federal system. Indeed, the presidential administration of former President George W. Bush was strongly criticized for its inadequate management of the disaster caused by Hurricane Katrina in 2005. Federal agencies such as the Federal Emergency Management Agency also fell into disrepute.[120] However, a range of case study models can be identified that indicate that public trust in governmental institutions improves when the federal government (or other layers of government) is involved in effectively providing disaster relief.

Indeed, it is interesting to compare the public response to disastrous events where the government was seen as responding effectively to such events. While governmental institutions were strongly criticized for their inadequate responses to Hurricane Katrina, the government's response at every level to the disastrous terrorist incidents that occurred on September 11, 2001, was widely perceived as effective.[121] Indeed, the level of approval and popularity of US political figures such as then-President George W. Bush and then-New York City Mayor Rudolph Giuliani increased significantly in the aftermath of the September 11 incidents.

Clearly, the application of outputs, such as the perceived competence level of governmental performances in the aftermath of a disaster and efforts by governmental institutions to mitigate the harmful impact of a disaster, has the effect of enhancing the particular inputs that are generated in response. The greater the level of positivity that is involved in the citizen or voter's perception of the governmental outputs, the greater the

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[120] Thomas et al.
[121] Thomas et al.

level of positivity that will be found among citizen and voter inputs.[122] President Bush was reelected in 2004, the only presidential election since 1988 where the Republican Party had won the popular as opposed to the electoral vote, in large part because he was perceived at the time as having responded to the September 11 incidents in an effective way. Similarly, Rudolph Giuliani was once touted as a potential presidential candidate for the same reasons.

Policy Implications

The policy implications that can be derived from the findings of this dissertation include a few primary areas of concern that must be effectively developed to ensure that disaster relief efforts are conducted in ways that have the effect of establishing and maintaining trust in public institutions.[123] It is critically important for the development of a societal framework that is conducive to the maintenance of a high-trust society in a way that citizens positively perceive public institutions. When a lack of trust in institutions occurs, cynicism results in a way that is corrosive to the foundations of the social fabric and undermines culture and political cohesion.[124] Therefore, it is essential that organizations that collectively comprise governmental systems develop the means to ensure that public institutions can provide the necessary level of public assistance during disaster situations. The following policy recommendations address more general considerations for FEMA with respect to response capabilities to improve trust. This section also discusses the ways in which FEMA could adopt more policies that are

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[122] Thomas et al.
[123] Nicholls and Picou, "The Impact of Hurricane Katrina on Trust in Government."
[124] Howell and Fagan, "Race and Trust in Government."

culturally competent and needed for minority communities, as well as more gender-specific policies that aim to improve trust in government.

General considerations to improve trust

The first area of concern involves the importance of planning. It is critically important that the different organizations situated within government at every level, whether Federal, state or local, are engaged in a planning process that will allow the organizations in question to develop effective plans for the cultivation and development of emergency response systems.[125] While emergency management practitioners at every level of government have made efforts to adhere to FEMA's "whole approach" to planning, additional efforts are needed.[126] Because the Federal government is the largest and most powerful entity within the institutional apparatus presently being considered, the primary responsibility for allocating essential resources to communities and individuals during a disaster should originate from the federal government. However, the disaster response mechanisms present within the federal government involve multiple overlapping agencies and organizations with their own prerogatives.

It will be necessary for each of the disaster response organizations that are situated within the federal government to effectively coordinate their planning activities with each other in ways that will allow for a more effective response when an emergency develops. Yet joint planning efforts among Federal disaster relief agencies are not sufficient. It is also necessary for such planning efforts to be inclusive of state and local

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[125] Birkland and Waterman, "Is Federalism the Reason for Policy Failure in Hurricane Katrina?"
[126] Frances L. Edwards, "All Hazards, Whole Community: Creating Resiliency," in *Disaster Resiliency: Interdisciplinary Perspectives*, ed. Naim Kapucu, Christopher Hawkins, and Fernando Rivera (New York: Routledge, 2013), 21–47.

agencies that are involved in disaster response efforts as well. Such concerns are particularly pertinent in geographical areas where the ecological situation involves a high propensity for the occurrence of natural disasters.[127] The inclusion and involvement of state and local governments in the planning process are critical to the future success of the response efforts that will be made when a disaster occurs.

Coordinated planning is also necessary on a state and local level as well. One of the primary problems that often develop at the state and local level is the inability of the various organizations that are present to effectively coordinate their resource allocation processes in ways that maximize the level of efficiency that is present. It is critically important that the development of multi-jurisdictional task forces takes place in ways that allow the law enforcement agencies of various localities to engage in the coordination of their activities on a collective level.[128] It is also essential to include state police agencies along with fire services, emergency medical services, emergency utility services, and other essential operations as part of a planning process that transcends the boundaries of individual states, cities, and countries, particularly considering that disaster events typically span multiple jurisdictions at the same time.

Considerations to address inequality and environmental justice to improve trust

The findings of this dissertation revealed a lack of trust at the local and state governmental level among black respondents. Given that the local government is on the front lines of emergency response and recovery for communities, rebuilding trust between these specific demographic groups and local administrators should be of

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[127] Arceneaux and Stein, "Who Is Held Responsible When Disaster Strikes?"
[128] Keele, "Social Capital and the Dynamics of Trust in Government."

paramount importance. This erosion of trust among black respondents could be rooted in the painful history of various FEMA programs widening the racial inequality gap rather than helping to close it. A 2018 study revealed a link between wealth inequality and increasing natural hazard damages and finds that "at any given level of local damage, the more aid an area receives from FEMA, the more this inequality grows."[129] Essentially, white Americans living in a county ravaged by a natural disaster and receiving disaster aid resulted in a financial boon. By contrast, black Americans often see their wealth shrink following a disaster and struggle to recover, given the lack of federal resources.[130] It is interesting that there is a lack of trust in the Federal government among whites, given that historically federal disaster relief aid and resources can be attributed to increasing wealth and property values for white Americans. Even though federal resources and aid are more lacking for black Americans, there might be a perception that local administrators are to blame, given that the relief efforts are carried out at this level.

FEMA could do more to understand how its programs have long impacted communities of color negatively through more research. FEMA should continue to leverage the social vulnerability index to geographically identify communities that are likely to need more disaster relief and assistance to recover. Also, by identifying these communities that often struggle to recover, Federal resources and investments in disaster mitigation and resilience could increase the property values of these communities. Finally, FEMA needs more regular engagement and outreach efforts with vulnerable

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[129] Junia Howell and James R Elliott, "Damages Done: The Longitudinal Impacts of Natural Hazards on Wealth Inequality in the United States," *Social Problems* 66, no. 3 (August 1, 2019): 448, https://doi.org/10.1093/socpro/spy016.

