Walden Dissertations and Doctoral Studies

Walden Dissertations and Doctoral Studies Collection

2023

Evacuation Emergency Management During Hurricane Katrina: A Decision-Making Analysis

Kimberli Roessing-Anderson
Walden University

Walden University

College of Health Sciences and Public Policy

This is to certify that the doctoral dissertation by

Kimberli Roessing-Anderson

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Mark Gordon, Committee Chairperson,
Public Policy and Administration Faculty

Dr. Gary Kelsey, Committee Member,
Public Policy and Administration Faculty

Dr. James Frampton, University Reviewer,
Public Policy and Administration Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2023

Abstract

Evacuation Emergency Management During Hurricane Katrina:

A Decision-Making Analysis

by

Kimberli Roessing-Anderson

MA, Ashford University, 2011

BS, Marshall University, 1990

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

August 2023

Abstract

Emergency management policy is useful when it involves the stakeholders it serves in the decision-making process. The death toll for Hurricane Katrina in 2005 was almost 2,000 people. Many of the dead and injured lived in low-income communities. There were significant challenges with the evacuation of residents of the Ninth Ward of New Orleans during Hurricane Katrina. Like many public policies, emergency management has evolved over time. Periodically, a catalyst event, such as Hurricane Katrina, shapes public opinion and eventually public policy and its administration. Punctuated equilibrium theory was used to examine the decision-making process of Ninth Ward residents to remain at home or to evacuate before Hurricane Katrina. Semistructured interviews were conducted to gain an understanding of the lived experiences of 15 participants who defied the evacuation order during Hurricane Katrina. Eight of the participants were women, and seven were men. Fourteen of the participants were Black or brown, and one participant was White non-Hispanic. Results indicated many barriers to the process of evacuation, including fears, trust, a false sense of security, and lack of resources. Most of the participants felt safer at home. The only facilitator of evacuation was information dissemination. Implications for positive social change include considering new strategies in emergency management that can alleviate barriers amd assuage the fears, reduce trust deficits, and tackle resource issues that residents experience during a disaster.

Evacuation Emergency Management During Hurricane Katrina:

A Decision-Making Analysis

by

Kimberli Roessing-Anderson

MA, Ashford University, 2011

BS, Marshall University, 1990

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

August 2023

Table of Contents

iii

Chapter 1: Introduction to the Study

Introduction

For as long as the United States has experienced natural disasters such as flooding, hurricanes, and earthquakes, as well as manmade disasters such as airline crashes, atomic power plant accidents, and terrorist attacks, there have been attempts by the national government as well as state and local governments to mitigate them. Often, early attempts at mitigation were reactionary and based on the last disaster, without much forethought to possible future emergencies (Haddow et al., 2021). As such, the perceived proactive measures and planning forethought would inevitably lag until emergency management became more organized and the responsibility was delegated at both the federal and state levels (Haddow et al., 2021).

Emergency management is now present at the federal, state, local, reservation, and territorial levels of government (Haddow et al., 2021). The Federal Emergency Management Agency (FEMA) is the organization responsible for the federal response. Each state and locality have a similar state agency that mirrors FEMA in structure, organization, and functionality. In larger disasters, state governments invite the federal government to assist by declaring that the state or territory is in a "state of emergency" (Birkland, 2014). This declaration opens funding and resources for the state affected. This was an opportunity to have a fuller discussion about the process of creating support for affected areas.

Local governments defer to the governor of the state during a disaster. Territories and reservations have similar guidelines (Birkland, 2007). It was The Disaster Mitigation

Act of 2000 that represented the first substantial attempt at mitigating disasters by the U.S. Congress at the federal level (Connolly, 2020). Congress saw the need to support a new kind of planning that would help leaders in state, tribal, territorial, and local communities understand and reduce their vulnerability to natural hazards.

One of the most devastating disasters to hit the United States was Hurricane Katrina in 2005. Hurricane Katrina started its legacy as do most hurricanes with a name and coverage by the National Weather Service (NWS). As the hurricane made its way through the Gulf Coast of Mexico, it became apparent that Katrina was going to be a destructive hurricane, although no one knew how severe the storm would be once it hit land. As it gained strength and made landfall as a Category 5 hurricane, the media began wall-to-wall coverage of the storm. The coverage enabled the world to see the destruction and damage in New Orleans, Louisiana, and the surrounding areas (Connolly, 2020).

In the following days of the storm, as the levees around New Orleans were breached and flood waters rose, federal, state, and local officials moved into action on the rescue and recovery aspects of emergency management (Connolly, 2020). The waters of the Mississippi River and Lake Pontchartrain flooded, and 1,833 people died due to either the hurricane or the flooding that followed (Honoré, 2020). There was approximately 125 billion dollars in damage once recovery operations were complete. As the water receded and the full scope of the disaster was laid bare, people began questioning the preparedness of the local, state, and federal governments in terms of emergency management (Jerolleman et al., 2020). Mitigation efforts were seen as a public policy

failure, especially in underserved populations in and around the Lower Ninth Ward of New Orleans, where the brunt of Katrina damage was focused.

A gap in the literature exists in researching and explaining the reasons and logic that led to residents not evacuating the Ninth Ward of New Orleans. In this research, a better understanding of what barriers and facilitators informed their decision-making process to evacuate or remain in place during the storm was sought. The rationale for this research was the need to answer questions through a qualitative study that examined the lived experiences of the residents before the landfall of Hurricane Katrina and the subsequent flooding. Semistructured interviews were used to collect data from research participants who experienced the disaster firsthand. Both manual and automated coding was used to recognize emerging themes and patterns in their testimony. The patterns were used to draw conclusions regarding the collected data (Saldaña, 2016). The conclusions may help public policymakers develop better emergency management policy regarding mitigation of hurricane disaster events and the decision to either evacuate or remain in place.

Chapter 1 highlights key research components examined in this study. Included are the background for the research problem, statement of the research problem, purpose for the research, research questions, and theoretical framework. This chapter also illuminates the viability of the research through the examination of the statement of the rationale for the research design, description of the phenomenon, meaningful data collection and thorough analysis of key concepts and important terms, release of assumptions, examination of scope and delimitations, and recognition of limitations.

Finally, Chapter 1 encompasses the research study's significance as a possible contribution to the field of public policy and administration and the effect of emergency management reform in underserved populations and resulting in positive social change.

Background

In its history, emergency management in the United States has focused on rescue and recovery more than mitigation (Haddow et al., 2021). Historically, responses were reactionary to the last emergency or disaster, with few lessons learned or aptitude to imagine possible future crises. Churches were also active in serving as shelters and providing food for the rescued in historical settings (Birkland, 2007). Often, communities came together to rebuild homes and aid those affected by natural disasters (Birkland, 2007). While there have been nongovernmental agencies (NGOs) such as the Red Cross aiding communities affected by disasters since 1881, disasters, both natural and manmade, were handled for the most part at the state and local levels (Birkland, 2007).

One of the modern developments and changes in emergency management focus was the idea of mitigation. This shift to focusing on predisaster planning was made formal in The Disaster Mitigation Act of 2000 (Connolly, 2020). This act called for a more proactive planning process at the federal level of operations. This was also an attempt to lessen the impact of a disaster by making proactive changes to infrastructure, climate goals, and other actionable strategies at the federal level of government (Jerrolleman et al., 2020).

While the act was a giant step forward in emergency mitigation overall, underserved communities were not as resourced or involved in emergency management

mitigation as wealthier White communities (Honoré, 2020). Underserved communities are often made up of Black and brown residents. Many are single Black and brown mothers, their children, and the elderly (Honoré, 2020). Immigrants and other culturally divergent populations make up a portion of underserved communities as well (Lichtveld et al., 2020). These communities saw significantly less money and less planning for disasters and mitigation (Litchtveld et al., 2020). As such, less planning and less mitigation combined with fewer resources and options were available. The underserved communities of the Ninth Ward were left with difficult decision making before Hurricane Katrina.

A gap in the literature exists regarding the lived experiences of residents of the Ninth Ward and their decision-making process for evacuation before Hurricane Katrina. The research addressed this gap so that policymakers, government leaders, and nonprofit leaders can refine policy to better meet the needs of the citizens they serve, especially in emergency situations.

Problem Statement

Currently, a problem exists regarding the evacuation of residents in the Ninth Ward during a natural or manmade disaster. Research shows a relationship between barriers and facilitators in the decision-making process to evacuate and the number of residents who will eventually evacuate before a major storm or emergency (Haddow et al., 2021). Residents in underserved communities are less likely to evacuate based on lack of resources and trust in their elected officials (Honoré, 2020). The failure of residents to

evacuate during a manmade or natural disaster can lead to injury and fatalities in underserved communities (Honoré, 2020).

Residents in underserved communities can experience an amplification of crisis during an emergency, such as a lack of clean drinking water. They can also be left without electrical or gas power (Cords, 2019). These same residents tend to have less in terms of medicine reserves and food supplies in their communities. Because of the lack of resources, they also tend to be in worse health and require medications such as insulin and access to oxygen tanks (Cords, 2019). Some of these residents may also depend on dialysis several times a week (Cords, 2019). Further, language barriers can contribute to residents' inability to obtain what they need to survive during a disaster (Jerolleman et al., 2020). Lack of transportation can also be a major problem for residents who try to endure a storm by remaining in place versus evacuation. In the case of Hurricane Katrina and the levees that breached, many residents who made the fateful decision to remain in their homes ended up drowning in the rising waters, losing their homes, or experiencing other crises (Honoré, 2020).

The aftermath of Hurricane Katrina left almost 2,000 people dead (Honoré, 2020) while thousands more were displaced. Residents were sent to major cities that could absorb the influx of a mass evacuation, such as Houston, Texas (Farmer et al., 2018). Pets of residents were shipped to Denver, Colorado, and "rehomed" (Farmer et al., 2018). The flood water also left many homes uninhabitable and abandoned, remaining boarded up 16 years later. When residents were unable to pay their property taxes, properties were taken by the State of Louisiana (Honoré, 2020). Many of the underserved residents were not

properly insured for flood, and their properties were condemned and taken by the state (Honoré, 2020). Despite the efforts of many nonprofits and NGOs, many residents remain displaced, living with relatives in different cities around the country (Honoré, 2020).

According to Connolly (2020), the Hurricane Katrina disaster prompted review and revamping of emergency management at all levels (Connolly, 2020). However, without the lived experiences of the poorest among those affected by the storm, with their unique perspectives, public policy questions remained unaddressed. In the Lower Ninth Ward, conditions remain much the same even in the year 2023. Studying the decision-making process at the time of the storm would help emergency management decision makers understand the elements impacting evacuation orders in the future (Jerolleman et al., 2020). For stakeholders in their community, the decision-making process matters and can result in saved lives and proper asset security and protections (Jerolleman et al., 2020). Some specific areas to study include what facilitators and barriers to evacuation are normally faced and how better public policy can influence behaviors for the better when future natural disasters are experienced.

The Purpose of the Study

The purpose of this qualitative study was to explore the decision-making process of the underserved community in the Lower Ninth Ward to refine public policy that will be more effective for future disasters. Through one-on-one interviews with residents of zip code 70117, the decision-making process was revealed and provided data for analysis. Residents shared their lived experiences and the facilitators and barriers they faced before

Hurricane Katrina made landfall. This study provided insight into how emergency management officials obtain buy-in from stakeholders of the Lower Ninth Ward. This study has the potential to improve the evacuation process in underserved communities during future emergencies. Improving the evacuation and mitigation process in underserved communities can save lives and reduce injuries suffered by residents (Connolly, 2020). A sense of equity and equality among all communities can be realized through listening to the lived experiences and personal accounts of those who rode out the storm and survived.

There is a constant relationship between decision making, facilitation of assistance, and barriers to optimal emergency management (Connolly, 2020). For example, if a resident does not own a car or have access to transportation, this becomes a significant barrier to evacuation. On the other hand, if rescue teams have included interpreters, then non-English-speaking residents can more easily communicate, and this becomes a real facilitation to the community. If a resident is not an American citizen, fear of deportation after arriving at a shelter can be a true barrier to evacuation. On the flip side, if animals can be evacuated alongside their owners, this could be seen as a positive facilitation to the residents experiencing the crisis.

This study examined the current research regarding emergency management response in underserved communities, the decision-making process of residents in emergency-prone areas, facilitators to evacuation, barriers to evacuation, and prior disasters, both natural and manmade, as the foundation. Further, the research will also examine the changing face of emergency management and how these changes affect

underserved communities in both positive and negative ways. This study analyzed the

decision-making process of residents in the Lower Ninth Ward regarding emergency

evacuation. My research provides insight into how facilitators and barriers affect the

decision-making process of residents in the Lower Ninth Ward regarding evacuations and

what changes in emergency management public policy can do to effect positive social

change.

Research Questions

The following research questions were the foundation of this study:

Research Question 1: What were the barriers for residents of the Lower Ninth

Ward in zip code 70117 that affected their decision-making process to

evacuate during Hurricane Katrina?

Exploring this research question can provide insight into what hurdles stand in the

way of Lower Ninth Ward residents' ability to follow evacuation orders. Based on the

lived experiences of the residents, what public policies in the venue of emergency

management can be developed to help alleviate these hurdles? Developing more helpful

public policy could result in positive social change.

Research Question 2: What facilitated the decision-making process of residents of

the Lower Ninth Ward in zip code 70117 to evacuate during Hurricane

Katrina? What were the barriers and facilitators to the residents of the

Lower Ninth Ward in zip code 70117 that informed their decision-making

process to evacuate during Hurricane Katrina?

Learning about the lived experiences of residents of the Lower Ninth Ward in terms of what assisted them during Hurricane Katrina could serve as a model in creating similar public policy. Mirroring the facilitators in emergency management policy could help provide positive social change in disaster-prone areas.

Answering these two research questions helped inform public policymakers of the needs their stakeholders express. Understanding the barriers and facilitators to the decision-making process can better inform emergency management officials of changes that may need to be made to receive the buy-in of the stakeholders in the Ninth Ward. Gaining this buy-in of stakeholders could make a huge difference in the number of residents in the Ninth Ward who would be willing to evacuate during a future storm.

