

2016

# Perceptions of Emergency Preparedness Among Immigrant Hispanics Living in Oklahoma City, Oklahoma

Rebekah Doyle  
*Walden University*

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# Walden University

College of Health Sciences

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Rebekah Doyle

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2016

Abstract

Perceptions of Emergency Preparedness Among Immigrant Hispanics Living in

Oklahoma City, Oklahoma

by

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MS, Arkansas Tech University, 2011

BSN, Northeastern State University, 2008

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Health

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## Abstract

Tornadoes are occurring with increased frequency in Oklahoma. Emergency preparedness planning is essential to decreasing individuals' risks of injury or death from a tornado. Research on immigrant Hispanics' knowledge and perceptions of emergency preparedness is limited. The purpose of this study was to explore the perceptions and lived experiences of immigrant Hispanics who had experienced a tornado or other crisis weather conditions in Oklahoma during spring of 2013. The research questions explored their perceived risk for injury and knowledge of tornado preparedness planning. The health belief model provided the theoretical underpinnings for this qualitative phenomenological study. Semi structured interviews were conducted with a purposeful sample of 10 immigrant individuals living in and around Oklahoma City, Oklahoma. Data were subjected to triangulation and analyzed to identify themes and patterns. Findings indicated that immigrant participants had experienced multiple tornadoes, routinely sought shelter during a tornado, and 50% had created a family emergency plan and supply kit because of their experience with tornadoes and perceived risk for injury. Identified barriers to preparedness planning were language barriers and lack of information on natural disaster preparedness. Recommendations included conducting public health outreach and establishing multidisciplinary partnerships within communities to provide cultural and linguistically appropriate disaster preparedness information to immigrant individuals. Findings provide public health practitioners with the ability to improve access and dissemination of preparedness planning information that may promote positive social change by decreasing immigrants' risk of injury and death.

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## Dedication

I would like to dedicate this dissertation to my mother, Cindy, who encouraged me to continuously seek higher education. Throughout your life and mine, you instilled in me an intellectual curiosity and a strong work ethic, both of which have been vital to my success in the dissertation process. It is my sincerest wish that my dissertation serves to honor your memory. This dissertation is also dedicated to my two children, Jennifer and Kent. You have given my life meaning and purpose; I love you both dearly. Additionally, this dissertation is dedicated to Keith Shadden, whose friendship has been an immeasurable source of support and motivation. Your generosity of spirit in caring and support to others are an infinite source of inspiration to me.

This dissertation is also dedicated to the study participants who so generously gave of their time and energy to participate in this study. Thank you for sharing your personal experiences with tornadoes and other crisis weather conditions. In doing so, you have successfully been a voice in the otherwise silent wilderness for issues related to emergency preparedness and Hispanic immigrants.

Furthermore, this dissertation is dedicated to all the people whose lives were lost during the tornados and flash flooding that occurred in May 2013 in Oklahoma.

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## Table of Contents

Chapter 1: Introduction to the Study.....	1
Introduction.....	1
Background of the Problem .....	6
Problem Statement.....	8
Purpose of the Study.....	10
Research Questions.....	11
Theoretical Foundation and Conceptual Framework.....	12
Nature of the Study.....	13
Definitions.....	14
Assumptions.....	14
Scope and Delimitations .....	14
Limitations of the Study.....	15
Significance of the Study.....	15
Implications for Social Change.....	15
Summary.....	16
Chapter 2: Literature Review.....	18
Introduction.....	18
Literature Search Strategy.....	18
Theoretical Foundation and Conceptual Framework.....	19
Literature Review Related to Key Variables and/or Concepts .....	20
Immigrant Hispanics.....	22



Immigrant Hispanics and Disaster Preparedness .....	23
Summary .....	25
Chapter 3: Research Method.....	27
Introduction.....	27
Research Design and Rationale .....	27
Research Questions.....	27
Phenomenon of Interest .....	28
Research Tradition .....	28
Rationale for Chosen Tradition.....	29
Role of the Researcher .....	29
Methodology .....	30
Sample Population .....	30
Criteria for Participant Selection .....	30
Identify/Justify Sampling Strategy .....	31
Participants known to meet Participant Criteria .....	32
Rationale and Number of Participants .....	32
Procedures for Identification, Contact, and Recruitment.....	33
Relationship between Saturation and Sample Size.....	33
Data Collection Instrument and Source .....	34
Sufficiency of Data Collection to Answer Research Question.....	36
Data Analysis Plan.....	36
Trustworthiness.....	38

Credibility, Transferability, and Dependability .....	38
Confirmability.....	39
Ethical Procedures .....	39
Agreements to Gain Access to Population.....	39
Treatment of Human Participants .....	40
Treatment of Data .....	41
Summary .....	41
Chapter 4: Results .....	43
Introduction.....	43
Demographics .....	45
Data Collection .....	45
Data Analysis .....	48
Discrepant Case .....	50
Evidence of Trustworthiness.....	51
Credibility, Transferability, and Dependability .....	51
Confirmability.....	52
Results.....	52
Research Question 1 .....	52
Perceived Susceptibility for Experiencing an Injury .....	53
Perceived Severity of an Injury.....	54
Research Question 2 .....	55
Sheltering .....	55