[130] Christopher Flavelle, "Why Does Disaster Aid Often Favor White People?," *The New York Times*, June 7, 2021, sec. Climate, https://www.nytimes.com/2021/06/07/climate/FEMA-race-climate.html.

communities to improve trust through townhalls and local administration programs that execute FEMA's emergency management, mitigation, and resiliency programs. In fact, as urban areas are more vulnerable to natural and manmade disasters, there should be a larger and more long-term focus on "smart city resilience" as a way to mitigate future disasters.[131]

Considerations for more gender-specific policies to improve trust

Finally, this dissertation revealed that female respondents were more likely to have less trust in local government than male respondents. FEMA could develop more gender-specific policies by conducting more empirical research to understand the effects of disaster response and recovery on women across various socioeconomic backgrounds. FEMA could do more to identify women that are more vulnerable and who find it difficult to recover from a disaster. So often, after a natural disaster hits, victims that have suffered the most typically experiences a loss of income from a job and their home. Women, who by all accounts are more likely to not have the same financial resources and economic mobility are not shielded from this reality. FEMA could do more to incorporate gender as a factor in emergency management planning and recovery efforts by offering job training and loans to start a business. These programs, if carried out at the local government level, could give a more positive perception that the local government is here to assist regardless of the devastating loss due to a disaster.

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[131] Laurie A. Schintler and Connie L. McNeely, "Artificial Intelligence, Institutions, and Resilience: Prospects and Provocations for Cities," *Journal of Urban Management* 11, no. 2 (2022): 257, https://doi.org/10.1016/j.jum.2022.05.004.

<u>Limitations</u>

Like any study, any meaningful interpretation of the results can be threatened by internal and external validity concerns. First, a study with high *internal validity* is considered to have "sound evidence in an experiment that rules out the possibility that extraneous variables, rather than the manipulated independent variable, are responsible for the observed outcome."[132] Within this context, there are significant issues with internal validity given the omission of other potential explanatory variables from the dataset. For example, this study focuses on one of three disaster relief aid programs. It is entirely possible that political trust could be explained by the influence of FEMA's Individual Assistance and Hazard Mitigation Assistance programs; however, the financial obligation information for these programs is not readily available to the public for analysis. Additionally, e that the dataset admittedly omits non-committal responses to the survey questions on trust.

Another limitation of this study is that it does not take into consideration the variation of disaster responses at the state and local level and how the response at these levels might impact the residents' perception of trust in government. The responses to Hurricane Katrina, for example, were different in Louisiana than in Mississippi partly because of the governor's political party affiliation. Reportedly, during the Hurricane Katrina response, Louisiana Governor Blanco, a Democrat, was not given the same attention as President Bush, a Republican, as opposed to the Republican governors of

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[132] Royce A. Singleton and Bruce C. Straits, *Approaches to Social Research*, 5th Edition (New York, NY: Oxford University Press, 2010), 590.

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Mississippi and Alabama. Therefore, the politics and relationship between the governors and the President impacted the long-term recovery of those states.

The history threat may occur when residents experience events that affect public trust in government concerning emergency response to disasters but are not correlated with FEMA disaster relief grants.[133] In a comprehensive study measuring the relationship between FEMA disaster relief grants and public trust in government concerning emergency response to disasters, the regression threat can happen by showing that residents may pursue public trust in government concerning emergency response to disasters by other means.[134] The history and regression threats should be controlled.

Second, this study has *external validity* concerns, or in other words, the extent to which the study is "generalizable to other settings, subject populations, and time periods."[135] The study uses responses from a cross-sectional survey instrument that targeted residents across 10 Gulf Coast counties (i.e., Geneva and Mobile counties in Alabama, East Baton Rouge, Jefferson, Lafourche, Orleans, and St. Charles parishes in Louisiana, and Harrison, Jackson, and Stone counties of Mississippi) at a specific point in time. The effects of FEMA disaster relief, if any, might positively influence political trust among Gulf Coast hurricane-prone residents; however, the trust might look different in different regions of the country that faced different types of natural disasters. For example, the people of Puerto Rico have continued to be frustrated with FEMA officials for their slow response to Hurricane Maria in 2017, and this may lead to distrust.

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[133] Vaishnavi, *Design Science Research Methods and Patterns*.
[134] Leedy and Ormrod, *Practical Research*.
[135] Singleton and Straits, *Approaches to Social Research*, 588.

Oppositely, residents in the southwest region that experience deadly wildfires and residents in the Midwest that are ravaged by tornadoes might experience a higher level of trust in their local, state, and federal governments with respect to emergency response and disaster relief aid.

While we should be careful with attempting to generalize the results to dissimilar groups, we are seeing an increase in the frequencies of weather and climate disaster events exceeding $1 billion in losses.[136] Additionally, there is a trend in some communities that are experiencing the impact of compounding disasters where there are two or more disaster events at the same, which frustrates the local response and renders emergency management plans useless.[137] Therefore, adding other regions to a future study would strengthen future research and results.

Future Research

Recommendations Based on the Limitations

The target population was residents in 10 counties across three Gulf Coast states (i.e., Geneva and Mobile counties in Alabama, East Baton Rouge, Jefferson, Lafourche, Orleans, and St. Charles parishes in Louisiana, and Harrison, Jackson, and Stone counties of Mississippi). Adding other regions would strengthen future research and results.

In the study, the history and regression threats may occur. Researchers should control for the history and regression threats. Controlling for the history and regression threats could improve future studies.

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[136] NOAA National Centers For Environmental Information (NCEI), "U.S. Billion-Dollar Weather and Climate Disasters," 2018, https://www.ncdc.noaa.gov/billions/.

[137] Claire Connolly Knox et al., "Compounding Disasters and Ethical Leadership: Case Studies from Louisiana and Texas," *Public Integrity* 0, no. 0 (March 11, 2022): 1–19, https://doi.org/10.1080/10999922.2022.2026664.

In the study, other potential explanatory variables from the dataset were omitted. When the financial obligation information for FEMA's Individual Assistance and Hazard Mitigation Assistance programs are available to the public for analysis, researchers should include other potential explanatory variables. Including other possible explanatory variables could strengthen future studies.

Recommendations Based on Delimitations

The effect of FEMA's Individual Assistance program on political trust was not investigated in this study because the financial obligation information for this program was not readily available to the public for analysis. Further research could fill this additional gap in the literature by examining the effects of FEMA's Individual Assistance program on political trust. Future research may show the effects of FEMA's Individual Assistance program on political trust.

The effect of FEMA's Hazard Mitigation Assistance program on political trust was not included in this study because the financial obligation information for this program was not readily available to the public for analysis. Researchers should examine whether FEMA's Hazard Mitigation Assistance program significantly affects political trust. Future research may show that FEMA's Hazard Mitigation Assistance program significantly affects political trust.

APPENDIX A. REGRESSION RESULTS

Table 11 Ordered Probit Regression Results (H1 Full Model)

```
. eststo: oprobit TrustGov q4public_assistance PolitIdeo i.Income i.Education Male White Ethnicity i
> .age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived
```

```
Ordered probit regression                        Number of obs =     597
                                                 LR chi2(32)   =   43.97
                                                 Prob > chi2   =  0.0774
Log likelihood = -821.83499                      Pseudo R2     =  0.0261
```