Theoretical Framework

This qualitative research study utilized the punctuated equilibrium theory (PET). This theoretical framework addressed a simple observation: Although in general, society moves along incrementally and with stability, political processes from time to time create large-scale departures from the past (Weible, 2018). In policy areas where the status quo is the norm and crises are few, changes occur in slow increments of time. Serving as a secondary theory is the evolutionary biological theory founded in 1972 by Niles Eldridge and Stephen Jay Gould, which proposes that once a species appears, the population will remain stable and exhibit little change or stasis for most of the species' history (Weible, 2018). This theory served as a secondary theory. When a powerful change or cladogenesis does occur, a species splits into two distinct species that transform each other (Weible, 2018).

In public policy and administration, the PET has been advanced by Frank R. Baumgartner, Bryan D. Jones, and Peter B Mortensen since the early 1990s (Jones et al., 2018). Public policy, law, and government programs can change dramatically in the face of a large-scale event such as Hurricane Katrina, which killed almost 2,000 people. The political process is normally marked by small, incremental changes (Weible, 2018). The complexity in political systems implies that destabilizing events can change the normal process of equilibrium, leading to a new policy process (Weible, 2018).

In public policy, small changes occur when different political parties move in and out of power. It can take many years to see a substantial change under normal circumstances. However, a catalyst event such as the attack on Pearl Harbor, 9/11, or a hurricane that kills almost 2,000 people can move public policy changes along at a faster pace. PET in public policy demonstrates how large-scale events lead to an uproar in the public and the media that causes change to move at a much faster and more substantial pace (Weible, 2018).

Hurricane Katrina and the flooding that followed outraged members of the public who were following the story through the media. As people were interviewed and the death toll rose, the public was left angry. This public outrage led to the much larger push for change in the area of emergency management public policy (Honoré, 2020). This push for change included both firing and, in some cases, prosecution of public officials. The media can play a significant role in larger scale change (Jones et al., 2012).

As Jones et al. (2012) noted, "Public policymaking makes both leaps and undergoes periods of near statis as issues emerge and recede from the public agenda" (p.

71). American public policy is constructed to resist efforts to change institutionally (Weible, 2018). Change happens when a burst of events captures the attention of the public through the media and public policymakers feel that attention and the need for action (Baumgartner et al., 2012). Examples of destabilizing events include the following: the stock market crash of 1929, the attack on Pearl Harbor in 1941, the U.S. Civil Rights Movement during the 1960s, the beating of Rodney King, the disappearance of Etan Patz, the AIDS crisis, the attack on 9/11, Hurricane Katrina, the murder of George Floyd, the COVID-19 pandemic, and the January 6 attack on the U.S. Capitol. Each of these events changed public opinion and hence public policymaking. A more detailed explanation of PET will be offered in Chapter 2.

Nature of the Study

The study was a qualitative phenomenological study using one-on-one interviews. The purpose of the interviews was to determine the lived experiences of residents of the Ninth Ward before Hurricane Katrina. What did the residents see as their options to evacuate at the time of the event? What were the facilitators and the barriers to their ability to evacuate? Individual profiles will provide a better understanding of how these underserved residents viewed their options before, during, and after the storm (Creswell, 2014). After I had obtained an informed consent agreement, the primary data collection technique was one-on-one interviews accomplished in person but also achieved through email, phone, video conference, or online venues to collect data from study participants. Video teleconferencing included FaceTime, Zoom, Microsoft Teams, or Skype, and other similar applications, as necessary.

Participants for this study included residents of the Lower Ninth Ward during Hurricane Katrina (zip code 70117) who defied evacuation orders for Hurricane Katrina and remained in their homes. By using social media and advertisement posters, I recruited volunteers to participate in the study. Volunteer sampling is a form of purposive nonrandom sampling (Patton, 2015). This type of sampling is used when it is vital to obtain research participants on sensitive subject matter (Patton, 2015). Snowball chaining was to supplement the process. This approach enabled research participants in finding more potential respondents (Patton, 2015). I collected data until a saturation point was reached.

I targeted 15 participants for this study. Given the time that has passed since Hurricane Katrina and the residents who have been displaced, 15 respondents seemed like an obtainable number, with a good chance of data saturation. The lived experiences of these 15 participants provided the data I needed to code and realize emerging themes. Fifteen research participants helped me reach a saturation point for the data collection (Saldaña, 2016).

Before the one-on-one interviews, I asked the participants for their last names and first initials to be used only for reference. Participants were assigned their own numerical identification so that their name would not be part of my research study and would remain anonymous. The one-on-one interviews allowed for firsthand accounts of the participants' lived experience as a resident in an underserved community before a disaster or emergency (Rubin et al., 2012). Participants were asked to list barriers and facilitators

that influenced their decision-making process as it pertained to evacuation before Hurricane Katrina's landfall event.

Each one-on-one interview was scheduled for 1 hour. I was conscious of the time limit as not to breach the trust of the research participant. I answered the research participant's questions before, during, and after interview proceedings. I asked for permission to contact the research participants with follow-up questions. The one-on-one interviews were recorded with the participants' permission to document the discussion for future reference and verification. The manual and automated coding process lasted for approximately 3 weeks.

Definition of Terms

A list of definitions is provided below for the reader to understand unfamiliar terms utilized throughout this study, or terms that require a more specific definition for the purposes of the research.

Emergency management: The topic of emergency management must be reviewed to understand what resources were available to the residents of the Ninth Ward at the time Hurricane Katrina devastated the area. Emergency management is defined as the organizational function framework within which communities attempt to mitigate vulnerability to hazards and disasters (FEMA, 2022). Emergency management is highly dependent on planning and coordination (Birkland, 2006). Emergency management agencies can be found on the federal, state, and local levels. These agencies are supplemented by NGOs such as the Red Cross (Birkland, 2007). A resident's trust, ability, and available resources are critical for emergency management policy to be

successful (Birkland, 2006). Each of these elements is crucial in examining the decision-making process to evacuate during a disaster. Perfecting this decision-making process may result in positive social change for emergency management policies and administration.

Federal Emergency Management Agency (FEMA): An agency of the U.S. government under the Department of Homeland Security. This agency was created by President Jimmy Carter in 1978 (FEMA, 2022.). The agency's purpose is to coordinate responses to disasters in the United States. FEMA assists state and local emergency authorities. The governor of a state must declare a state of emergency and formally request FEMA assistance from the president of the United States (FEMA, 2022).

Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP): Works with local, state, tribal, and federal authorities to prepare for, prevent, respond to, recover from, and mitigate against future emergencies and disasters (State of Louisiana Governor's Office of Security and Emergency Preparedness, 2022). GOHSEP staff work with private-sector partners and nonprofit partners according to their mission statement.

Ninth Ward: The Ninth Ward is in Southeast Louisiana in the county of Orleans Parish (Louisiana.gov, 2022). The most recent data indicate that the area is located by the Mississippi River and is approximately 5.48 square miles (the state of louisana government statistics, 2022). As of July 2021, the population was approximately 27,767 residents, and the median income was $31,028. This area ranks 40th in the wealth index of Louisiana (State of Louisana Government Statistics, 2022). Approximately 34.4% of

the residents own their homes, 32.8% of the residents rent their homes, and 32.9% of the

homes are vacant (State of Louisana Government Statistics, 2022). Almost half of the

residents of this area are diverse in race and ethnicity. The poverty rate is 25.4% (State of

Louisana Government Statistics, 2022). The unemployment rate is 6.5%, and more than

71.0% of school children are eligible for free lunch services. The population has fallen in

the last 10 years from 51,252 (2011) residents to approximately 23,389 residents (State of

Louisiana Government Statistics, 2022).

The statistics stated above are representative of an underserved and impoverished

community (Honoré, 2020). By comparison, Aurora, Colorado, a community in the area

surrounding Denver, had a poverty rate in 2021 of 10.3% (State of Colorado Government

Statistics, 2021). The unemployment rate for Aurora in 2021 was 5.6%, and 34.0% of

children were eligible for free lunch services (State of Colorado Government Statistics,

2021). The population growth for Aurora in 2021 was over 10,000 new residents. Aurora,

Colorado, has grown by 15% in the last 10 years (State of Colorado Government

Statistics, 2021). Over half of the residents of Aurora own their own home. Less than

10% of homes are vacant (State of Colorado Government Statistics, 2021). The average

income in Aurora, Colorado, is $51,000 (State of Colorado Government Statistics, 2021).

The area around New Orleans in the Lower Ninth Ward is shrinking while other areas

around major cities are growing. With this loss of people and income, community

services also shrink (Honoré, 2020).

Assumptions

An essential part in constructing qualitative research is ensuring that the

researcher avoids adding personal bias, assumptions, judgment, and personal views to the

research to maintain clarity and scholarly purpose (Patton, 2015). It is crucial that the

researcher points out critical assumptions and puts them up for debate during this part of

the research study. Though it is obvious that the study's mere existence is a result of the

researcher's passion for a topic, bias must be put away in the interest of conducting

quality research (Patton, 2015). It is vital that the researcher point out critical

assumptions for discussion during this part of the study.

I controlled for bias by using other people to help me code and automate the

software for coding. To control bias with my research participants, I verified data

collection with other resources. I checked for alternative explanations for participants'

lived experiences. I had peers review my findings. I journaled for bias.

This study involved the assumption that a qualitative phenomenological study

approach was the most efficient and effective way to study residents of zip code 70117

who did not evacuate during Hurricane Katrina (Creswell, 2014). Qualitative

phenomenology allowed for a more nuanced set of data than the numbers a quantitative

study would provide. Listening to interviews and observing body language provide a

more complete picture of what evacuation looked like for the residents in the Lower

Ninth Ward. This was completed by interviewing residents and listening to their lived

experiences. The second assumption was that interviewees would be honest in their

interview answers. The third assumption was that research subjects would ask clarifying

questions if they became confused. The fourth assumption was that participants would agree to participate of their own free will (voluntarily). The fifth assumption was that the identified theoretical framework (PET) was directly related to the idea that residents of zip code 70117 want to successfully evacuate from future disasters. This theory explains the large-scale change that can occur after a catalyst event. The public outcry from the death toll, damage, and displacement of individuals of the Ninth Ward was a catalyst event. This catalyst event has caused emergency management to change in a more progressive fashion.

During the interview process, research participants shared their experiences as residents of the Ninth Ward during Hurricane Katrina. I gathered their shared experiences to code and create emerging themes of this phenomenon (Creswell et al., 2014). It was assumed that research participants would share their lived experiences in order to help themselves and others in future emergencies. The purpose for this study was to further the discussion of emergency management in public policy by exposing a gap in the current literature. The gap was the lived experiences of residents of the Lower Ninth Ward during the evacuation of Hurricane Katrina. At the conclusion of this research, it was assumed that the research question would be answered. Additional areas for research were identified, and the purpose of the study was fulfilled.

Scope and Delimitations

The scope of the research addressed the lack of policy for those in the Lower Ninth Ward at the time of Hurricane Katrina. The research participants were limited to adults who lived in this area and did not evacuate during Hurricane Katrina. The research

focused on the lived experiences of these residents in terms of decision making during a disaster. The study examined the facilitators and the barriers that these residents faced in the decision-making process to evacuate or remain in place. I studied 15 residents of the area to examine their decision-making process at the time of the event. The research participants voluntarily participated in an anonymous one-on-one interview session, as discussed earlier. The questions during the interview were open-ended and structured (refer to Appendix A); this created an opportunity to discuss participants' experiences with natural disasters and emergency management.

The research developed from this study informed public policy and emergency management because the collected data provided insight into the issue of emergency management during Hurricane Katrina. The emerging themes and patterns coded from the data collection provided a roadmap of what policies residents need to see to follow emergency management protocols. The hope was to provide insight in terms of improvement of residents following evacuation orders and saving lives for future emergency situations. The result of improvement in obedience to evacuation orders would be a positive social change, if supported by the data and analysis.

This study's delimitations encompass adult residents of the Lower Ninth Ward who survived Hurricane Katrina and ignored federal, state, and local evacuation orders. Those residents were in a unique position to offer perspectives on the barriers and facilitators to evacuation during a disaster. These residents best described the conditions on the ground and what issues helped them come to the decision to remain in their home during the hurricane (Birkland, 2006). Based on their answers, emerging themes were

discovered and recognized through manual and automated coding (NVivo) that showed patterns and trends in the data. Further, after analysis of the data, the ability to develop new public policy regarding emergency management can be resolved and presented.

This study is transferable because of its importance to the following topics: underserved communities, emergency management, natural disasters, manmade disasters, evacuation, public policy, barriers, facilitators in decision making, disaster-prone areas, and disaster education. The choice to study residents of the Lower Ninth Ward had no adverse effect on the transferability or applicability to other demographics. The data from this study can be transferred to emergency management departments in other disaster-prone areas. Honoré (2020) explained how the transfer of studies can be used to develop better emergency management public policy in similar demography.

Limitations

There were limitations in this study. Limitations must be acknowledged to mitigate preconceptions to a study's reliability and validity (Patton, 2015). While the sample size may seem small at 15 research participants, data saturation was met for this qualitative study with this sample size.

Limitations concerning the credibility of research participants must be acknowledged. One-on-one interviews are an accepted form of data collection for qualitative research (Patton, 2015). However, a research participant's lived experience cannot be authenticated independently (Creswell, 2014). These lived experiences may be traumatic, and research participants may find the subject difficult to discuss. Because of the ability to remain anonymous, I believe that these research participants participated

freely and openly. The study's importance to safety in public policy and positive social change made this study a worthwhile challenge.

Some research participants did not comfortable speaking face-to-face. Some participants may not have had access to Zoom, Microsoft Teams, or FaceTime. For these research participants, I accommodated whatever form of communication was comfortable for them but still effective in capturing the data. Finally, this study was guided by the public policies regarding emergency management in the geographic area of the Lower Ninth Ward. However, this study offers transferability in the creation of new emergency management public policy that involves the hope to advance positive social change.