TrustGov	Coefficient	Std. err.	z	P>|z|	[95% conf. interval]	
q4public_assistance	.0085714	.038549	0.22	0.824	-.0669833	.084126
PolitIdeo	-.0490194	.0399351	-1.23	0.220	-.1272907	.0292519
Income						
$25,000 to $50,000	.0010985	.1271414	0.01	0.993	-.248094	.2502909
$50,000 to $75,000	-.1072646	.1414623	-0.76	0.448	-.3845256	.1699964
$75,000 to $100,000	-.0925804	.1700175	-0.54	0.586	-.4258087	.2406479
$100,000 to $125,000	.167743	.2321916	0.72	0.470	-.287344	.6228301
$125,000 to $150,000	-.0426959	.2497422	-0.17	0.864	-.5321817	.4467899
$150,000 to $175,000	-.0752913	.3318485	-0.23	0.821	-.7257024	.5751199
$175,000 to $200,000	-.4107917	.4593844	-0.89	0.371	-1.311169	.4895852
$200,000 and above	.0074	.3764427	0.02	0.984	-.7304142	.7452142
Education						
Completed High School or 12th ..	-.0867109	.1617006	-0.54	0.592	-.4036383	.2302165
Some College	-.0447471	.1663438	-0.27	0.788	-.370775	.2812808
Complete College	.09254	.1786205	0.52	0.604	-.2575497	.4426297
Some Graduate Work	.1854558	.2349325	0.79	0.430	-.2750034	.6459151
Male	-.0969388	.0912168	-1.06	0.288	-.2757205	.0818428
White	-.2069753	.1121654	-1.85	0.065	-.4268154	.0128648
Ethnicity	-.1163997	.2780769	-0.42	0.676	-.6614204	.428621
age						
25-34	-.6440009	.2603623	-2.47	0.013	-1.154302	-.1337003
35-49	-.4146451	.2393392	-1.73	0.083	-.8837412	.0544511
50-64	-.3640109	.2339487	-1.56	0.120	-.8225419	.09452
65-99	-.220661	.2379005	-0.93	0.354	-.6869373	.2456153

Insurance						
Yes	-.1418667	.1547606	-0.92	0.359	-.4451918	.1614584
House						
Single family home	.1829757	.1335174	1.37	0.171	-.0787135	.4446649
Own						
Own	.1797641	.1518598	1.18	0.237	-.1178756	.4774038
RESPONSIBILITY						
Government agencies (ie. FEMA)	.3237326	.1067236	3.03	0.002	.1145582	.5329071
Privately funded orgs (ie. Re..)	.3651664	.1231308	2.97	0.003	.1238345	.6064984
EVACZONE						
Yes	.0825812	.0952212	0.87	0.386	-.104049	.2692114
LIKELYDAM	-.0010949	.0328785	-0.03	0.973	-.0655355	.0633457
Lived						
6 - 10 years	.0100993	.1901486	0.05	0.958	-.3625851	.3827838
11 - 20 years	-.2298893	.1883956	-1.22	0.222	-.5991379	.1393593
More than 20 years	-.1579922	.1627239	-0.97	0.332	-.4769252	.1609407
Your whole life	-.2060966	.1680323	-1.23	0.220	-.5354339	.1232407
/cut1	-1.49861	.3638291			-2.211702	-.7855185
/cut2	-.8241199	.3611158			-1.531894	-.1163458
/cut3	.3858156	.3600938			-.3199553	1.091586
/cut4	1.349015	.3668633			.6299765	2.068054
Black						
Black or African American	.2693606	.1144366	2.35	0.019	.0450689	.4936523

Table 12 Multinomial Logistic Regression (H2 Full Model)

```
. mlogit TrustMore q4public_assistance PolitIdeo i.Income i.Education Male White Ethnicity i.age i.I
> nsurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived, baseoutcome(4) rrr
```

Multinomial logistic regression

Log likelihood = -614.93073

```
Number of obs =     569
LR chi2(96)   = 267.26
Prob > chi2   = 0.0000
Pseudo R2     = 0.1785
```

TrustMore	RRR	Std. err.	z	P>|z|	[95% conf. interval]	
None						
q4public_assistance	.7530032	.103402	-2.07	0.039	.575321	.9855606
PolitIdeo	1.2544	.1760465	1.62	0.106	.9527429	1.651568
Income						
$25,000 to $50,000	.7528387	.3185784	-0.67	0.502	.3284728	1.725458
$50,000 to $75,000	.9596135	.4763994	-0.08	0.934	.3626753	2.53907
$75,000 to $100,000	1.504442	1.02665	0.60	0.550	.394916	5.731206
$100,000 to $125,000	1.870827	1.810224	0.65	0.517	.2808056	12.46412
$125,000 to $150,000	.7810121	1.045775	-0.18	0.854	.0566107	10.77499
$150,000 to $175,000	459801	4.30e+08	0.01	0.989	0	.
$175,000 to $200,000	.5256389	.7878293	-0.43	0.668	.027855	9.919074
$200,000 and above	.5795962	.7839894	-0.40	0.687	.0409025	8.21299
Education						
Completed High School or 12th ..	.6237848	.3373986	-0.87	0.383	.2160871	1.800697
Some College	1.128586	.6299824	0.22	0.828	.3779113	3.370386
Complete College	4.077987	2.715902	2.11	0.035	1.105486	15.04314
Some Graduate Work	.4834947	.4023578	-0.87	0.383	.094631	2.470303
Male	1.966169	.6673834	1.99	0.046	1.010868	3.824257
White	4.157377	1.510643	3.92	0.000	2.039497	8.474532
Ethnicity	4.51e-07	.0004285	-0.02	0.988	0	.
age						
25-34	.2355848	.2213207	-1.54	0.124	.0373666	1.485288
35-49	.5768712	.4829549	-0.66	0.511	.1118035	2.976476
50-64	.4429521	.365268	-0.99	0.323	.0879908	2.229853
65-99	.4285259	.366351	-0.99	0.322	.0802188	2.289168
Insurance						
Yes	.9529707	.4625261	-0.10	0.921	.3680843	2.467242
House						
Single family home	.6004381	.2646042	-1.16	0.247	.2531374	1.42423

Own						
Own	1.127214	.5616795	0.24	0.810	.4244838	2.99331
RESPONSIBILITY						
Government agencies (ie. FEMA)	.2607216	.1040767	-3.37	0.001	.1192308	.5701192
Privately funded orgs (ie. Re..)	.2976559	.1440124	-2.50	0.012	.1153147	.768324
EVACZONE						
Yes	.4791823	.1732743	-2.03	0.042	.2358863	.9734167
LIKELYDAM	1.186772	.1379012	1.47	0.141	.9450589	1.490307
Lived						
6 - 10 years	.3993344	.2552332	-1.44	0.151	.1141023	1.397588
11 - 20 years	1.874926	1.215819	0.97	0.332	.5260313	6.68277
More than 20 years	1.190176	.6770757	0.31	0.760	.3902775	3.629516
Your whole life	2.183149	1.256105	1.36	0.175	.706859	6.742702
_cons	1.952646	2.395943	0.55	0.585	.1762703	21.63057
Local_Government						
q4public_assistance	.7727749	.0971121	-2.05	0.040	.6040673	.9886004
PolitIdeo	1.043725	.1317782	0.34	0.735	.8149212	1.33677
Income						
$25,000 to $50,000	1.171543	.4509025	0.41	0.681	.5509956	2.490967
$50,000 to $75,000	1.752514	.8076269	1.22	0.223	.7102229	4.324426
$75,000 to $100,000	2.317218	1.45606	1.34	0.181	.6762407	7.940222
$100,000 to $125,000	2.33187	2.165379	0.91	0.362	.3778129	14.39235
$125,000 to $150,000	4.142099	4.836681	1.22	0.224	.420032	40.84686
$150,000 to $175,000	2161137	2.02e+09	0.02	0.988	0	.
$175,000 to $200,000	.9390501	1.183897	-0.05	0.960	.0793497	11.11302
$200,000 and above	.7706511	.9268735	-0.22	0.829	.0729634	8.139741
Education						
Completed High School or 12th ..	1.207932	.6164799	0.37	0.711	.444246	3.284441
Some College	1.668433	.8883808	0.96	0.336	.5875903	4.737433
Complete College	5.798266	3.722659	2.74	0.006	1.647409	20.40774
Some Graduate Work	1.00951	.7395226	0.01	0.990	.2401918	4.242905
Male	1.603273	.500894	1.51	0.131	.8691114	2.957601
White	11.92708	4.055797	7.29	0.000	6.124682	23.22655
Ethnicity	1.187093	.9422959	0.22	0.829	.2505038	5.625424
age						
25-34	.3026573	.2477265	-1.46	0.144	.0608469	1.505442
35-49	.2592134	.1994909	-1.75	0.079	.0573551	1.171502
50-64	.1661629	.1260995	-2.37	0.018	.0375461	.7353649
65-99	.3126488	.243071	-1.50	0.135	.0681215	1.434925