Significance

This study contributes to the literature in the emergency management and public policy fields by closing a gap in the current literature pertaining to the decision-making process of residents during a disaster evacuation. The assumption is that residents in a disaster-prone area will evacuate when compelled to do so. However, what goes into the decision-making process of some residents remains unknown. Understanding the facilitators and the barriers to these residents in their decision-making process will effectuate a higher evacuation rate and saved lives, potentially.

Residents of the Ninth Ward face many challenges in the emergency management process. The Ninth Ward is experiencing a decline in both residents and income. With the loss of revenue comes a reduction in services. The lived experiences of these residents provided a road map to the most important changes that may need to be made in terms of public policy (Honoré, 2020).

Existing literature addresses the relationship between barriers and facilitators in the decision-making process and evacuation rates; this study looked at the literature gap of this specific group of residents in the Ninth Ward and their specific needs. The conclusions of this study and recommendations offered may lead to changes in emergency management public policy and positive social change in terms of saving lives for future disasters and emergencies (Birkland, 2006).

The Ninth Ward is considered an underserved community (Honoré, 2020). The current emergency management public policy at all levels of government conflicts with the resources and challenges of these same residents (Honoré, 2020). Some questions for this research are simple, such as "do residents have access to transportation?" However, some questions are more difficult, such as "what was a particular resident's relationship in terms of trust with government officials," at the time of the disaster (Birkland, 2006). This study's conclusions may help to develop emerging themes for more effective emergency management policies at all levels of government. The findings may help public officials understand the concerns and the decision-making process of residents in disaster-prone areas. All of these elements can lead to positive social change emanating from optimized public policy and administration.

Summary

This study's focus included the barriers and facilitators of the evacuation decision-making process of residents in the Ninth Ward during Hurricane Katrina. The qualitative research case study examined the lived experiences of residents in a disaster-prone area and how they made decisions to evacuate or remain in place during a disaster.

In Chapter 1 of this dissertation, I explored the research topic, its background, and the rationale for selecting the residents of the Ninth Ward as the research target.

Chapter 2 provides an iteration of the research problem and the purpose in terms of the existing literature. Through a summary of the peer-reviewed literature, the reader will become more intimate with the research problem and the rationale for the theoretical framework chosen. A review of the literature will offer a basis for understanding the barriers and facilitators in the decision-making process to evacuate during a disaster. This understanding may lead to changes in public policy regarding emergency management. Changes in public policy could lead to positive social change and saved lives.

Chapter 3 provides a discussion of the research and theory being utilized in this qualitative study. PET will illuminate the process by which emergency management public policy changes over time (Weible, 2018). PET will also help explain the long periods of statis followed by large-scale departures or crisis that change public policy more quickly. Public opinion plays a crucial role in the rapidly changing policy (Weible, 2018). This approach studied the process of change in social systems.

Chapter 4 focuses on data collection and analysis (Saldaña, 2016). Data were collected from one-on-one interviews with volunteer research participants. The interviews were recorded with the participant's permission and coded for analysis. I completed manual and automated coding. The automated coding was completed with NVivo. The coded material was analyzed and synthesized.

   Chapter 5 provides the results for the study, areas for further research, and recommendations. The results may provide an opportunity for emergency policy improvement. Improvement in public policy may result in positive social change.

Chapter 2: Literature Review

Introduction

Currently, there is a problem in the Ninth Ward (zip code 70117) regarding evacuation orders during a natural disaster such as Hurricane Katrina. Specifically, despite local emergency plans and protocols being in place, the poor, urban, minority communities faced barriers such as transportation and resources to evacuate during a natural disaster (Farmer et al., 2018). Despite local government efforts to provide emergency shelter and buses, the effort was unsuccessful for many residents (Honoré, 2020). Almost 2,000 residents of that underserved community died during Hurricane Katrina (Honoré, 2020). The problem impacts low-income and underserved communities.

According to Connolly Knox (2020), a substantial number of residents were more afraid of staying in a shelter than they were of the incoming storm. Residents of the Ninth Ward were afraid of both government-sponsored shelters and NGO shelters such as that of the American Red Cross. Connolly Knox also found that the prior relationship with government officials only underscored community members' feelings about evacuating during a disaster. In other words, a negative experience with police, local government, or first responders could play a role in whether a resident trusted emergency management.

An additional piece of the problem exists when timelines for mitigation, response, and recovery do not align with a resident's expectations (Jerolleman et al., 2020). For example, if a resident is without resources to get to an emergency shelter, then they are not able to participate in the disaster mitigation in a timely manner. Rescues can be

traumatizing and expensive. Displaced residents often want to return to their homes as soon as storm has passed (Jerroleman et al., 2020). Public safety issues prohibit immediate return, and so some residents believe that it is better not to leave at all. Finally, residents expect to receive help from the government to get back on their feet, whether that be in terms of money to rebuild or other resources such as food, water, and electricity. Jerolleman et al. (2020) found that underserved communities often have their utilities restored after more affluent areas. Government agencies often fall short of the residents' expectations (Jerolleman et al., 2020).

As a result of the barriers to evacuation for this community, many residents have remained at home during natural disasters instead of following local emergency evacuation protocols. This is significant because a lack of adherence to emergency evacuation orders can result in injury and death (Honoré, 2020). Many possible factors are contributing to this problem, including a need for facilitation from federal, state, and local governmental representatives. Barriers to residents include transportation, financial resources, trust of local government officials, language barriers, fear of deportation, fear of looting, fear of violence at shelters, refusal to leave behind pets, and residents who had successfully ridden out prior storms, to name a few (Farmer et al., 2018). This study contributes to the body of knowledge by examining the barriers and facilitators to the residents of the Ninth Ward that informed their decision-making process during Hurricane Katrina. Knowledge gained from this examination can push the research forward and help shape public policy for emergency management in the future. This

study will contribute to positive social change by potentially improving the response to emergency management evacuation orders in underserved communities.

The importance of this study is that the data and subsequent analysis provide information that will

- inform policymakers of the emergency management needs of residents in underserved communities

- create an awareness of both the barriers and facilitators involved in emergency management of natural or manmade disasters in underserved communities

- serve as a catalyst for policy change in emergency management in underserved communities

- enlighten institutional stakeholders to the barriers of emergency management to residents of underserved communities during a natural or manmade disaster

- encourage dialogue amongst public policymakers involved in emergency management guideline creation

The theoretical framework utilized in researching this topic was PET. Gould and Eldredge developed this theory to explain the view in which evolving species undergo sustained lengths of time of stasis followed by rapid changes over a relatively short period due to speciation (Weible et al., 2018). In this example, the barriers and facilitators found during a disaster in underserved communities had changed little in the years before Hurricane Katrina (Honoré, 2020). Hurricane Katrina served as the catalyst or speciation event that caused a rapid change in a short time. A review of the current literature

regarding the barriers and facilitators for underserved communities (in zip code 70117) during Hurricane Katrina is covered in this chapter.

Literature Search Strategy

In this qualitative study, I examined the barriers and facilitators to underserved communities in the Ninth Ward on the decision-making process to evacuate during Hurricane Katrina. The literature review encompassed peer-reviewed articles published over the last 5 years. This search also included three books by emergency management experts because of their relevance to the topic of emergency management and public policy. A strategic and exhaustive search of the literature was completed for this study.

Creswell's guidelines included the development of key research terms for the literature search. There was a broad review of scholarly databases, including but not limited to Walden University's academic library and internet resources. A literature review was created that summarized research by promoting important themes, recapping critical concepts, and examining how this study contributes to filling a literature gap (Creswell, 2014.)

Through Walden University's online academic library, an extensive and comprehensive search of relevant literature was conducted in the following online databases: ERIC, SAGE Journals, Emerald Insight Database, Google Scholar, and ProQuest. Keywords and phrases utilized in this search included *emergency management*, *emergency response*, *Hurricane Katrina*, *natural disaster*, *evacuation protocols*, *evacuation orders*, *Lower 9th Ward municipal government*, *FEMA*, *The Red Cross*,

emergency notification system, *Hurricane Katrina survivors*, *first responders*, *police response*, *evacuation challenges*, *evacuation decision-making*, and *risk perception*.

Theoretical Foundation

The theoretical framework used in this research study was the PET developed by Stephen Gould and Niles Eldredge (Koski et al., 2018). The theory was examined to explain the view in which evolving species undergo sustained lengths of time of stasis followed by rapid changes over a relatively short period due to speciation events.

This research study exists to contribute to the improvement of emergency management protocols and adherence in underserved communities. The PET framework applies to the catalyst that Hurricane Katrina became in terms of creating a speciation event in a period of stasis. Emergency management agencies are responsible for guiding residents before, during, and after a natural or artificial disaster. According to the 2021 FEMA mission statement, "helping people before, during, and after disasters" is the agency's goal (FEMA, 2022). Louisiana state government encompasses GOHSEP. The 2021 mission statement of GOHSEP (stated on its website) is to lead and support Louisiana and its citizens in preparation for, response to, and recovery from all emergencies and disasters.

Therefore, understanding the lived experiences of the residents of this community is critical to understanding the catalyst of Hurricane Katrina. Understanding the emergency response and the adherence to evacuation orders is crucial to creating successful public policy in emergency management. Changes in emergency management public policy can save lives. Successful public policy can lead to positive social change.

This qualitative research study examined the barriers and facilitators to residents of underserved communities of the Ninth Ward during Hurricane Katrina. The PET guided research and analysis in examining the barriers that residents experienced when encountering emergency and evacuation orders. Facilitation was also explored in terms of the residents' and local government officials' experiences. The PET framework was helpful in explaining stability and change (Koski, 2018).

PET provides a framework for explaining the three mechanisms that lead to change: gradual policy diffusion of change, gradual policy change, and rapid policy change driven by policy limitations (Kuhlmann et al., 2018). A primary focus of this study was examining why residents of the Ninth Ward did not adhere to evacuation orders during Hurricane Katrina. Therefore, it was critical to explore the barriers and facilitators in the decision-making process to obey, or not obey, those orders.

The PET and related framework was applicable because of its adaptability to all aspects of the study of institutional and policy change (Weible, 2018). The PET framework has been utilized to examine social science previously in concert with its utilization in the biological sciences (Koski, 2018). PET is a conceptual framework for understanding the process of change (Koski, 2018). This understanding includes the evolution of conflicts (Weible, 2018). The theory hypothesizes that many social systems exist in extended periods of stasis that can be punctuated by sudden shifts that may lead to extreme change (Weible, 2018). Born out of an evolutionary biological theory (Weible, 2018), it is also used to examine changes in the social sciences.

The PET of policy change was first presented in 1993 by Frank Baumgartner and Bryan Jones (Weible, 2018). The model states that policy changes are created and implemented in incremental stages. The slow process is due to the restraints of institutional cultures and resistance to change by decision makers (Weible, 2018). When change occurs, it is often with the change of party control in government or a sharp change in public opinion, or a crisis (Koski, 2018). A few examples of social policy subjects that have been examined under PET are tobacco policy, gay marriage, environmental policy, gun reform policy, and the legalization of marijuana policy (Koski, 2018).

PET provides a lens through which to view the decision-making process of underserved communities during a natural disaster. It is a theoretical approach to examine how the residents of zip code 70117 weighed facilitators and barriers to evacuation during Hurricane Katrina. PET can be used to dissect how these facilitators and barriers formed their decision-making process. The PET framework was relevant to this study due to the following factors at play (Weible, 2018):

- identification of structural variables in the study

- correlation between a catalyst event and change in public policy

- recognition of periods of statis in the public policy

- utilization of PET to examine decision-making processes

Underserved communities often find themselves at the mercy of the status of public policy (Cho, 2019). Even with the change of political party leadership, the current political system is often gridlocked to the point that few changes are felt at the level of

the underserved community (Cho, 2019). Applying the PET framework illuminated the difficulty of instituting policy change in a community such as the Ninth Ward without a catalyst event. PET highlights the importance of political opinion on public policy change (Cho, 2019).

For example, the media coverage of residents in the Ninth Ward clinging to their rooftops during Hurricane Katrina profoundly affected public opinion (Honoré, 2020). The sight of bodies floating in the floodwaters of Hurricane Katrina received a vitriolic response from the public and formulated a strong public opinion. The chaotic scenes from the Superdome and the New Orleans Civic Center following the hurricane and subsequent flooding also moved public opinion (Honoré, 2020). This study examined the correlation between the media saturation of the disaster and public opinion. The gap in the research was the lived experiences of residents of zip code 70117. What factors did the residents consider when making decisions to remain home or evacuate? Finally, this study examined the institutional changes in public policy that a storm like Hurricane Katrina implores.

PET is a policy-based theory that establishes applicability to specialized politics of public policy systems. This theory offered the possibility to compare policy process theories with general formulations of the human dynamic process. PET establishes punctuated dynamics where long periods of stability and bursts of frenzied activity exist. Finally, it predicts a form of system-level stability punctuated by a catalyst event.

The evolution of public policy change is slow and often determined by what political party is in the majority (Robin et al., 2020). Gridlock at all levels of local, state,

and federal government also plays a role in statis. Stakeholders' resistance to change plays a significant role (Robin et al., 2020). The PET framework provided a lens through which to identify a speciation event such as Hurricane Katrina. PET can help examine the sharp change in public opinion that resulted after Hurricane Katrina and the flooding that followed. Applying the PET allows for greater understanding of statis in emergency management public policy (Weible, 2018).

In this study, I looked at the barriers and facilitators to evacuation and the decision-making process to evacuate for the residents of the Lower Ninth Ward. This study explored the lived experiences of those residents who rode out Hurricane Katrina. I examined those experiences and identified common themes among the residents. Finally, I sought through this study to provoke public policy discussion and provide for positive social change in emergency management.

<div align="center">

Literature Review Related to Key Variables and Concepts

</div>

The following is list of key variables and concepts used in the search for literature that encompasses the research for this topic. These phrases are critical to the understanding of my research.

Emergency Management

The topic of emergency management was reviewed to understand what resources were available to the residents of the Ninth Ward at the time Hurricane Katrina devastated the area. *Emergency management* is defined as the organizational function framework within which communities attempt to mitigate vulnerability to hazards and disasters (FEMA, 2022). Emergency management is highly dependent on planning and

coordination (Birkland, 2016). Emergency management agencies can be found on the federal, state, and local levels. These agencies are supplemented by NGOs such as the Red Cross (Birkland, 2007). Resident trust, ability, and resources are critical (Birkland, 2016). Each of these elements was crucial in examining the decision-making process to evacuate during a disaster. Perfecting this decision-making process may result in positive social change.

Poverty

Poverty is defined by the Office of Management and Budget (OMB) Statistical Policy Directive 14; the Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty (OBM, n.d.).

At the time of the hurricane, the state of Louisiana ranked as the 5th lowest in median income (United States Census Bureau, 2000). The poverty rate was 19.4%, the second worst in the nation. One-fifth of this population, or one million residents, were affected by the hurricane (Honoré, 2020). Fifty-four percent lacked reliable transportation at the time of the hurricane. In the elderly community, the number was higher at sixty-five percent. One of every three hurricane victims was black or brown, and 59% lived below the poverty line before the storm (Honoré, 2020). Each of these elements was crucial to understanding the barriers faced by residents of the Ninth Ward before Hurricane Katrina made landfall.

According to Honoré', People living in poverty suffer more during, and in the aftermath of, a disaster. The researchers found that there was an unequal emergency management approach to poverty stricken and underserved communities. This results in an unequal response when a disaster happens (Honoré, 2020). Honoré's work was vital to my study because it presents a clear and precise example of how emergency management on the local level can fail those citizens that need it most. This study contributed to the theme of social justice and different approaches to public policy.

The resources available to the resident has a direct impact on their decision-making process to evacuate (Meyer et al., 2018). When compared to white middle class counterparts, under-served poor residents were less likely to follow evacuation orders (Meyer, et al., 2018). Residents without transportation were less likely to evacuate from a hurricane. The research of (Meyer et al., 2018) shines an important light on the disadvantages of poverty-stricken residents during a natural or manmade disaster.

Disasters disproportionately affect poor people and leave them even more vulnerable after the fact (Manove et al., 2019). This study examines the effects of disasters on vulnerable populations such as black and brown single mothers. The socioeconomic factors that were predictors of a negative impact are a cry for positive social change and public policy revision. These vulnerable populations are left in a worse condition after the disaster in terms of food insecurity, joblessness, childcare options, homelessness, and in terms of healthcare (Manove, et al., 2019). This study was critical to my research as it shined a light on how residents of underserved communities are at a disadvantage before the decision-making process begins and after the disaster is over.

Underserved Communities

FEMA defines underserved communities as populations who face barriers in accessing and using victim services, and includes populations underserved because of geographic location, religion, sexual orientation, gender identity, underserved racial and ethnic populations. These populations face barriers in accessing and using victim services. These communities are often households of color, single female heads of households with minor children, ethnic populations, immigrants, and disabled individuals (Farmer et al., 2018). The Ninth Ward is considered an under-served community by the Department of Health and Human Services (Department of Homeland Security, 2022). Each of these elements is important to understand the lack of resources available to this community in the face of a natural disaster. The disadvantages faced by those residing in under-served communities are illuminated by disasters and emergencies (Lichtveld et al., 2020). Disparities in health and environmental policy in underserved communities played a vital role in my research. Lichtveld also calls for further research into emergency management in underserved communities to help shape public policy (Lichveld et al., 2020), this is the gap.

Public Trust

In 2020, the Internal Revenue Service defined the concept of the *public trust* as it relates back to the origins of democratic government and its seminal idea that within the public lies the true power and future of a society; therefore, whatever trust the public places in its officials must be respected. Trust is an essential factor in the relationship between government and citizens (Robin et al., 2020). Ironically, the levees preventing

the floodwaters from entering the Ninth Ward symbolized broken trust between residents and the government (Manove et al., 2019). Another example of trust might be religion and how both trust in God and the fact that many residents had waited out hurricanes in the past weighed on their decision-making process (Manove et al., 2020). Each of these elements is important to understand the actions of decision-making when faced with a natural disaster.

Connolly Knox examines how unethical decision-making before a crisis underscores how a disaster will be handled when it happens and how residents will respond (2020). If residents do not trust government officials before a disaster, they will not trust these same officials during a disaster. Additionally, unethical behavior will not change just because a hurricane hits the area (Connolly Know, 2020). This problem is important in terms of public policy and social change.

Fear

Fear is defined by the Department of Justices as a state of anxious concern, alarm, or apprehension of harm. It includes fear of economic loss as well as fear of physical violence. In criminal law, fear means consciousness of approaching danger. In the context of this study, some residents were more afraid of going to a shelter than they were of riding out the storm. The fear of looting and criminal activity outweighed the fear of the hurricane (Farmer et al., 2018). The fear of being robbed or raped at an emergency shelter had a significant effect on the decision-making process of residents of New Orleans (Farmer et al., 2018). Residents were also fearful of leaving their homes because

of looting. This research was essential to my study because the research examines how residents perceive the experience of staying in emergency shelters.

Risk perception, especially perception of the safety of one's home, has a substantial effect on the decision-making process of evacuation intentions (Meyer et al., 2018). Researchers found that those residents with fewer resources were less likely to evacuate. Residents who had ridden out prior storms were less likely to evacuate. The residents who most needed to evacuate were less likely to follow evacuation orders. This research was crucial to my study because the researchers examined income disparity and resources in the decision-making process. Also, the study called for more research on the lived experiences of survivors of hurricanes to move the research forward. This is the gap.

Facilitator

FEMA defines a *facilitator* as a person or policy that impartially aids in the discussions and negotiations among the members of a negotiated rulemaking committee to develop a proposed rule. In this study, facilitators would be imagined as public policies and emergency management plans that helped residents of the Ninth Ward evacuate during Hurricane Katrina. NGOs might also be seen as facilitators as these groups help in preparation for disasters and rescue and recovery missions (Birkland, 2006). Law enforcement might also be considered a facilitator as they marshall the emergency plans and public policies during the disaster (Jerolleman, 2020). First responders are facilitators with a unique lens into the process. Each of these elements was important to understand the actions of decision-making when faced with a natural disaster.

Weather risk communication is improving prediction and communication of the protentional impacts of weather disasters to residents of effected areas (Morss et al., 2018). This study examined the impact of communication on risk reduction in disaster prone areas. The long-term effects were that residents became more prepared for weather emergencies (Morss et al., 2018). This research was important to my study because it provided a lens into what emergency communication would look like and ways to change public policy to mirror that communication.

First responders and police officers are facilitators during a disaster (Burk, 2020). However, much of the facilitation revolves around the pre-existing relationship between the residents of the affected area and these agencies (Burk, 2020). With each major disaster, police departments and first responders conduct after-action reviews to try improving facilitation for the next storm or emergency. This research was important to my study as it provides a lens into how law enforcement and first responders view their own work. Law enforcement internal examination can help change and shape public policy.

Facilitators often conduct after-action reviews by comparing their emergency response to that of responses to prior disasters (Cords, 2019). They develop contingent plans and procedures based on prior storms. These models are then used for practice drilling and training for first responders and law enforcement (Cords, 2019). Training for mass causality events is performed in many cities depending on the type of emergency threat they face. This research was vital to my study as it provides a lens into how

facilitators are working to improve their responses to emergency situations and thereby creating positive social change.

Stakeholders

FEMA defines stakeholder as people who have an interest or concern from an emergency management prospective. These stakeholders can be residents. The stakeholders can also be the policymakers implementing the policies. The stakeholders can be first responders as well.

Barrier

FEMA defines a *barrier* as something such as a law or policy that makes it difficult or impossible for something to happen. In this study, a barrier would be an obstacle in the decision-making process of Ninth Ward residents to evacuate during Hurricane Katrina. An example of a barrier might be transportation to a shelter for a resident or the financial resources to evacuate (Manove et al., 2020). Past experiences with government and trust could be barriers as well (Honoré, 2020). Individual disabilities can be barriers to evacuation during a disaster (Manove et al., 2020). Each of these elements was important to understand the actions of decision-making when faced with a natural disaster.

According to Jerolleman and Graves (2020), often the timeline for evacuation and assistance does not align with expectations of residents. This affects their decision-making process. This misalignment happens on both ends. Residents can feel hurried to evacuate on the front-end. Decision-making is rushed. On the back end, assistance and resources feel slow to residents (Jerolleman et al., 2020). This study was important as it

provided a lens in which we can see what goes on in the mind of residents during the decision-making process.

The work of Litchveld (2020) made clear the barrier of living in a coastal region that sees re-occurring natural disasters. This study brought to light the disparities and inequities of those living in these under-served coastal communities and found that disaster preparedness plans were subpar in comparison to other regions (Litchveld et al., 2020). This study was important to my research as it serves as a guide to what factors in underserved communities need to be examined to shape public policy.

Another barrier is created by the residents themselves Robin's (2020), study indicated that if a resident had ridden out a hurricane previously, almost 48% or half of those residents would ride out a storm again in the face of evacuation orders. The authors offer a look into this false sense of security. This article gives insight into the decision-making process of residents in storm prone regions. This is an area for further research to answer the question of "why?" (Robin et al, 2020)

Robin et al. (2020) further explains that residents will remain home during a disaster when they are afraid of being stolen from or afraid their homes will be looted. Residents want to protect their belongings and what they consider to be their wealth. Residents have also been weary of leaving their homes out of a fear that they will be prohibited from returning for an extended period after the storm passes. There has been conflict in past disasters between emergency management officials and residents regarding when they can return home. The emergency management officials consider this

a safety issue. One example would be downed power lines that pose a danger to returning residents (Robin et al., 2020).

However, many residents want to return home as soon as the storm or emergency passes. Some residents leave shelters almost immediately to return to their homes. This dilemma creates a conflict between the stakeholders and the government agencies in charge of the public policy (Robin et al., 2020). This conflict is another area for further research as the conflict gets to the heart of the issue between residents and public policymakers responsible for emergency management. Without the buy-in of the stakeholders; it becomes difficult to manage a successful public policy (Farmer et al., 2018).

Other areas of the country have worked to improve adherence to evacuation orders through changes in facilitation and removal of barriers. An example of this process is the city of Seattle, Washington (Seattle Office of Emergency Management, 2022). Seattle has improved facilitation with electronic measures such as texting and outgoing alerts to both landlines and cell phones. Seattle has developed a program that allows pets to be transferred with owners to shelters. Leaving behind pets has been a huge barrier for many residents facing evacuation (Birkland, 2007). Seattle's emergency management program provides translators in several prominent languages mirroring the city's population. They offer workshops that help the community prepare with information on how to store medication and what items a resident should have on hand. These workshops are run by Community Safety Ambassadors (Seattle Office of Emergency Management, 2022).

Seattle's program offers an interactive website that is uncomplicated. They also have a newsletter that is updated monthly. A resident can provide an email address to receive the newsletter and any alerts that the program sends out to residents as needed. They offer Facebook, Twitter, and Instagram pages. The website is offered in several languages based on the demographics of Seattle. Finally, this program offers protection from ICE (Immigration and Customs Enforcement). Fear of deportation is a significant barrier for residents who are undocumented. This fear of ICE causes some to resist evacuation and moving to a safe shelter (Birkland, 2020).

Conclusion

Emergency management plans and the public polices behind them are instituted to save lives (Birkland, 2007). Understanding the decision-making process of residents of the Ninth Ward during Hurricane Katrina is vital to moving this research forward in a way that saves lives and prevents future injury—answering the questions of what facilitators and barriers the residents faced is critical to that understanding. This study examined research questions from the viewpoint of the residents. Exploring the lived experiences of this underserved community while understanding their decision-making process will contribute to positive social change down the road by instituting a better public policy for underserved communities. This research brought forward emerging themes and narratives that illustrated the need for more research. Further research can also result in a better understanding of the subject matter. This understanding can be used to create better public policy. Better public policy will create positive social change. In chapter three, I provide information about research design, methodology, data collection,

and the trustworthiness of this study. This qualitative case study used semi-structured

interviews to assess beliefs of Ninth Ward residents about evacuation. Chapter Three also

includes details about coding, data management, and reporting.

Chapter 3: Research Method

Introduction

The purpose of this qualitative case study was to develop an understanding of how residents of the Ninth Ward structured their decision-making process to evacuate or remain in their homes during Hurricane Katrina. The death toll of Hurricane Katrina was approximately 2,000 people, and there has been a sustained attempt to shape public policy in emergency management to avoid a similar tragedy in the future. However, there is gap in the literature regarding underserved communities such as the Ninth Ward. Researchers have called for further research in underserved communities and emergency management efforts (Honoré, 2020). Current research shows that in some underserved communities, almost 50% of the residents would remain if a future hurricane struck given similar circumstances. Data collection helps inform public policy and serves to better serve underserved communities.

This research may inform the discussion of emergency management public policy in other disaster-prone areas across the country. Recognizing barriers and facilitators and examining the decision-making process of residents in underserved communities could result in positive social change. Examining the lived experiences of residents of the Ninth Ward could mirror other underserved communities and the challenges they face in emergency management (Honoré, 2020). This study may contribute to more residents evacuating from disaster-prone areas and result in lives saved.

Emergency management is an area with a lot of qualitative research available, but there is little known from the lived experiences of those residents of the Ninth Ward who

rode out Hurricane Katrina in their homes (Honoré, 2020). This study expanded the research to the underserved population that lived the experience. Their experiences are relevant as insight into their beliefs, attitudes, and behavior and will inform local planning and evacuation efforts in the future.

This section includes discussion relevant to the following: the research design and rationale, the role of the researcher, the methodology, and the topic of trustworthiness.

Research Design and Rationale

Below are the two research questions as they appeared in my research. The questions are followed by a list of descriptors used to explain the research design and the rationale for the research.

Research Questions

The following research questions underpinned the study:

1. What were the barriers to residents of the Ninth Ward in zip code 70117 that informed their decision-making process to evacuate during Hurricane Katrina?