Insurance						
Yes	1.136491	.5226959	0.28	0.781	.4614033	2.799312
House						
Single family home	.6614765	.2746931	-1.00	0.320	.293112	1.492778
Own						
Own	1.507889	.7060073	0.88	0.380	.6023222	3.774936
RESPONSIBILITY						
Government agencies (ie. FEMA)	.3882844	.1437353	-2.56	0.011	.187954	.8021364
Privately funded orgs (ie. Re..)	.4814413	.2140591	-1.64	0.100	.20141	1.150816
EVACZONE						
Yes	.4010857	.1334286	-2.75	0.006	.2089629	.7698483
LIKELYDAM	1.369717	.1475617	2.92	0.003	1.108995	1.691734
Lived						
6 - 10 years	.7277654	.4196098	-0.55	0.582	.2350778	2.253052
11 - 20 years	2.458043	1.492826	1.48	0.139	.7475412	8.082462
More than 20 years	2.536722	1.329893	1.78	0.076	.9078727	7.087951
Your whole life	2.854512	1.55462	1.93	0.054	.9816395	8.300645
_cons	.5702464	.6585707	-0.49	0.627	.0592953	5.484094
State_Government						
q4public_assistance	.7955827	.1125655	-1.62	0.106	.6029072	1.049833
PolitIdeo	1.319437	.1921345	1.90	0.057	.9918317	1.755252
Income						
$25,000 to $50,000	1.078993	.4800423	0.17	0.864	.4511495	2.580578
$50,000 to $75,000	2.013455	1.027163	1.37	0.170	.7408011	5.472453
$75,000 to $100,000	3.104227	2.121356	1.66	0.097	.8133216	11.84799
$100,000 to $125,000	1.202339	1.309276	0.17	0.866	.1422716	10.16097
$125,000 to $150,000	2.383403	3.033394	0.68	0.495	.1967253	28.87585
$150,000 to $175,000	5163776	4.83e+09	0.02	0.987	0	.
$175,000 to $200,000	3.74e-07	.0004485	-0.01	0.990	0	.
$200,000 and above	1.573036	2.237017	0.32	0.750	.0968822	25.54074
Education						
Completed High School or 12th ..	.7806198	.4307963	-0.45	0.654	.264662	2.302435
Some College	1.000023	.5794646	0.00	1.000	.3212032	3.113435
Complete College	4.992152	3.406263	2.36	0.018	1.310669	19.0144
Some Graduate Work	.1389623	.1482071	-1.85	0.064	.0171817	1.123898

Male	1.341822	.4691905	0.84	0.400	.6761737	2.662758
White	15.12129	6.47679	6.34	0.000	6.531302	35.00884
Ethnicity	1.02201	.9430798	0.02	0.981	.1674911	6.236174
age						
25-34	.0724607	.0650818	-2.92	0.003	.0124618	.4213316
35-49	.1071176	.0864356	-2.77	0.006	.0220296	.5208522
50-64	.1446416	.1122215	-2.49	0.013	.0316141	.6617674
65-99	.178859	.1436939	-2.14	0.032	.0370392	.8636931
Insurance						
Yes	1.214049	.6337665	0.37	0.710	.4364011	3.377431
House						
Single family home	.6119702	.2815059	-1.07	0.286	.2484151	1.507587
Own						
Own	.6563898	.3361137	-0.82	0.411	.240598	1.790736
RESPONSIBILITY						
Government agencies (ie. FEMA)	.4867817	.2027976	-1.73	0.084	.2151374	1.101419
Privately funded orgs (ie. Re..)	.5345508	.2620708	-1.28	0.201	.2044918	1.39734
EVACZONE						
Yes	.3452869	.1255453	-2.92	0.003	.1693113	.704165
LIKELYDAM	1.218891	.1441878	1.67	0.094	.9666574	1.53694
Lived						
6 - 10 years	.5279774	.3421315	-0.99	0.324	.1482632	1.880171
11 - 20 years	3.045175	1.996997	1.70	0.090	.8421752	11.01088
More than 20 years	1.762124	1.024928	0.97	0.330	.5635606	5.509758
Your whole life	1.735893	1.052228	0.91	0.363	.529126	5.694907
_cons	.9607202	1.190765	-0.03	0.974	.0846398	10.90483

Federal | (base outcome)

APPENDIX B. 2012 ENHANCING THE COASTAL IQ SURVEY QUESTIONNAIRE

Social Capital

1. 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

2. 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

3. In 5 years, do you think your community will be (as a place to live)?
   1. A much better place to live
   2. A somewhat better place to live
   3. About the same
   4. A somewhat worse place to live
   5. A much worse place to live
   6. Don't know / not sure
   7. Refused

4. How active would you say you are in your community, such as in local government orvolunteer 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

5. 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

6. Who do you trust more federal, state, or local government?
   1. Federal government
   2. State government
   3. Local government
   4. None
   5. Don't know / not sure
   6. Refused

7. 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

8. 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

9. In the event of a major hurricane, whom do you trust most to get you accurate information ina timely manner?
   1. Federal government
   2. State government
   3. Local government
   4. Independent media source
   5. Don't know / not sure
   6. Refused

10_a. How much confidence do you have in the evacuation notices issued by governmentofficials 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

10_b. How much confidence do you have in the storm predictions issued by weatherforecasters 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

11. Following a disaster, who should assume the majority of the responsibility for taking care ofvictims 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. Other --- specify

5. Don't know / not sure
6. Refused

12. Following a disaster, the federal government does a good job in distributing aid to thevictims such as: food, water, emergency purchase cards, temporary housing? Do you:
    1. Strongly agree
    2. Somewhat agree
    3. Neither agree nor disagree
    4. Somewhat disagree
    5. Strongly disagree
    6. Don't know / not sure
    7. Refused

13. If you had to choose what is the most important, would you say, protecting coastalwetlands and wildlife or continuing offshore drilling and oil production?
    1. Protecting coastal wetlands and wildlife
    2. Continuing offshore drilling and oil production
    3. Don't know / not sure
    4. Refused

14. Would you support a ¼ cent increase in state sales tax to pay for disaster preparedness oremergency management?
    1. Yes
    2. No
    3. Don't know / not sure
    4. Refused