2. What were the facilitators to residents of the Ninth Ward in zip code 70117 that informed their decision-making process to evacuate during Hurricane Katrina?

Central Concepts of the Study

The nature of this study was a general qualitative design with a case study approach to understanding how people make informed decisions and what is important in those decisions (Weible et al., 2018). During one-on-one interviews with residents of the Ninth Ward, I acquired insight into their decision-making process. I explored their

feelings, perceptions, and beliefs regarding Hurricane Katrina. I attained the determinants into their decision-making process to disobey evacuation orders that came before the storm. I utilized a case study approach to qualitative research, the decision-making process being the primary focus of understanding their decisions (Creswell, 2014). Following an informed consent agreement, I conducted one-on-one interviews by Zoom, FaceTime, and by telephone. Research participants were residents of the Lower Ninth Ward who rode out Hurricane Katrina despite being ordered to evacuate.

Through the recruitment technique of purposeful random sampling, I recruited a group of 15 residents to participate in the one-on-one interview process. Purposeful random sampling was best used for this research as it offered an opportunity to collect data that were important to my study even with a small sample size (Patton, 2015). I coded these one-on-one interviews both manually and through an automated application until I reached a data saturation point (Rubin et al., 2012).

Prior to the one-on-interviews, I obtained initials for the research participants for my own use in referencing. I assigned each participant a numerical code, so that participants' names were not included in my research study. These one-on-one interviews provided me with a firsthand narrative of the residents' decision making (Rubin et al, 2012). From these one-on-one interviews, I looked for emerging themes and conducted thematic analysis concerning the decision-making process of the research participants before Hurricane Katrina made landfall (Saldana, 2016). The one-on-one interviews were scheduled for an hour, and I abided by that time frame so as not to abuse the trust with the research participants. After 45 minutes, I asked the participants what questions they

might have for me (Saldana, 2016). I asked participants before recording the one-on-one interviews for my own reference. I also asked if I could follow-up by phone or email with any additional questions. My coding and analysis lasted for 3 weeks.

Role of the Researcher

One-on-one interviewing is how I participated in this qualitative research. This interaction provided me with an opportunity to share in the research participant's lived experiences, and we built a narrative in concert with one another (Ravitch et al., 2016). My expectation was that research participants answered questions honestly and with integrity. As the researcher guiding this activity, I had the responsibility and obligation to make sure that research participants felt safe in this setting (Ravitch et al., 2016). The one-on-one interview was a discussion with open-ended questions around specific subject matter (Rubin et al., 2012). Throughout this process, it was crucial that I checked my bias. I did that through bias journaling (Rubin et al., 2012). I used logic and analysis when reviewing my research. My research was an exercise in scholarship. I did not know any of the participants personally or professionally.

<div align="center">

Methodology

</div>

Methodology is a critical piece in the research process. The following is a list of the concepts involved in my methodology.

Participants, Recruitment, and Data Collection

This qualitative study included residents of the Ninth Ward who remained in their homes during Hurricane Katrina. The selection of participants was a comprehensive process whereby I randomly selected the sample. This research subjects had relevant

insight and firsthand experience of the phenomenon of the study (Patton, 2015). My plan

for recruiting participants was to advertise on social media with fliers. I also had a contact

in the affected area who posted some fliers and sought out potential participants. This

person had no contact with potential participants. I contacted the respondents directly and

determined suitability.

After the random and purposeful sampling, I interviewed 15 research subjects

who met the following criteria: adult over 18 years of age, disregarded evacuation orders

during Hurricane Katrina, and was a resident of zip code 70117 at the time of Hurricane

Katrina. My primary data collection was completed by doing one-on-one interviews with

the research subjects through Zoom, FaceTime, and phone calls. My backup plan was to

interview research participants by cell phone or landline. With the research subjects'

permission, I recorded all interviews. I took notes during the interviews as well. This

qualitative case study proved viable through the experiences of the residents and how

those experiences affected their decision-making process. I recruited 15 participants, and

I worked to reach a saturation point (Patton, 2015). I ensured that each participant

understood the voluntary nature of their participation before each interview began. I used

numerical coding for each participant to keep their identity confidential. I have kept one

copy of the codes and names in a locked file cabinet.

Instrumentation

The data collection instrument that was used for my study contained 20 open-

ended questions that pertained to barriers and facilitators to the decision-making process

to evacuate during a disaster (refer to Appendix A). The questions were derived from

readings from T.A. Birkland's three books about emergency management published in 2006, 2007, and 2020. Birkland is a peer-reviewed emergency management public policy expert. Birkland has studied barriers and facilitators in underserved communities during natural and manmade disasters. Deviation from pro forma interview questions occurred only when I needed to bring the discussion back to the relevant point or when I needed to clarify an answer.

To ensure accuracy and for future analysis, all interviews were recorded on a digital recording device and my smartphone, upon receiving approval from the respondent. I asked permission to record, and l obtained informed consent from all research participants. As I closed an interview, I showed appreciation by thanking each participant for sharing their lived experience and extending a 10-dollar gift card. I thanked the participant for their time and asked for permission to contact the participant for clarification or to ask a follow-up question. I offered a copy of my completed research study when it is published. Refer to Appendix A for the interview instrument.

Data Analysis Plan

The data analysis relied heavily on the quality of the input from participants. The research subjects provided honest answers to the research questions, and this enabled me to perform integrity-based data analysis. During one-on-one interviews, I observed facial expressions and body language. These observations were incorporated into my field notes. Field notes are crucial supplements to the interview process (Saldana et al., 2016). Following each one-on-one interview, I updated my field notes and incorporated them into a spreadsheet alongside the words of the research subject to ready them for coding

(Saldana et al., 2016). The data were housed in a secure location. As the researcher, I had

the responsibility to keep the data secure. I maintained alignment and demonstrated

validity and reliability in the data analysis portion of the research. The collection and

analysis of the data were critical to proving relevance, reliability, transferability, and

validity (Patton, 2015).

The one-on-one interviews were recorded either by my phone or another digital

recording device. They were transcribed by me. I coded both manually and with data

analysis software (NVivo). I analyzed the coded data for emerging themes, trends, and

reoccurring data elements, to saturation of the data collected (Saldana et al., 2016). The

software that I used for coding was NVivo, as it was less complicated than other coding

software. NVivo can streamline coding and thematic analysis, creating a clear picture of

what social change in public policy might look like for this topic (Saldana et al., 2016).

Trustworthiness

According to Keeves (2006), researchers should utilize several simultaneous

processes such as reflexivity, audit trail, triangulation by observer, peer debriefing,

member checking, and prolonged engagement to manage the threats to trustworthiness in

qualitative research. Implications of the process show that research procedures utilized by

qualitative researchers to establish rigor are an important way to increase confidence that

it is the voice of the participants that is heard and not the potential bias of the researcher

(Keeves et al., 2006).

Patton (2015) listed 12 qualitative principles for creating an authentic, trustworthy

research study. Patton laid out a template to walk the researcher through qualitative study

in an authentic and trustworthy posture. Transparency was my guiding force as I conducted one-on-one interviews with research subjects. Transparency was my guide as I gathered research materials. Further, I leaned on this principle when collecting data. My interview questions were reflexive and reflective in nature. Through a strategic process, I demonstrated the trustworthiness of my work.

Credibility

In a qualitative study, the concept of consistency is critical (Patton, 2015). During the research process, the researcher must adhere to a strict strategy of transparency and ethics. This process includes proper engagement with research subjects, informed consent, commitment to confidentiality, and a valid research process (O'Sullivan et al., 2017). A validated research instrument invites academic rigor as one-on-one interviews with research participants create a chance to explore the phenomenon through the eyes of the subjects and their experiences. Coding the collected data followed these steps, after which I developed the thematic analysis. I recognized when the level of saturation was accomplished.

Transferability

Transferability is the ultimate test of trustworthiness (O'Sullivan et al., 2017). The reader should be able to transfer relevant factors of my study. Although my sampling was targeted to a certain zip code, my research subjects were heterogenous and randomly sampled in nature. Comparison of factors will be transferable in the correct context. My findings were generalized, with caution so that transferability is established by readers and researchers reading my research study (Ravitch et al., 2016).

Dependability

Dependability was achieved through triangulation. This technique was used to analyze the results of the study using different methods of data collection. These methods, which included one-on-one interviews and field notes, produced consistent results. This technique enhanced the validity and reliability of the research (Patton, 2015).

Confirmability

In qualitative research, confirmability is the expectation that the research is free from bias (intentional or otherwise). Confirmability is accomplished through explicit reporting of interpretations derived from the research findings (Ravitch et al., 2016). Qualitative researchers must subject themselves to rigorous exercises to avoid bias, including journaling for bias, triangulation, and external audits (Ravitch et al., 2016). Attention to detail and clarifying questions helped address the potential bias. Research participants were asked to ensure accuracy of data collection. Although it is not possible to eliminate all bias, I worked towards mitigation of bias (Ravitch et al., 2016).

Validity

Validity in qualitative research refers to how well the findings in the research represent true findings among like individuals not in the study (Patton, 2015). In qualitative research, this is achieved by recording and verifying the data collected by the researcher throughout the study. Validity offers assurances that the research is logically sound and genuine. One type of validity is evaluation. As the researcher, I needed to evaluate and re-evaluate my data and the collection process (Patton, 2015). Others from

my committee evaluated my data as a fresh set of eyes on the material. Another example of working toward validity was checking my bias as the researcher at all junctures of the research process (Patton, 2015).

Reliability

Reliability in qualitative research refers to the consistency of responses to multiple coders of data (Patton, 2015). This concept was enhanced by writing and utilizing good field notes. Researchers should also record and transcribe their interviews to confirm stability (Patton, 2015). Reliability evaluates the quality of qualitative research. Reliability measures consistency (Patton, 2015). Reliability can be tested by a technique known as *respondent validation*. This technique involved testing initial results with participants to see if they still rang true (Patton, 2015).

<p align="center">**Summary**</p>

The purpose of this qualitative study was to contribute to the body of knowledge regarding the decision-making process of residents in disaster-prone areas. Researching the lived experiences of the residents of the Ninth Ward regarding their decision-making process provided a lens into which researchers can visualize the process. Emergency management policymakers will gain insight into the facilitators and barriers that residents face in terms of evacuation during an emergency. This qualitative approach generated unique and important insight through one-on-one interviews. These interviews captured the lived experiences of the residents being studied. The thematic analysis was applied to answer my research question through PET.

My study helped to fill the gap in the research literature by examining the barriers and facilitators to the evacuation orders given during Hurricane Katrina in the specific zip code of 70117. Additionally, findings in this study may encourage thoughtful debate on the topic of emergency management. This in turn will contribute to positive social change by saving lives in disaster-prone areas.

Chapters 4 and 5 of my research study will provide data from my one-on-one interviews though participants' lived experiences. Manual and automated coding of the data will follow. Thematic analysis will be presented to support analysis that is relevant to mitigation of barriers to emergency management policies. Facilitators to evacuation will be highlighted. Additionally, I will interpret the research study's findings and the limitations I discovered during the data collection process. Finally, I will provide recommendations for future research on this topic and present any positive social change opportunities based on my findings.

Chapter 4: Results

Introduction

This chapter focuses on the data collection for the research study. It contains an explanation of how the data were collected and the number of respondents. Examined in this chapter are the processes of both manual and automated coding research data. NVivo was the software utilized to code the research data from an automated perspective. The research extracted common themes and patterns, which are presented in this chapter. Finally, I examine the trustworthiness of the study.

A structured thematic analysis was conducted on the 15 semistructured interviews of residents of the Ninth Ward in zip code 70117 near New Orleans. Interviews were conducted on Zoom and Face Time and by cell phone in November 2022. Raw data were recorded with the permission of the anonymous research subjects. The data collected from these interviews were critical to my findings and may contribute to the body of academic knowledge and answer the research question for this study. Hurricane Katrina destroyed the Ninth Ward in zip code 70117. The storm and flooding that followed killed almost 2,000 people. Many others were displaced, and their homes were decimated. The decision to evacuate before the hurricane impacted the area was critical to the survival of many residents. Understanding the decision-making process of residents of the Ninth Ward is crucial to the public policy process if positive social changes are to be made. This research explored people's lived experiences and decision-making processes to stay or to evacuate. My study provides a fresh perspective on the decision-making process of these residents.

The research questions were the following: What were the barriers for residents of the Lower Ninth Ward in zip code 70117 that affected their decision-making process to evacuate during Hurricane Katrina? What were the facilitators for residents of the Lower Ninth Ward in zip code 70117 that affected their decision-making process to evacuate during Hurricane Katrina? In this chapter, I provide information about the study's setting, the research participants' demographics, data collection, emerging themes and patterns, trustworthiness, and the study's results.

Study Setting

I utilized FaceTime, Zoom, and cell phone technology for data collection. Personal interviews were conducted via these methods due to the COVID-19 pandemic and travel limitations. These methods were the most convenient for the research participants. As the researcher, I conducted these interviews from my home office, and the participants were also at their individual homes. Using these methods allowed the participants privacy and did not interrupt their daily schedules. Thirteen one-on-one semistructured interviews were on video, and two were audio only. All the interviews were recorded on a smartphone and small handheld recorder with the research participant's permission.

Demographics

This research included 12 participants who lived in the Ninth Ward (zip code 70117) when Hurricane Katrina devastated the area. Participants had to be at least 18 years old or older during the storm, and research participants had to have ignored orders to evacuate. Additionally, they had to volunteer for the study and understand their

anonymity in all cases. Snowball chaining was utilized to locate three additional research participants who fit the research criteria. Three demographic questions were asked in the interviews, which included age, race, gender, displacement, and number of children or elderly coresidents at the time of the storm.

Data Collection

Data collection is key to the research study process. Listed below are the concepts and procedures used in the data collection for my research study.