Hurricane Awareness

15. In what month does hurricane season begin?
    1. January
    2. February
    3. March
    4. April
    5. May
    6. June
    7. July
    8. August
    9. September
    10. October
    11. November

12. December
13. Don't know / not sure
14. Refused

16. How would you describe the threat of a major hurricane occurring in your community withinthe next 5 years? Would you say:
1. Not a threat at all
2. A slight threat
3. A moderate threat
4. A severe threat
5. Don't know / not sure
6. Refused

17. Is your home located in a hurricane evacuation zone?
1. Yes
2. No
3. Don't know / not sure
4. Refused

18. Thinking about where your home is located, how likely is your home to be flooded ordamaged due to wind from a major hurricane?
1. Very likely
2. Somewhat likely
3. Neither likely or unlikely
4. Somewhat unlikely
5. Very unlikely
6. Don't know / not sure
7. Refused

19. Since Hurricane Katrina and Rita about 6 years ago, has your current community beenthreatened or hit by a major hurricane?
1. Yes
2. No
3. Don't know / not sure
4. Refused

20. Was there any flooding in your community associated with this hurricane?
1. Yes
2. No
3. Don't know / not sure
4. Refused

21. Was your home damaged because of this hurricane?
1. Yes

2. No [If no, skip next 2 questions.]
3. Don't know / not sure
4. Refused

22. Were you able to get the information you needed to keep yourself and your family safe?
    1. Yes
    2. No
    3. Don't know / not sure
    4. Refused

23. How would you rate the response by the government and other voluntary services to theproblems created by this storm? Would you say they were:
    1. Excellent
    2. Good
    3. Fair
    4. Poor
    5. Don't know / not sure
    6. Refused

Storm Preparation

24. Does your community have an established evacuation plan?
    1. Yes
    2. No
    3. Don't know / not sure
    4. Refused

25. Does your household have an established evacuation plan?
    1. Yes
    2. No
    3. Don't know / not sure
    4. Refused

26. Do you know the location of an evacuation center in your community where you could go ifyou had to?
    1. Yes
    2. No
    3. Don't know / not sure
    4. Refused

27. Which of the following would help you the most in putting together a hurricanepreparedness plan? Would you say:
    1. Asking a friend or family member
    2. Using tips from television, radio, or newspapers
    3. Taking free classes or training
    4. Getting a brochure
    5. Having reminders on how to put together a plan and kit
    6. Reviewing checklists on what you should have and do
    7. Reading comprehensive preparedness handbooks
    8. Contacting a government agency
    9. Other --- specify
    10. Don't know / not sure
    11. Refused

28. Have you ever visited a website to look for information about how to protect yourself andyour family in the event of a major hurricane?
    1. Yes
    2. No [If no, skip next question.]
    3. Don't know / not sure
    4. Refused

29. At the website(s) you visited, how much useful information did you find about protectingyourself and your family? Would you say:
    1. A great deal of information
    2. Some information
    3. A little information
    4. Not much or no information at all
    5. Don't know / not sure
    6. Refused

30_1-15. Which of the following have you done to prepare your household for a majorhurricane? {Select all that apply.}
    1. Conducted home evacuation drills
    2. Made a flashlight available that works
    3. Made a radio available that works
    4. Stored extra food and water
    5. Stored extra prescription drugs
    6. Stored extra clothes and blankets
    7. Stored extra batteries
    8. Have at least $300 in cash
    9. Readied a disaster kit or backpack
    10. Developed and implemented a home escape plan
    11. Selected a family meeting place in the event that no one is able to return home

12. Established a plan to communicate with friends or relatives out of state
13. Have a cell phone available
14. Stored important legal documents
15. Stored important home/health insurance documents
16. Other --- specify
17. Don't know / not sure
18. Refused

31. When was the last time you checked or updated your disaster kit?
    1. Within last month
    2. Within last 2 to 6 months
    3. Within last 7 to 12 months
    4. More than a year ago
    5. Don't know / not sure
    6. Refused

32_1-7. If you were forced to evacuate your home in the next 48 hours, what importantdocuments would you take with you? {Select all that apply}.
    1. Social security card
    2. Birth certificate
    3. Passport
    4. Drivers' license
    5. Health insurance
    6. Homeowner or renter's insurance
    7. Medical records
    8. Other --- specify
    9. None of these
    10. Don't know / not sure
    11. Refused

33. On a scale of 1 to 5, where one is "not at all prepared" and 5 is "extremely well prepared,"rate the level of preparation of your household if a major hurricane were to strike your community? {Enter range amount, none is 0.}

Mental Calculus of Evacuation

34. Do you think your home could withstand a hurricane of Category 3 or higherwithout significant damage?
    1. Yes
    2. No
    3. Don't know / not sure

4. Refused

35. Have you ever personally experienced a major hurricane before?
    1. Yes
    2. No [If no, skip next 2 questions.]
    3. Don't know / not sure
    4. Refused

36. How many times have you evacuated your household due to a hurricane? {Enter exactamount, none is 0.} [If 0, skip next question.]

37_1-6. Which of the following problems did you experience during the evacuation trip? {Select all that apply.}
    1. Traffic congestion
    2. Vehicle problems
    3. Road debris
    4. Road closures
    5. Health effects
    6. Rest areas closed
    7. None of these
    8. Don't know / not sure
    9. Refused

38. If you had to go to an evacuation shelter, how worried would you be about the conditionsand your safety? Would you be:
    1. Very worried
    2. Somewhat worried
    3. A little worried
    4. Don't know / not sure
    5. Refused

39_1-5. I'm going to read a list of problems people sometimes have during and after a hurricane. For each one please tell me if you would be very worried, somewhat worried, or littleworried. {Select all that apply.}
    1. Not having enough fresh water to drink
    2. Not having enough food to eat
    3. Getting needed prescription drugs or medicines
    4. Getting needed medical care that wasn't available
    5. It would be too expensive to leave your home
    6. Don't / not sure
    7. Refused

40. If a major hurricane was to hit your community in the future, do you think you would besafer staying in your home or evacuating?
    1. Safer in home
    2. Safer evacuating [If yes, answer next 7 questions.]
    3. Don't know / not sure
    4. Refused

41. If you left, where would you go?
    1. Stay with friends or family in another area
    2. Go to a hotel or motel
    3. Go to an evacuation shelter
    4. Sleep in a car or outdoors
    5. Don't know / not sure
    6. Refused

42. How far would you travel if you evacuated?
    1. Less than 10 miles
    2. 10-50 miles
    3. 50-100 miles
    4. 100-200 miles
    5. More than 200 miles
    6. Don't know / not sure
    7. Refused

43. Which mode of transportation would you most likely use?
    1. Go in your car
    2. Go in a friend's car
    3. Use public transportation
    4. Walk or ride a bike
    5. Don't know / not sure
    6. Refused

44. When would you return home?
    1. As soon as the hurricane is over
    2. Wait until officials say it is safe to go back
    3. Don't know / not sure
    4. Refused

45. What would you do with your pets if you evacuated?
    1. Evacuate them with household members
    2. Leave them inside the home
    3. Leave them in a backyard shelter
    4. Leave them outside in the yard
    5. Take them to a shelter for animals

6. Don't have any pets
7. Don't know / not sure
8. Refused

46. In the event of a major hurricane what would be your primary source of financial relief?
    1. Insurance
    2. Personal funds
    3. Family support
    4. Friend assistance
    5. Nonprofit organizations
    6. Federal government
    7. Don't know / not sure
    8. Refused

47. If for whatever reason you did not evacuate, how confident are you that you would be rescued if you needed to be? Would you say:
    1. Very confident
    2. Somewhat confident
    3. Not at all confident
    4. Don't know / not sure
    5. Refused

48. What would be the main reason why you would not evacuate?
    1. Home could withstand event
    2. You or a family member has special needs or personal illness
    3. Lack of transportation
    4. Dislike of crowds
    5. Not knowing locations of public shelters
    6. Do not have an alternate place to go
    7. Stayed to protect residence and possessions
    8. Too expensive to evacuate
    9. Couldn't leave because of work
    10. Concern about crime or danger
    11. Concern about food / water supplies in shelter
    12. Don't know / not sure
    13. Refused

49. How likely are you to follow evacuation orders after seeing the effects of hurricanes likeKatrina, Rita, and Ike? Are you:
    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

50. If government officials instructed you to evacuate because there was going to be a majorhurricane in the next few days, would you?
    1. Yes
    2. No
    3. Depends
    4. Don't know / not sure
    5. Refused

Demographics

51. 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

52. 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

53. 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

54. 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

55. Do you currently have homeowner or renter's insurance?
    1. Yes
    2. No
    3. Don't know / not sure
    4. Refused

56_1-10. Which of the following information sources or social media do you use to obtaininformation or communicate with family, friends, and officials? {Select all that apply.}
    1. Land line phone
    2. Cellular phone
    3. Email
    4. Facebook
    5. Twitter
    6. Television
    7. Internet
    8. Newspaper
    9. Text messaging
    10. Radio
    11. Other --- specify
    12. None of these
    13. Don't know / not sure
    14. Refused

57. 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

58. 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

59. 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

60. 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

61. I am going to read some income categories, stop me when I get to the one that bestdescribes your total 2010 household income from all sources before taxes.
    1. Below $20,000
    2. $25,000 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. $200,000 and above
    10. Don't know / not sure
    11. Refused

62. 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.}

63. Are you currently:
    1. Married
    2. Member of an unmarried couple living together
    3. Single
    4. Separated

5. Divorced
6. Widowed
7. Don't know / not sure
8. Refused

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

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

66. 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

67. Do you consider yourself of Hispanic or Latino ethnicity?
    1. Yes
    2. No
    3. Don't know / not sure
    4. Refused

68. 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 C. STATA DO FILE

Testing Hypothesis 1: More FEMA disaster aid would more likely yield a higher level of trust in government -- Employing an ordered probit regression analysis**

Notes on xtile command - 'xtile' creates a new variable that categorizes exp by its quantiles. If the cutpoints(varname) option is specified, it categorizes exp using the values of varname as category cutpoints. For example, varname might contain percentiles of another variable, generated by pctile.

**# Bookmark #1
Transforming heavily skewed variable for FEMA Public Assistance into quartiles
xtile q4public_assistance = public_assistance, nq(4)
tab q4public_assistance

H1 -The impact of FEMA disaster aid per capita (in millions) would more likely yield a higher level of trust in government.

eststo: oprobit TrustGov i.q4public_assistance PolitIdeo i.Income i.Education i.Male i.White i.Ethnicity i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived
esttab using opr_h1results.csv, replace r2 ar2 p wide eqlabels(none)
varlabels(,blist(cut1:_cons "{hline @width}{break}"))

margins q4public_assistance, atmeans predict(pr outcome(1)) saving(Never1, replace)
marginsplot, name(Never1, replace)
margins q4public_assistance, atmeans predict(pr outcome(2)) saving(Rarely1, replace)
marginsplot, name(Rarely1, replace)
margins q4public_assistance, atmeans predict(pr outcome(3))
saving(Some_of_the_time1, replace)
marginsplot, name(Some_of_the_time1, replace)
margins q4public_assistance, atmeans predict(pr outcome(4)) saving(Most_of_the_time1, replace)
marginsplot, name(Most_of_the_time1, replace)
margins q4public_assistance, atmeans predict(pr outcome(5)) saving(Almost_Always1, replace)
marginsplot, name(Almost_Always1, replace)

combomarginsplot Never1 Rarely1 Some_of_the_time1 Most_of_the_time1 Almost_Always1, ytitle(Effects on Pr(TrustGov)) xlabel(1"No" 2"Low" 3"Medium" 4"High") xtitle("FEMA Public Assistance") title("Trust in Government, Adjusted Predictions with 95% CIs") label("Never" "Rarely" "Sometime" "Most" "Always")

**# Bookmark #2
*Are there any socioeconomic/demographic or political IVs can explain whether respondents have more or less trust in government with respect to various levels of FEMA Public Assistance awarded during the hurricane events. Using margins command will provide an understanding of how large and important these predictors are. *

**# Bookmark #3

Political ideological effects
margins q4public_assistance, over (PolitIdeo) atmeans predict(pr outcome(1)) saving(Never2, replace)
marginsplot, name(Never2, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Never)) title("Political Ideology Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (PolitIdeo) atmeans predict(pr outcome(2)) saving(Rarely2, replace)
marginsplot, name(Rarely2, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Rarely)) title("Political Ideology Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (PolitIdeo) atmeans predict(pr outcome(3)) saving(Some_of_the_time2, replace)
marginsplot, name(Some_of_the_time2, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Sometimes)) title("Political Ideology Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (PolitIdeo) atmeans predict(pr outcome(4)) saving(Most_of_the_time2, replace)
marginsplot, name(Most_of_the_time2, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov- Most times)) title("Political Ideology Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (PolitIdeo) atmeans predict(pr outcome(5)) saving(Almost_Always2, replace)
marginsplot, name(Almost_Always2, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Always)) title("Political Ideology Effects, Adjusted Predictions with 95% CIs")

Demographic - Socio-economic effects
**# Bookmark #4
Gender effects

margins q4public_assistance, over (Male) atmeans predict(pr outcome(1)) saving(Never3, replace)

marginsplot, name(Never3, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Never)) title("Gender Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Male) atmeans predict(pr outcome(2)) saving(Rarely3, replace)

marginsplot, name(Rarely3 replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Rarely)) title("Gender Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Male) atmeans predict(pr outcome(3)) saving(Some_of_the_time3, replace)

marginsplot, name(Some_of_the_time3, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Sometimes)) title("Gender Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Male) atmeans predict(pr outcome(4)) saving(Most_of_the_time3, replace)

marginsplot, name(Most_of_the_time3, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov- Most times)) title("Gender Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Male) atmeans predict(pr outcome(5)) saving(Almost_Always3, replace)

marginsplot, name(Almost_Always3, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Always)) title("Gender Effects, Adjusted Predictions with 95% CIs")

**# Bookmark #5
Race effects: White
margins q4public_assistance, over (White) atmeans predict(pr outcome(1)) saving(Never4, replace)

marginsplot, name(Never4, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Never)) title("Race Effects: White, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (White) atmeans predict(pr outcome(2)) saving(Rarely4, replace)

marginsplot, name(Rarely4, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Rarely)) title("Race Effects: White, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (White) atmeans predict(pr outcome(3)) saving(Some_of_the_time4, replace)

marginsplot, name(Some_of_the_time4, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Sometimes)) title("Race Effects: White, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (White) atmeans predict(pr outcome(4)) saving(Most_of_the_time4, replace)
marginsplot, name(Most_of_the_time4, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov- Most times)) title("Race Effects: White, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (White) atmeans predict(pr outcome(5)) saving(Almost_Always4, replace)
marginsplot, name(Almost_Always4, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Always)) title("Race Effects: White, Adjusted Predictions with 95% CIs")