Number of Interviews

This research study included 15 interviews with people (seven males and eight females) who resided in the Ninth Ward in 2005 when Hurricane Katrina struck. Fourteen of the residents were Black or brown. One resident was a White non-Hispanic individual. The inclusion criteria for this study were residency in zip code 70117 during Hurricane Katrina and being over 18 during the storm.

Location, Frequency, and Duration of Data Collection

The one-on-one interviews took place from February 1, 2023, through March 5, 2023, and were scheduled for the research participants' convenience. This represents 8 years since the storm, so I had to ask people to think about what they remembered most. It was good that time had passed so the important memories remained. The interview protocol was made up of 20 open-ended questions, with five of the questions being demographic in nature. Each interview was scheduled for 45 minutes, and the interviews all lasted 45–60 minutes. At the conclusion of the interviews, participants were invited to

ask questions. In January 2023, my Institutional Review Board (IRB) application was approved. The confirmation number is 01-18-23-0757711.

Participant Recruitment

To conduct the interviews, I had fliers posted in public places in zip code 70117. I posted fliers on social media as well, and in accordance with approved methodology and IRB authorization. I then sent out email invitations to people who signed up to be research participants. After receiving an email from an interested party, I emailed the consent forms. Respondents were asked to respond to this email with "I consent" in order to continue the research and interview process. The next step was to schedule interviews with participants based on their availability. I sent invitations for Zoom, planned FaceTime and cell phone calls on my calendar, and sent calendar links to those with Microsoft Office with the agreed time and date.

Each interview was recorded with Zoom software, with Apple software, or on a small recording device that plugged into my MacBook Air for audio calls. I simultaneously took notes on my MacBook Air to record answers and body language when available. Notes and observations were used as a backup for the Zoom and Apple technology.

Variations in Data Collection and Unusual Circumstances

In collecting data, there were no variations in the methodological approach, and it was completed per the description in Chapter 3. The same process for collecting data was conducted in each one-on-one interview. Each interview was started by asking the research participant to reconsider participating in the research study. I asked permission

to record the interview on Zoom and to follow-up with any additional questions via phone or email. Numerical codes were assigned to each research study participant to ensure confidentiality and anonymity. Two one-on-one interviews were completed on FaceTime, as the research participants were uncomfortable using Zoom.

Fifteen study participants were an adequate number to reach a saturation point. By the 15th one-on-one interview, I was beginning to recognize the same subject matter being repeated again and again. Hearing the same answers repeatedly allows the researcher to know they have reached saturation (Creswell, 2014). Study participants had similar fears, trust issues, sense of security based on faith, and inadequate resources. All 15 study participants expressed the fear of not being able to return to their homes in what they felt like was a timely manner. Fourteen of the participants lacked the resources to reach the buses that were going to be used to evacuate or the shelters.

Data Analysis

Following data collection, the one-on-one interviews on Zoom were transcribed and imported into NVivo software. This software has a high accuracy rate and provides the researcher with a Word file for each interview. The two interviews conducted on FaceTime were transcribed by hand and placed in a Word document file. Following transcription, I reviewed the files for accuracy by comparing them to my written notes from each one-on-one interview. Finally, I uploaded these files to NVivo to look for reoccurring and trending words and phrases.

The reoccurring themes in the research study emerged through the regularity of their appearance. For example, many of the participants expressed that they experienced

fear. Fear was a trend and eventually a reoccurring theme. By digging deeper into their lived experiences, I was able to distinguish the different types of fear the research participants held. Again, many of the different types of fears were shared among those interviewed. In the area of fear, some of the interviews could have been laid on top of each other because their words were so similar in nature.

Emergent Themes

Following trends and developing emergent themes are critical in reaching a saturation point in data collection. Listed below are the emerging themes from the one-on-one interviews:

Fear of Being Separated From Family Members

Residents of the Lower Ninth Ward feared becoming separated from family members during the evacuation process. They worried about losing track of their elderly family members living with them. They worried about losing track of their spouses and children. The participants had little faith that families would be kept together or that emergency responders would be able to reunite family members promptly.

One research participant described her fear of losing her grandmother, who was elderly and did not know how to swim. This participant explained that she would have evacuated but she refused to leave her grandmother alone. Her grandmother has since passed away, but they huddled together on the second floor of the grandmother's house as the flood waters rose. They were evacuated by fisherman on a boat 4 days after the storm. They both were hospitalized briefly and were relocated with relatives in Houston, Texas.

Twelve of the 15 participants expressed fear of being separated from their family members. One participant recalled a prior incident during an emergency.

I was sent to a shelter about 12 miles away and my daughter ended up at a different shelter that was five miles away. It took us 3 or 4 days to find each other. She was afraid I had died.

Fear of Losing Their Possessions

Residents of zip code 70117 were afraid of losing their possessions to the storm and looting. Residents wanted to protect their belongings and worked hard to move photos and essential possessions to the top floors of their homes before Hurricane Katrina made landfall. They worried that looters would enter homes and steal their belongings in the wake of the storm. They felt that staying in their homes would protect their belongings and give them a sense of control over the situation.

One of the research participants recounted how he carried all his important documents and family photos to the attic. It took him 2 days to move everything. He was rescued after 2 days as he made a hole in his attic and roof. The man and his dog were carried to safety by a search and rescue helicopter. He lost everything but the shirt on his back and his dog.

Another man had much the same experience. He loaded his photos and documents into trash bags and carried them to the top floor of his house. Others in his house did evacuate, but this man stayed behind. The floodwaters never made it to the second floor of his house, and he survived. He drank bottled water and ate saltine crackers for 3 days

after the storm. Eventually the flood waters receded, and he began the clean-up. He described the experience as "miserable."

Fear of Shelters

Residents of the Lower Ninth Ward expressed fear of violence and privacy violations at the shelter. Ten of the 15 research participants expressed fear of going to a shelter. This number included all eight of the women. They expressed fear of their items being stolen. They expressed concern that they could keep their children occupied. There were concerned about keeping their children safe among strangers. Female residents expressed fear of sexual assault.

The fear of being raped or even gang-raped was a trend in this study. They could not fathom being housed with thousands of strangers. Privacy was an issue. One of the women wondered, "Who would watch my belongings or my children when one of us had to go to the bathroom?" Another participant worried about who would watch her child if she fell asleep. Others worried that the shelters might flood and wondered what would happen then.

I found both men and women in the research participant pool who were wary of the evacuation shelters. One female research participant described her fear of being sexually assaulted. She explained that she feared being alone at the shelter without any family members or friends and with no way to protect herself from "thugs." She had her dog with her, and she wanted to try and ride the hurricane out at home. She was not able to stay in her apartment as the water rose, and she ended up at the Convention Center. She spent several miserable days in the hot sun with little food or water. Eventually, she

was rescued and weeks later reunited with her dog that had stayed behind. This participant described the Convention Center as "Hell on Earth." After the storm, she relocated to New York to stay with family members.

Low Confidence About Returning to Their Homes

Pervasive among Lower Ninth Ward residents was the feeling that they would not be allowed to return to their homes promptly. They did not want to evacuate for the storm and be kept out of the area for days or weeks. Residents wanted to know about and see the damage immediately. All 15 of the residents expressed fear of not being able to return to their homes on their own terms. This was a prominent trend. One man said, "It is the not knowing and the uncertainty. If I were told 3 days, I could deal with it but there is no time frame." Another man worried that because he was a renter he would not be allowed back to his home until the owner of the property said it was okay.

Fear of Losing Their Pets

Lower Ninth Ward residents did not want to leave behind pets in the evacuation. When residents were confronted with the choice to evacuate without their pets, they declined to do so. Residents believed their pets would die or be evacuated to a shelter and not be returned to them.

One male research participant described losing his wife to cancer a few months before Hurricane Katrina. They were a childless couple that loved cats. At the time of the storm, he had three cats and a mynah bird. He explained that he could not risk leaving them behind or having them adopted out to someone else. When the water started to breach his apartment, he and his cat and his mynah bird went out on to the balcony of

their apartment. He had some bottled water and tortilla chips that he shared with his pets. The water never reached them, but they had to remain on that balcony for several days until they could all be rescued. All his cats have passed away, and he has two newer ones. The mynah bird is still alive.

Lack of Trust in Emergency Management Officials

Participants in this study had a low level of trust in their local emergency management officials. They questioned their competency. They examined the ability of their officials to locate them in a safe shelter. The residents asked whether they could trust the officials to meet their medical needs and provide clean water and food. Residents expressed low confidence in local officials and felt they had received mixed messaging regarding evacuation orders and how to reach a shelter.

All the participants expressed low level of trust in the local emergency management officials. Several of the research participants had experience a negative encounter with local government of emergency officials (including police officers) prior to the storm. One participant spoke of the incompetence he experienced with local government after the death of his wife through the probate process. Others felt that there was mixed messaging regarding the evacuation orders. One participant spoke about knowing there were buses waiting for evacuees, but she did not have a way to get to the buses. Some participants expressed doubt that the local and state government could protect them during the storm.

Sense of Security

Residents of the Lower Ninth Ward who had ridden out storms previously felt a false sense of security that since they had survived other hurricanes, they would survive this one. Seven of the fifteen participants had ridden out storms previously. Others relied on the protection of religious faith and prayer. Nine of the fifteen research participants relied on faith and prayer. They were the oldest of the research participants. They believed that God would bring them through the storm. The resident felt more secure at home and sleeping in their bed.

One participant spoke about having stayed home through several storms and hurricanes prior to Hurricane Katrina. She had her daughter with her at home. Her daughter was a teenager at the time. When the storm proved to be worse than what they had imagined; they climbed onto the roof of their house and waited. She waived a tee-shirt in the air trying to attract attention of rescuers in boats.

Another woman in the study read her Bible in a rocking chair in a room on the second floor of her home. She had survived other storms. She said, "If God wants me now then he will take me." The water never made it to her second floor, but she was hospitalized for dehydration after she was rescued. She talked about the sense of security being a false sense of security. She moved to Mississippi after the storm to live with relatives.

Lack of Resources

Residents of the Lower Ninth Ward expressed that lack of money and transportation played a role in their decision-making process. Residents feared they

would be sent somewhere and not have the money to get home. Residents have no reliable transportation. Residents wanted to retain their jobs if they could not return home. Residents relied on government assistance and felt they needed to be where the postal system could deliver their checks and medications.

Fourteen of the research participants experiences a lack of resources to evacuate. Ten lacked money or credit. Fourteen lacked transportation and some lacked both. Respondent #4 tried desperately to get his mother to the Super Dome. He called everyone he knew to call. He walked up and down the street before the weather got too bad. He tried to find someone who could give her a ride. He was extremely frustrated. He could hear sirens in the background, but he could not find any help. He moved her to the top floor, and they waited. Unfortunately, his mother was washed away, and she drowned. He was able to hang on to a floating piece of furniture until he could be rescued.

While other participant's stories were not as dramatic in nature; they all expressed frustration at how being poor made them so much more vulnerable to this hurricane. Lack of resources played a substantial role in their decision-making process. Only one of the research participants owned or had access to a car during the storm. The others were left to figure out how to get to a shelter or bus and how to get bottled water and non-perishable food. Some participants wanted to travel to relatives in other states but did not have the money.

Dissemination of Information

All fifteen participants were informed regarding the evacuation orders. They received information from electronic devices, the media, weather radios, and emergency

management officials that came door to door. Residents knew there was a hurricane and flooding on its way. The respondents knew there was an order but none of the participants felt as though they could abide by it. "They can tell us to evacuate all day long but if we don't have a way to get to the buses or the shelters then we can't leave" said one of the male participants". Others expressed frustration that emergency management officials came door to door to tell people to evacuate but they had no bus or vehicle to take residents with them.

Discrepant Cases

There were discrepancies in the responses from two residents with outstanding warrants and those undocumented research participants at the time of the hurricane. They viewed evacuation as a tool to arrest or deport residents. They felt police and ICE (Immigration and Customs Enforcement) would wait for them at a shelter. One of these two residents also expressed that people in her home had language barriers that would have made evacuating to a shelter difficult.

The demographics of my research participants were as follows:

- age range: 46–83

- gender: eight females and seven males

- race: 14 Black or brown and one White non-Hispanic

Evidence of Trustworthiness

Trustworthiness is critical to having your research accepted by the academic community and the public. The following is a list of components of trustworthiness:

Credibility

Creating a credible research study is vital to qualitative research. A researcher must deal with bias that could otherwise be a barrier to achieving a credible research study (Patton, 2015). Each research participant was permitted to review and consent to the consent document. Each interview began by reminding the research participant about their confidentiality, consent, and ability to withdraw from the study at any time. There were no changes to the research methods, as indicated in Chapter three. One-on-One interviews with residents of the Lower Ninth Ward during the decision-making process to evacuate or not evacuate before Hurricane Katrina created a chance to recognize re-occurring themes during the interviews. This was an opportunity to bolster the credibility of the research study.

Transferability

The process that demonstrates the true worthiness of the research study is transferability. My study is generalized. Generalizability is a measure of how valuable the results of a study are for the broader audience (Patton, 2015). The audience should be able to determine the connection between the research and the study's findings. For my research study, I picked residents of zip code 70117 in the Lower Ninth Ward of Louisiana that did not evacuate before Hurricane Katrina. Other studies can be completed and demonstrate transferability by examining residents in other hurricane-prone regions of the United States. The requirements for the research study were laid out in Chapter Three. Other researchers with access to a similar study population could replicate this study.

Dependability

Transparency is vital in a research study. An audit trail was developed to demonstrate dependability. IRB (Institutional Review Board) approval was obtained before data collection began. My IRB confirmation number is 01-18-23-0757711.

Consent was obtained by email from each research study participant and reaffirmed before each one-on-one interview. I took notes during each interview and recorded each interview with the research subject's permission. Research data was stored in a password-protected computer, and notes were kept in a locked file cabinet. Research will be kept for five years and will be destroyed with a cross-shredder at the end of that period. Research data was coded using manual coding and the software NVivo (Saldana, 2016). The audit trail will provide credibility to the research study (Burkholder et al., 2016).