**# Bookmark #6
Race effects: Black
oprobit TrustGov i.q4public_assistance PolitIdeo i.Income i.Education i.Male i.Black i.Ethnicity i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived
margins q4public_assistance, over (Black) atmeans predict(pr outcome(1)) saving(Never5, replace)
marginsplot, name(Never5, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Never)) title("Race Effects: Black, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Black) atmeans predict(pr outcome(2)) saving(Rarely5, replace)
marginsplot, name(Rarely5, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Rarely)) title("Race Effects: Black, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Black) atmeans predict(pr outcome(3)) saving(Some_of_the_time5, replace)
marginsplot, name(Some_of_the_time5, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Sometimes)) title("Race Effects: Black, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Black) atmeans predict(pr outcome(4)) saving(Most_of_the_time5, replace)
marginsplot, name(Most_of_the_time5, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov- Most times)) title("Race Effects: Black, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Black) atmeans predict(pr outcome(5)) saving(Almost_Always5, replace)
marginsplot, name(Almost_Always5, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Always)) title("Race Effects: Black, Adjusted Predictions with 95% CIs")

**# Bookmark #7
Ethnicity effects

oprobit TrustGov i.q4public_assistance PolitIdeo i.Income i.Education i.Male i.Ethnicity i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived

margins q4public_assistance, over (Ethnicity) atmeans predict(pr outcome(1)) saving(Never6, replace)

marginsplot, name(Never6, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Never)) title("Ethnicity Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Ethnicity) atmeans predict(pr outcome(2)) saving(Rarely6, replace)

marginsplot, name(Rarely6, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Rarely)) title("Ethnicity Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Ethnicity) atmeans predict(pr outcome(3)) saving(Some_of_the_time6, replace)

marginsplot, name(Some_of_the_time6, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Sometimes)) title("Ethnicity Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Ethnicity) atmeans predict(pr outcome(4)) saving(Most_of_the_time6, replace)

marginsplot, name(Most_of_the_time6, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov- Most times)) title("Ethnicity Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Ethnicity) atmeans predict(pr outcome(5)) saving(Almost_Always6, replace)

marginsplot, name(Almost_Always6, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Always)) title("Ethnicity Effects, Adjusted Predictions with 95% CIs")

**# Bookmark #8
Income effects
oprobit TrustGov i.q4public_assistance PolitIdeo i.Income i.Education i.Male i.White i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived

margins q4public_assistance, over (Income) atmeans predict(pr outcome(1)) saving(Never7, replace)

marginsplot, name(Never7, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Never)) title("Income Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Income) atmeans predict(pr outcome(2)) saving(Rarely7, replace)

marginsplot, name(Rarely7, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Rarely)) title("Income Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Income) atmeans predict(pr outcome(3)) saving(Some_of_the_time7, replace)
marginsplot, name(Some_of_the_time7, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Sometimes)) title("Income Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Income) atmeans predict(pr outcome(4)) saving(Most_of_the_time7, replace)
marginsplot, name(Most_of_the_time7, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov- Most times)) title("Income Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Income) atmeans predict(pr outcome(5)) saving(Almost_Always7, replace)
marginsplot, name(Almost_Always7, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Always)) title("Income Effects, Adjusted Predictions with 95% CIs")

**# Bookmark #9
*Length of time lived in community effects
oprobit TrustGov i.q4public_assistance PolitIdeo i.Income i.Education i.Male i.White i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived
margins q4public_assistance, over (Lived) atmeans predict(pr outcome(1)) saving(Never8, replace)
marginsplot, name(Never8, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Never)) title("Time Lived in Community Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Lived) atmeans predict(pr outcome(2)) saving(Rarely8, replace)
marginsplot, name(Rarely8, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Rarely)) title("Time Lived in Community Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Lived) atmeans predict(pr outcome(3)) saving(Some_of_the_time8, replace)
marginsplot, name(Some_of_the_time8, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Sometimes)) title("Time Lived in Community Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Lived) atmeans predict(pr outcome(4)) saving(Most_of_the_time8, replace)
marginsplot, name(Most_of_the_time8, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov- Most times)) title("Time Lived in Community Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Lived) atmeans predict(pr outcome(5)) saving(Almost_Always8, replace)

marginsplot, name(Almost_Always8, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustGov - Always)) title("Time Lived in Community Effects, Adjusted Predictions with 95% CIs")

Testing Hypothesis 2: More FEMA disaster aid would more likely yield a higher level of trust in local and state government than Federal government -- Employing a multinomial logit regression analysis per hurricane event

**# Bookmark #10
*H2.1 - The impact of FEMA disaster aid would more likely yield a higher level of trust in local and state governemnt than Federal government

eststo: mlogit TrustMore q4public_assistance PolitIdeo i.Income i.Education i.Male i.White i.Ethnicity i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived, baseoutcome(4)
esttab using mlr_h2results.csv, replace r2 ar2 p wide eqlabels(none)
varlabels(,blist(cut1:_cons "{hline @width}{break}"))
esttab using mlr_h2results.doc, replace r2 ar2 p wide eqlabels(none)
varlabels(,blist(cut1:_cons "{hline @width}{break}"))

margins q4public_assistance, atmeans predict(pr outcome(1)) saving(None1, replace)
marginsplot, name(None1, replace)
margins q4public_assistance, atmeans predict(pr outcome(2))
saving(Local_Government1, replace)
marginsplot, name(Local_Government1, replace)
margins q4public_assistance, atmeans predict(pr outcome(3))
saving(State_Government1, replace)
marginsplot, name(State_Government1, replace)
margins q4public_assistance, atmeans predict(pr outcome(4)) saving(Federal1, replace)
marginsplot, name(Federal1, replace)

combomarginsplot None1 Local_Government1 State_Government1 Federal1, ytitle(Effects on Pr(TrustMore)) xlabel(1"No" 2"Low" 3"Medium" 4"High") xtitle("FEMA Public Assistance") title("Trust More, Adjusted Predictions with 95% CIs") label("None" "Local" "State" "Federal")

**# Bookmark #11
*Are there any socioeconomic/demographic or political IVs can explain whether respondents have higher level of trust in local and state government than Federal Government with respect to various levels of FEMA Public Assistance awarded in response to Hurricane Dennis. Using margins command will provide an understanding of how large and important these predictors are. *

**# Bookmark #12
Political ideological effects
margins q4public_assistance, over (PolitIdeo) atmeans predict(pr outcome(1))
saving(None2, replace)
marginsplot, name(None2, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High")
ytitle(Effects on Pr(TrustMore - None)) title("Political Ideology Effects, Adjusted
Predictions with 95% CIs")
margins q4public_assistance, over (PolitIdeo) atmeans predict(pr outcome(2))
saving(Local_Government2, replace)
marginsplot, name(Local_Government2, replace) xlabel(1"No" 2"Low" 3"Medium"
4"High") ytitle(Effects on Pr(TrustMore - Local)) title("Political Ideology Effects,
Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (PolitIdeo) atmeans predict(pr outcome(3))
saving(State_Government2, replace)
marginsplot, name(State_Government2, replace) xlabel(1"No" 2"Low" 3"Medium"
4"High") ytitle(Effects on Pr(TrustMore - State)) title("Political Ideology Effects,
Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (PolitIdeo) atmeans predict(pr outcome(4))
saving(Federal2, replace)
marginsplot, name(Federal2, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High")
ytitle(Effects on Pr(TrustMore - Federal)) title("Political Ideology Effects, Adjusted
Predictions with 95% CIs")