Confirmability

Ensuring confirmability prevents external bias from influencing the research study. A researcher must remain objective throughout the research study so that any researcher can replicate the study and receive the same result (Creswell, 2014). Bias must also be prevented. I have journaled throughout the dissertation process to mitigate my internal prejudice and biases. I checked for acceptance from research participants by asking follow-up questions and ensuring I understood the answers. I used Epoche or bracketing to block biases and assumptions (Moustakas, 1994). Epoche or bracketing is the suspension of judgement or conclusion until the research is complete (Moustakas,

1994). I used an approved study design to select research study participants from a

defined population (Creswell, 2014) to prevent selection bias.

Results

Coming to conclusions and attaining results in the data collection phase of the

study is critical for those who might read or want to replicate the research. Listed below

are the components of the results.

This study was conducted to answer the following Research Questions: (1)What

were the barriers to residents of the Lower Ninth Ward (in zip code 70117) that informed

their decision-making process to evacuate during Hurricane Katrina? (2) What were the

facilitators to residents of the Lower Ninth Ward (in zip code 70117) that informed their

decision-making process to evacuate during Hurricane Katrina?

Data collection and analysis in this research study brought to the surface the

difficulty in decision-making processes during a natural disaster as a resident of the

Lower Ninth Ward. Residents were faced with fears about separation from family

members and pets. They worried about what would become of their homes and their

possessions. Residents feared looting that might happen after the storm, and they had no

timeframe when they could return to their homes. Residents had fears about the shelters

and violence there.

Research participants in this study had limited resources. Residents had received

information from public officials but needed a way to abide by the evacuation orders.

One participant in the study had a running vehicle at the time of Hurricane Katrina.

Respondents did not have the resources to evacuate. They only had the resources to pay

for food or shelter for a few days. There was concern about mail arriving while they were sheltered. Participants were dependent on both government assistance and medications that arrived by mail. Participants strongly believed that since they had survived prior storms by sheltering in place, they would survive Hurricane Katrina. Faith and religion played a part in their decision-making.

The research participants experienced a profound lack of trust in their government officials, including emergency management officials. Despite information dissemination regarding emergency transportation and shelters, residents did not trust that they would be kept safe. Residents experienced a strong distrust in their local government officials to meet their basic needs in terms of medicine, food, and clean water.

Summary

This chapter captures the results of a qualitative research study to answer the two research questions regarding the decision-making process to evacuate during Hurricane Katrina by residents of the Lower Ninth Ward. The lived experiences of the participants demonstrated the impact of fear, trust, resources, confidence, information dissemination, and faith on their decision-making process during Hurricane Katrina.

Chapter Five will interpret the data findings within the Literature Review and Punctuated Equilibrium Theory context. Limitations of the study and opportunities for further research will be noted. Finally, there will be recommendations for positive social change.

Chapter 5: Discussion, Conclusions, and Recommendations

Through this qualitative study, I endeavored to gain a deep understanding of the decision-making process of residents of the Lower Ninth Ward (zip code 70117) prior to Hurricane Katrina and their decision to evacuate or to stay in place. I specifically focused the study on identifying the barriers and facilitators in the decision-making process. In some cases, this referred to the difference between life and death; in others, the priorities of property and safety. Identifying and understanding the decision-making process may add to the body of knowledge regarding the evacuation of residents before a natural or manmade disaster. A storm the size and magnitude of Hurricane Katrina created a more urgent need to understand the decision-making process of residents.

Framing emergency management policy through the lens of the affected residents can help policymakers better understand the decision-making process and effect positive social change (Birkland, 2006). Refusal to evacuate during Hurricane Katrina resulted in many deaths and hospitalizations (Honoré, 2020). Examining the decision-making process regarding barriers and facilitators to evacuation is one way to demonstrate progress toward a better understanding of this emergency management crisis.

Even though many natural and manmade disasters took place before Hurricane Katrina, this storm was of a magnitude that forced emergency management officials to address the systemic issues with evacuation policy. Emergency management officials at all levels of government are trained to provide risk mitigation, response, and recovery (Birkland, 2020). Nevertheless, residents of zip code 70117 decided to remain at home during the storm. The failure to evacuate led to death and illness. The research

demonstrates that residents should have evacuated based on fears, a false sense of security, and a lack of resources. Being able to strengthen public policy and emergency response will undoubtedly become increasingly important with global climate change.

The Fears of Evacuation

Among the any fears felt by study participants was the fear of being separated from family members during the evacuation process. Separation anxiety and worry played a substantial role in the decision-making process to evacuate during Hurricane Katrina. Participants worried that family members would be sent to different shelters and communication control would be lost. There were power outages, and cell phones were not as ordinary as today (Honoré, 2020). This fear of separation from family members was considered a barrier in the decision-making process to evacuate.

Study findings also confirm a fear of losing possessions by the residents of the Lower Ninth Ward. Participants considered important documents, photos, and other valuables when deciding whether to evacuate. This study found that all the participants moved items of importance to higher ground. There was a prevalent fear of looting as well. Participants worried about their items being stolen or destroyed after the storm but before they would be allowed to return home. Fear of possession loss and looting were significant barriers in the decision-making process to evacuate during Hurricane Katrina.

This study found that fear of the shelters also played an important role. Study participants anticipated violence and sexual assault at the emergency shelters. Participants were fearful of crime and gang violence. Some worried there might not be enough beds or food to accommodate evacuees. There was a prevalent feeling of not

wanting to be housed with strangers. Others were concerned about how they would get back home after the storm. This study found a distinct fear of being unable to control the timing of returning home. The fear of shelters was a prominent barrier to deciding to evacuate. Fears regarding shelters and returning home are common among residents who live in disaster-prone areas (Morss et al., 2018).

Another fear-based barrier was the fear of losing track of pets. Only two participants in this study had pets in 2005 when Hurricane Katrina made landfall. The pets in question ranged from cats and dogs to birds, snakes, fish, and more. Some participants housed multiple pets. Leaving cats, dogs, and birds behind was not an option during the decision-making process. Participants agreed that leaving their pets behind was a major barrier to the decision to evacuate. The issue of rescuing pets along with residents is a familiar one. Many residents refuse evacuation orders if pets are banned from evacuation (Meyer et al., 2018).

In terms of recommendations, emergency management officials have to persuade or win over the buy-in of stakeholders in regard to their possessions and loss. Are the possessions worth more than life? Mitigation could include a waterproof folder for important papers that residents could carry with them to a shelter. Additionally, shelters could be divided by gender and children under 16 to help alleviate the sexual assault concerns. Small pets could be taken with residents to shelters or for larger animals—they could be evacuated to a shelter of their own. Unfortunately, there is no way to guarantee a time frame for residents to return home. Again, this falls to emergency management

officials to win the buy-in of stakeholders that they will be allowed to return home as soon as humanely possible.

Lack of Trust in Emergency Management Officials

This study found a significant trust deficit between residents of the Ninth Ward and state and local emergency officials. Participants had serious concerns regarding the competency of the emergency management officials to protect them. The findings further identified a dislike of public officials and the government. Many residents in low-income areas see the police as the face of local government, and their interactions with the police set the tone for how they assess local government (Birkland, 2007). Study participants had a negative view of police and, thus, local government emergency management. Some participants had experienced negative interactions with police.

This study also found that study participants who had negative interactions with local or state government felt that same lack of trust in emergency management officials—issues such as receiving fines or fees fed into the trust deficit. Underserved communities often view the government as one large entity that is dishonest and untrustworthy (Birkland, 2007). These communities have nicknames such as "The Man" to describe their feelings about the government. As a result of these feelings, residents are less likely to follow evacuation orders disseminated by the same entity. Lack of trust in emergency management officials was a crucial barrier in the decision-making process to evacuate before Hurricane Katrina.

In terms of recommendations, emergency management officials have to gain the trust of residents in disaster-prone areas. They have to obtain buy-in. Emergency

management officials have to distinguish themselves as their own entity in government. If residents cannot come to them, then emergency management needs to go door to door, if necessary. Mitigation is the key to eliminating death and injury during disasters. Building community trust is the pathway to this mitigation.

Sense of Security

This study found that residents of the Ninth Ward were experiencing what they termed a false sense of security about riding out the storm. Some participants had done so in the past with little or no consequence. Participants believed that the strength of the storm was exaggerated. The breach of the levees was an unexpected turn of events for many residents (Honoré, 2018). Participants felt safer in their homes, surrounded by their families and belongings.

The study also found that religious faith played a role in decision making as participants expressed the belief that God would protect them from the storm. Participants believed that they had been saved by God from dying and being in the study was proof of that idea. Some participants believed that whether they lived or died would be up to God. It was God's will. Several of the participants put the situation in God's hands. These participants were quite vocal in their belief that God chooses when it is time to go. These participants spent much of the storm in prayer. As Birkland (2006) noted, "Dealing with faith-based religion is one of the strongest obstacles to following emergency management orders" (p. 74). A false sense of security and religious faith were barriers to the decision-making process regarding whether to evacuate before the storm.

Lack of Resources

This study found that lack of financial and other resources is the most consequential barrier in the decision-making process regarding evacuation. Participants spent the most time on this issue. None of the participants had a functional car at the time of the storm. Participants expressed deep concern about the financial costs involved to evacuate for items such as food, gas, and hotels. Some participants knew about buses being available to take residents to shelters, but they needed help getting to the buses. Some participants knew where to go to the shelter but needed the means to get to the shelter. Some participants wanted to make their way to another city but had nowhere to stay and no money for a hotel. Others worried about the cost of returning to their homes after the storm.

Participants worried about how they would replace medication and government checks that were coming in the mail. Participants needed to have direct deposit set up at their banks. Birkland (2007) argued that residents in underserved communities often lack basic resources that then prohibit them from evacuating during a disaster. Participants did not have cell phones or internet. One participant did not even have a landline. The lack of resources was a defining barrier in the decision-making process to evacuate during Hurricane Katrina.

In terms of recommendations, part of the mitigation piece is to have buses come to the people and not the other way around. Residents must again be convinced and buy in as stakeholders. They have to believe that they will be picked up and taken to a safe place. Mail must be held until residents are back in their homes. Emergency management

officials could also sign people up for direct deposit as a mitigation tool whenever possible. Buses must also bring residents back to their homes after the disaster is over and the area is deemed safe. Part of mitigation could also be traveling vouchers for those who want to go directly to family in other areas. This would also lessen some of the pressure at shelters.

Facilitators

This study found little to no facilitation in the decision-making process. Participants all had television and radio and were aware of the coming hurricane. They were aware of the evacuation orders. Reverse 911 calls were made to participants warning them to evacuate. They watched the news until they lost power. Dissemination of information via television, telephone, and radio regarding the storm was the only facilitator in the decision-making process regarding the evacuation during Hurricane Katrina.

Limitations of the Study

An explicit limitation of this study is that the study was conducted in the Lower Ninth Ward (zip code 70117). Results from this study are not representative of the United States nationally or even the state of Louisiana. The data are only relevant to the lived experiences of the sample population interviewed. It is important to recognize this limitation when thinking about other geographic areas. However, participants' knowledge is powerful and can be considered within context. This study concentrated on the past experiences of those interviewed. Using one-on-one interviews as the data collection tool presented the occasion to record the participant's responses.

Data collection was followed by transcription using the coding software NVivo. As the country continued to battle the COVID-19 pandemic, interviews were completed using Zoom, FaceTime, and cell phone calls. Other considerations included my physical distance from the Ninth Ward. Acquaintances placed posters in public spaces to attract study participants. Snowball sampling was used to reach the intended number of 15 study participants. The study does not accurately represent the entire Ninth Ward or the State of Louisiana. The limitations stated above did not affect the accuracy of the study data. Consistent themes and patterns emerged throughout the interview process.

Recommendations for Further Research

Recommendations for future research studies of the barriers and facilitators of the decision-making process for evacuation before Hurricane Katrina are based on the literature review and the data collected from the one-on-one research participant interviews. As examined, studies related to the decision-making process existed before Hurricane Katrina and will be created after Hurricane Katrina. Additional considerations for study would be to focus on the issue of pet evacuation in concert with the resident population during a natural or manmade disaster. Pet evacuation is where there is a research gap. Another consideration would be focusing the study population on the lack of resources in the decision-making process to evacuate from a natural or manmade disaster. Lack of resources seems to be a consistent barrier to evacuation decision-making.

Future emergency management implementation should use past experiences to create strategies for future natural and manmade disasters that are not as devastating to

the residents of disaster-prone areas, as addressed by PET. There were policy gaps

exposed during Hurricane Katrina that were magnified by the scope of the storm.

Policymakers should study these gaps exposed during Hurricane Katrina. Policymakers

must make resources available to residents in disaster-prone areas beyond shelters,

rescue, and response. Transportation to emergency shelters must be an area of study for

policymakers. The trust deficit between residents of disaster-prone areas and local

government must be studied and bridged (Honoré, 2018).

Implications for Positive Social Change, Theory, and Practice

Within the scope of PET, Hurricane Katrina destroyed the decision-making

process regarding evacuation. When a large-scale event alters the policy process, it can

fall under PET (Kulhmann et al., 2018). Hurricane Katrina and the flooding that followed

were shown to be a large-scale breakdown from all levels of government in terms of

emergency management. Lack of planning for those without resources in an underserved

community led to almost 2,000 deaths and hospitalizations. This also puts a tremendous

strain on first responders in charge of search and rescue (Honoré, 2018). This study's

findings demonstrated failure at nearly all levels of emergency management policy.

Going forward, emergency management policies should be developed from these

past experiences to demonstrate the lessons learned from Hurricane Katrina. Although

this study was limited to the Lower Ninth Ward (in zip code 70117), participants'

perspectives point to areas that can be addressed by policymakers. Policymakers need to

repair these damaged relationships in lower income communities in disaster-prone areas

through community policing and reaching out to the get the buy-in of stakeholders by

emergency management officials. The barriers can be mitigated with the correct tools. Emergency management officials can show good faith by going door to door in these regions and offering education in emergency management mitigation for households.

It is recommended that emergency management explain to the residents of these communities what they will need in terms of an emergency kit. How much extra medication do they need to store? How many flashlights and battery-powered items do they need to have on reserve? Each household should be provided with an emergency kit with bandages and alcohol. Residents should be taught how to tie a tourniquet and perform CPR.

Future researchers may use this study to aid in policymaking. Policymakers should be researching ways to alleviate the barriers and create more facilitators in the decision-making process. Alleviating the barriers could assuage the fears, trust deficits, and resource issues that residents experience during a disaster. One way to build a bridge is to go door to door and talk with residents in disaster-prone areas, asking them what they need in order to evacuate.

This study illuminates the barriers in the decision-making process concerning evacuating during a disaster. The one facilitator was the dissemination of information to residents on television and radio. Policymakers should work with one facilitator and build a bridge to narrow the gap between residents of disaster-prone areas and evacuation. Emergency management policymakers should work with residents to alleviate fears, trust issues, and resource issues. For example, members of a family could be issued snap-on bracelets with a numerical code that would make unification more efficient if they

became separated. These codes would be computerized and allow emergency management staff to quickly locate family members. This might assuage fears concerning family reunification.

Positive social change will happen if we do not remain in a state of statis and make changes to public policy regarding emergency management. All levels of government should work together to reimagine emergency management policy in underserved communities. For example, the United States Postal Service could work with FEMA to hold mail in certain zip codes during a natural disaster. By working together this could assuage fears of residents that their mail will be lost or stolen. Emergency shelters could be set up for pets of residents during a disaster. These pets would not be sent out of the state or adopted out to new families. They would be just like the shelters set up for people, The state government could designate these areas and volunteers would man the operation. The shareholders of these communities should help develop protocols that reduce fear, build trust, and make available resources for manmade or natural disasters. Saving lives and stemming the tide of injuries in these communities would be positive social change.

Conclusion

Residents of the Lower Ninth Ward faced barriers and facilitators in their decision-making process regarding whether they would evacuate before Hurricane Katrina. The scope of this storm and the flooding that followed was already an overwhelming event for emergency management officials. While other hurricanes have reached a category five designation, the flooding that followed the breach of the levees

made this storm the deadliest. The results of this study displayed genuine barriers residents in zip code 70117 faced. Analysis of the relationship between climate change and the strength of the hurricanes has determined that these changes have added up to ten miles per hour in wind speed (Snaiki , et al., 2023). Although the information was reaching residents via television, radio, and reverse 911 calls, the barriers to making an evacuation decision outweighed the dissemination of information as a facilitator. This study addressed a gap in the literature in a select area of the country. A study in another region of the country may result in different outcomes.

However, the theoretical framework of the Punctuated Equilibrium Theory would still be an appropriate measure based on the scope and measure of this hurricane and the flooding that followed. Our country's policymaking process is gradual until a significant event interrupt it. How emergency management officials reacted to this disaster displayed the dedication and endurance of first responders. However, we must invest in the hard work of mitigation and preparedness that would result in positive social change and save lives.

Emergency management officials must also realize that they must go to the stakeholders in these underserved communities even if it is door by door. Many do not have transportation to attend city council meetings. Face to face interactions with police and emergency responders who can help residents develop their own emergency management plans would serve to build trust and develop community policing. Residents could be taught to have extra medication on hand in an evacuation bag for example.

Emergency management officials could help residents understand the importance of having flashlights with fresh batteries and emergency medical kits.

Modeling programs like the one mentioned in Seattle in terms of public policy would serve the low-income areas that are disaster-prone as well. Seattle uses Emergency Management Ambassadors from disaster-prone areas. The Ninth Ward could use Emergency Management Liaisons from their local area. Mitigation saves lives during a disaster. Changing public policy so that during the next disaster residents can get to the evacuation points would save lives and bring down the number of injuries. It would ease the load put on the shoulders of first responders. All the changes would result in positive social change.

References

Birkland, T. A. (2006). *Lessons of disaster: Policy change after catastrophic events*.

Georgetown University Press.

Birkland, T. A. (2007). *After disaster: Agenda setting, public policy, and focusing events*.

Georgetown University Press.

Birkland, T. A., & Warnement, M. K. (2014). Focusing events in disasters and

development. In N. Kapucu & K. Liou (Eds.), *Disaster and development:*

Examining global issues and cases (pp. 39–60). Springer.

https://doi.org/10.1007/978-3-319-04468-2_3

Bradley, L., Noble, N., & Hendricks, B. (2020). The APA publication manual: Changes

in the seventh edition. *Family Journal*, *28*(2), 126–130.

https://doi.org/10.1177/1066480720911625

Burk, K. (2020). Policing major events: Perspectives from around the world. *Police*

Practice & Research, *21*(1), 98–99.

https://doi.org/10.1080/15614263.2017.1351668

Cho, K. W., & Jung, K. (2019). Illuminating the Sewol Ferry Disaster using the

institutional model of punctuated equilibrium theory. *The Social Science Journal,*

56(2), 288–303. https://doi.org/10.1016/j.soscij.2018.12.010

Colorado Department of Public Health and Environment. (n.d.). *Colorado data and*

statistics. https://cdphe.colorado.gov/colorado-data-and-statistics

Connolly Knox, C. (2020). [Review of the book *Global cases in best and worst practice in crisis and emergency management* by A. Farazmand, Ed.]. *Public Integrity*, *22*(4), 399–402. https://doi.org/10.1080/10999922.2019.1582002

Cords, D. W. (2019). An inflection point for disaster relief: Superstorm Sandy. *Touro Law Review*, *35*(3), 925–956.

Creswell, J. W. (2014) *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE.

Farmer, A. K., Zelewicz, L., Wachtendorf, T., & DeYoung, S. E. (2018). Scared of the shelter from the storm: Fear of crime and hurricane shelter decision making. sociological inquiry, 88(2), 193–215. https://doi.org/10.1111/soin.1218

Federal Communications Commission. (n.d.). *Lifeline support for affordable communications*. https://www.fcc.gov/lifeline-consumers

Federal Communications Commission. (2023). *Affordable Connectivity Program*. https://www.fcc.gov/acp

Federal Emergency Management Agency. (n.d.). *Hazard Mitigation*. https://www.fema.gov/

Haddow, H. D., Bullock, J. A., & Coppola, D. P. (2023) *Introduction to emergency eanagement*. Elsevier.

Honoré, R. L. (2020). Speaking truth to power on ow Hurricane Katrina beat us. *American Journal of Public Health, 110(*10), 1463–1465. https://doi.org/10.2105/AJPH.2020.305778

Internal Revenue Service. (n.d.). *About the IRS*. https://www.irs.gov/

Jerolleman, A., & Graves, J. (2020). Personal and institutional timelines for hurricane

 preparedness, recovery and mitigation. *International Journal of Mass*

 Emergencies & Disasters, 38(1), 77–88.

 https://doi.org/10.1177/028072702003800105

Jones, B. D., & Baumgartner, F. R. (2012). From there to here: Punctuated equilibrium to

 the general punctuation thesis to a theory of government information processing.

 Policy Studies Journal, *40*(1), 1–20. https://doi.org/10.1111/j.1541-

 0072.2011.00431.x

Keeves, J. P., Lietz, P., Gregory, K., & Darmawan, I. G. N. (2006). Some problems in the

 analysis of cross-national survey data. *International Education Journal*, *7*(2),

 110–126.

Koski, C., & Workman, S. (2018). Drawing practical lessons from punctuated

 equilibrium theory. *Policy and Politics,* 46(2), 293–308.

 https://doi.org/10.1332/030557318X15230061413778

Kuhlmann, J., & van der Heijden, J. (2018). What is known about punctuated equilibrium

 theory? and what does that tell Us about the construction, validation, and

 replication of knowledge in the policy sciences? The review of policy research,

 35(2), 326. https://doi.org/10.1111/ropr.12283

Lichtveld, M., & Birnbaum, L. (2020). Advances in environmental health and disaster

 research 15 years after Hurricane Katrina. American Journal of Public Health,

 110(10), 1478–1479. https://doi.org/10.2105/AJPH.2020.30573

Lichtveld, M., Covert, H., El-Dahr, J., Grimsley, L. F., Cohn, R., Watson, C. H.,

Thornton, E., & Kennedy, S. (2020). A community-based participatory research

approach to Hurricane Katrina: When disasters, environmental health threats, and

disparities collide. *American Journal of Public Health,* 110(10), 1485–1489.

https://doi-org.ezp.waldenulibrary.org/10.2105/AJPH.2020.305759

Louisana.gov. (n.d.), *Government Statistics.* https://www.louisiana.gov/demographics-

and-geography/

Manove, E. E., Lowe, S. R., Bonumwezi, J., Preston, J., Waters, M. C., & Rhodes, J. E.

(2019). Manove, E. E. et al (2019). Posttraumatic growth in low-income Black

mothers who survived Hurricane Katrina. *American Journal of*

Orthopsychiatry, 89(2), 144–158. https://doi-

org.ezp.waldenulibrary.org/10.1037/ort0000398.supp

Meyer, M. A., Mitchell, B., Purdum, J. C., Breen, K., & Iles, R. L. (2018). Previous

hurricane evacuation decisions and future evacuation intentions among residents

of southeast Louisiana. *International Journal of Disaster Risk Reduction*, 31,

1231–1244. https://doi-org.ezp.waldenulibrary.org/10.1016/j.ijdrr.2018.01.003

Morss, R. E., Cuite, C. L., Demuth, J. L., Hallman, W. K., & Shwom, R. L. (2018). Is

storm surge scary? The influence of hazard, impact, and fear-based messages and

individual differences on responses to hurricane risks in the

USA. INTERNATIONAL JOURNAL OF DISASTER RISK REDUCTION, 30, 44–

58. https://doi-org.ezp.waldenulibrary.org/10.1016/j.ijdrr.2018.01.023

O'Sullivan, E., Rassel, G. R., Berner, M., & Taliaferro, J. D. (2017). *Research methods for public administrators* (6th ed.). New York, NY: Routledge.

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). Thousand Oaks, CA: SAGE.

Ravitch, S. M., & Carl, N. M. (2016). *Qualitative research: Bridging the conceptual, theoretical, and methodological.* Thousand Oaks, CA: Sage Publications.

Robin L. Ersing, Christianne Pearce, Jennifer Collins, Michelle E. Saunders, & Amy Polen. (2020). Geophysical and social influences on evacuation decision-making: the case of Hurricane Irma. *Atmosphere,* 11(851), 851. https://doiorg.ezp.waldenulibrary.org/10.3390/atmos11080851

Rubin, H. J., & Rubin, I. S. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed.). Thousand Oaks, CA: SAGE.

Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Thousand Oaks, CA: Sage Publications.Weibl

Snaiki, R., & Parida, S. S. (2023). Climate change effects on loss assessment and mitigation of residential buildings due to hurricane wind. *Journal of Building Engineering*, *69*, 106256. https://doi.org/10.1016/j.jobe.2023.106256

State of Louisiana Governor's Office of Homeland Security and Emergency Preparedness. (n.d.).*State Emergency Management Agency*. https://gohsep.la.gov/

USAGov. (n.d.). Office of Management and Budget. https://www.usa.gov/agencies/office-of-management-and-budget

U.S. Census Bureau, 2000, DHS, 2020 https://www.census.gov/quickfacts/LA?

U.S. Department of Homeland Security. (n.d.). *FEMA*. https://www.dhs.gov/

U.S. Department of Justice. (n.d.).*Our Work*. https://www.justice.gov/

Weible, C. M., Sabatier, P. A. (Eds.). (2018). *Theories of the policy process* (4th ed.).

    Boulder, CO: Westview Press.

Appendix A: Interview Protocol

Date:

Time:

Place:

Respondent Code:

Description of Project: This interview is being completed to collect data about your decision-making process to evacuate or remain in your home during Hurricane Katrina. The interviewer is looking for information about the facilitators and barriers that contributed to your decision-making process. Your responses are confidential. You have been provided a respondent code that is not associated with any of your individual characteristics.

Question Categories

Background

1. What was your zip code at the time of Hurricane Katrina?

2. Age

3. Gender/Race

4. How long did you live in the 70117-zip code? Do you still live there?

5. In what ways do you consider 70117 to be an under-served community?

6. At the time of the storm, how many under-age children were residing in your home?

7. At the time of the storm, how many pets that lived in your home?

8. How many elderly and handicap people lived in your home?

Decision-making

9. What facilitators were involved in your decision-making process not to evacuate?

10. What barriers were involved in your decision-making process not to evacuate?

11. What other factors stand out in your mind about your decision-making process? Psychological and personal effects of not following the evacuation orders.

12. How many friends and family did you lose as a result of Hurricane Katrina?

13. How were you eventually evacuated (if you were)?

14. How much of your property was destroyed as a result of the storm?

Aftermath

15. In what ways do you regret not evacuating before Hurricane Katrina made landfall?

16. In what ways are you happy that you did not evacuate during the storm?

17. If you were displaced; how did displacement affect you?

Outlook for the future

18. What would you do differently if another Hurricane Katrina type storm was headed in your direction?

19. What one facilitator or barrier made the difference in your decision not to evacuate during the storm?

20. What could emergency management policymakers do to make evacuation easier?

Appendix B: Invitation to Participant Email

Dear (Participant),

We are conducting interviews as part of a research study to increase our understanding of what barriers and facilitators were in place during the evacuation of Hurricane Katrina. As a resident of the Lower 9th Ward (in zip code 70017) you are in an ideal position to provide valuable information from your own perspective. We are interested in your lived experience. The interview will take about 45 minutes to an hour and is very informal. Your response to questions will be kept confidential. Each interview will be assigned a numerical code to help ensure that personal identifiers are not revealed during the analysis and write up of the findings. There will be a ten-dollar gift card provided to participants in the study. Your participation will be a valuable addition to our research and findings could lead to a better understanding of facilitators and barriers to evacuation during a disaster. These findings could help change public policy and provide positive social change. If you are willing to participate, please suggest a day and time that is convenient for you and I will do my best to be available. If you have any questions, please do not hesitate to ask.

Thanks! Kimberli Roessing-Anderson