**# Bookmark #13
Demographic - Socio-economic effects
Gender effects
margins q4public_assistance, over (Male) atmeans predict(pr outcome(1)) saving(None3,
replace)
marginsplot, name(None3, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High")
ytitle(Effects on Pr(TrustMore - None)) title("Gender Effects, Adjusted Predictions with
95% CIs")
margins q4public_assistance, over (Male) atmeans predict(pr outcome(2))
saving(Local_Government3, replace)
marginsplot, name(Local_Government3, replace) xlabel(1"No" 2"Low" 3"Medium"
4"High") ytitle(Effects on Pr(TrustMore - Local)) title("Gender Effects, Adjusted
Predictions with 95% CIs")
margins q4public_assistance, over (Male) atmeans predict(pr outcome(3))
saving(State_Government3, replace)
marginsplot, name(State_Government3, replace) xlabel(1"No" 2"Low" 3"Medium"
4"High") ytitle(Effects on Pr(TrustMore - State)) title("Gender Effects, Adjusted
Predictions with 95% CIs")
margins q4public_assistance, over (Male) atmeans predict(pr outcome(4))
saving(Federal3, replace)

marginsplot, name(Federal3, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High")
ytitle(Effects on Pr(TrustMore - Federal)) title("Gender Effects, Adjusted Predictions
with 95% CIs")

**# Bookmark #14
Race effects: White
margins q4public_assistance, over (White) atmeans predict(pr outcome(1))
saving(None4, replace)
marginsplot, name(None4, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High")
ytitle(Effects on Pr(TrustMore - None)) title("Race Effects: White, Adjusted Predictions
with 95% CIs")
margins q4public_assistance, over (White) atmeans predict(pr outcome(2))
saving(Local_Government4, replace)
marginsplot, name(Local_Government4, replace) xlabel(1"No" 2"Low" 3"Medium"
4"High") ytitle(Effects on Pr(TrustMore - Local)) title("Race Effects: White, Adjusted
Predictions with 95% CIs")
margins q4public_assistance, over (White) atmeans predict(pr outcome(3))
saving(State_Government4, replace)
marginsplot, name(State_Government4, replace) xlabel(1"No" 2"Low" 3"Medium"
4"High") ytitle(Effects on Pr(TrustMore - State)) title("Race Effects: White, Adjusted
Predictions with 95% CIs")
margins q4public_assistance, over (White) atmeans predict(pr outcome(4))
saving(Federal4, replace)
marginsplot, name(Federal4, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High")
ytitle(Effects on Pr(TrustMore - Federal)) title("Race Effects: White, Adjusted
Predictions with 95% CIs")

**# Bookmark #15
Race effects: Black
mlogit TrustGov i.q4public_assistance PolitIdeo i.Income i.Education i.Male i.Black
i.Ethnicity i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE
LIKELYDAM i.Lived
margins q4public_assistance, over (Black) atmeans predict(pr outcome(1))
saving(None5, replace)
marginsplot, name(None5, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High")
ytitle(Effects on Pr(TrustMore - None)) title("Race Effects: Black, Adjusted Predictions
with 95% CIs")
margins q4public_assistance, over (Black) atmeans predict(pr outcome(2))
saving(Local_Government5, replace)
marginsplot, name(Local_Government5, replace) xlabel(1"No" 2"Low" 3"Medium"
4"High") ytitle(Effects on Pr(TrustMore - Local)) title("Race Effects: Black, Adjusted
Predictions with 95% CIs")

margins q4public_assistance, over (Black) atmeans predict(pr outcome(3)) saving(State_Government5, replace)

marginsplot, name(State_Government5, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - State)) title("Race Effects: Black, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Black) atmeans predict(pr outcome(4)) saving(Federal5, replace)

marginsplot, name(Federal5, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - Federal)) title("Race Effects: Black, Adjusted Predictions with 95% CIs")

**# Bookmark #16
Ethnicity effects
mlogit TrustGov i.q4public_assistance PolitIdeo i.Income i.Education i.Male i.Ethnicity i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived

margins q4public_assistance, over (Ethnicity) atmeans predict(pr outcome(1)) saving(None6, replace)

marginsplot, name(None6, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - None)) title("Ethnicity Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Ethnicity) atmeans predict(pr outcome(2)) saving(Local_Government6, replace)

marginsplot, name(Local_Government6, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - Local)) title("Ethnicity Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Ethnicity) atmeans predict(pr outcome(3)) saving(State_Government6, replace)

marginsplot, name(State_Government6, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - State)) title("Ethnicity Effects, Adjusted Predictions with 95% CIs")

margins q4public_assistance, over (Ethnicity) atmeans predict(pr outcome(4)) saving(Federal6, replace)

marginsplot, name(Federal6, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - Federal)) title("Ethnicity Effects, Adjusted Predictions with 95% CIs")

**# Bookmark #17
Income effects
mlogit TrustGov i.q4public_assistance PolitIdeo i.Income i.Education i.Male i.White i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived

margins q4public_assistance, over (Income) atmeans predict(pr outcome(1)) saving(None7, replace)

marginsplot, name(None7, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High")
ytitle(Effects on Pr(TrustMore - None)) title("Income Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Income) atmeans predict(pr outcome(2)) saving(Local_Government7, replace)
marginsplot, name(Local_Government7, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - Local)) title("Income Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Income) atmeans predict(pr outcome(3)) saving(State_Government7, replace)
marginsplot, name(State_Government7, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - State)) title("Income Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Income) atmeans predict(pr outcome(4)) saving(Federal7, replace)
marginsplot, name(Federal7, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - Federal)) title("Income Effects, Adjusted Predictions with 95% CIs")

**# Bookmark #18
*Length of time lived in community effects
mlogit TrustGov i.q4public_assistance PolitIdeo i.Income i.Education i.Male i.White i.age i.Insurance i.House i.Own i.RESPONSIBILITY i.EVACZONE LIKELYDAM i.Lived
margins q4public_assistance, over (Lived) atmeans predict(pr outcome(1)) saving(None8, replace)
marginsplot, name(None8, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - None)) title("Time Lived in Community Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Lived) atmeans predict(pr outcome(2)) saving(Local_Government8, replace)
marginsplot, name(Local_Government8, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - Local)) title("Time Lived in Community Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Lived) atmeans predict(pr outcome(3)) saving(State_Government8, replace)
marginsplot, name(State_Government8, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - State)) title("Time Lived in Community Effects, Adjusted Predictions with 95% CIs")
margins q4public_assistance, over (Lived) atmeans predict(pr outcome(4)) saving(Federal8, replace)
marginsplot, name(Federal8, replace) xlabel(1"No" 2"Low" 3"Medium" 4"High") ytitle(Effects on Pr(TrustMore - Federal)) title("Time Lived in Community Effects, Adjusted Predictions with 95% CIs")

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