Perceived Benefits to Sheltering .....	56
Perceived Barriers to Sheltering .....	57
Cues to Action to Sheltering .....	59
Self -Efficacy to Sheltering.....	59
Research Question 3 .....	61
Perceived Benefits .....	61
Perceived Barriers.....	62
Cues to Action.....	62
Self-Efficacy .....	62
Research Question 4 .....	63
Perceived Benefits .....	63
Perceived Barriers.....	64
Cues to Action.....	64
Self-Efficacy .....	65
Research Question 5 .....	65
Self-efficacy .....	66
Summary .....	67
Introduction.....	68
Interpretation of the Findings.....	69
Perceived Susceptibility and Severity of Injury.....	70
Perceived Benefits of Sheltering and Preparedness Planning.....	71
Perceived Barriers of Sheltering and Preparedness Planning.....	72

Cues to Action.....	73
Self-Efficacy .....	74
Limitations of the Study.....	74
Recommendations.....	75
Implications.....	76
Conclusion .....	79
References.....	83
Appendix A: Research Questions and Related Interview Questions.....	98
Appendix B: Research Study Participant Consent Form.....	100
Appendix C: Research Study Participant Consent Form (Spanish).....	102

## Chapter 1: Introduction to the Study

### **Introduction**

Public health seeks to protect and improve the health of communities and of entire populations, working persistently to eliminate or to limit health disparities that occur within vulnerable and ethnic populations (Centers for Disease Control and Prevention [CDC], 2014). Public health agencies work to achieve these goals by using the *10 Essential Services* and of the *Three Core Public Health Functions* as a framework and guide to prevent disease, injury, protect against environmental hazards, and promote healthy behaviors that encourage a healthy lifestyle, respond to disasters, and to assist in recovery efforts (American Public Health Association [APHA], 2014).

The *10 Essential Services* and the *Three Core Public Health Functions* are frameworks, which used by public health, assists, and facilitate the development of public health initiatives. Public health initiatives consist of educational programs, policies for improvement of population or community health, and public health research. While each of the 10 Essential Services are vital to the health of every population and individual, the Essential Services that are specific to this research study include monitoring the health status of populations and communities to identify community health problems, as well as diagnosing, and to identifying health hazards within communities. Additionally, Essential Services specific to this research study include conducting research for new insights and solutions to health problems, mobilizing community partnerships in identifying and solving health problems, and educating and empowering people about health issues that can affect them (CDC, 2013).

“Preparedness” is one of the new topics recently added to the new Healthy People 2020 goals and objectives. Healthy People goals support prevention efforts across the United States Department of Health and Human Services (United States Department of Health and Human Services [USDHHS], 2014). Healthy People 2020 are a set of goals and objectives to improve the health and wellbeing of people residing in the United States in the effort to create a healthier nation. The goal of preparedness is to improve the nation’s ability to mitigate, prepare for, and to recover from a major health event. One of the objectives for urgent attention and focus to achieve the goals of preparedness is fostering informed, empowered individuals and communities in situational awareness and preparedness education (USDHHS, 2014).

Traditionally, public health agencies were responsible for preventing disease outbreaks, ensuring healthy living conditions and environments, and maintaining a safe food supply. Public health agency roles expanded to include emergency preparedness and response when Congress enacted the 2002 Public Health Security and Bioterrorism Act after the 9/11 terrorist attacks and subsequent anthrax attacks (Berg, 2004; Gamboa-Maldonado, Marshak, Sinclair, Montgomery, & Dyjack, 2012). The Act also provided funding that extend to an “all hazards” preparedness approach (Brand, Kerby, Elledge, Johnson, & Magas, 2006; Lomarbarido & Buckeridge, 2007).

The “all hazards” approach includes public health agencies informing, educating, and empowering communities in emergency planning for natural disasters and emergencies. Public health seeks to assess local communities and identify vulnerable populations that are at an increased risk for experiencing adverse health consequences due to lack of

emergency preparedness knowledge and planning. Vink and Takeuchi (2013) asserted that it is important for vulnerable people to be identified and classified as a vulnerable population so that appropriate measures can be developed and created that would decrease their vulnerability. One population that public health has identified as being at an increased risk of experiencing adverse health consequences due to lack of emergency preparedness knowledge and planning is the undocumented immigrant population (APHA, 2014b). Immigrant Hispanics are the study population of this research study.

Often called a “melting pot” because of its sizable and varied ethnic, racial, and cultural populations, the United States is the leading destination for immigrants across the globe (Pew Research Center, 2013). The number of immigrants living in the United States has increased by 2.4 million since 2007. The number of undocumented immigrants living in the country has increased from 8.4 million in year 2000 to 11.1 million in 2011 (Pew Research Center, 2013). The leading source country of undocumented immigration to the United States is Mexico (Latino Community Development Agency [LCDA], 2013; Migration Policy Institute [MPI], 2014; Pew Research Center [PRC], 2013; United States Census Bureau [USCB], 2013; United States Department of Homeland Security [USDHS], 2014).

Some researchers (Miller, Adame, & Moore, 2013; Valdez, Valentine, & Padilla, 2013) attribute the rise in Mexican immigration to the recent rise in drug-related violence in that country. A perception of better economic circumstances and status as well as increased opportunities for work and education are reasons why many immigrants come to the United States. One question that looms largely concerns whether immigrants have

sufficient knowledge and situational awareness of natural disasters and emergency weather conditions that are specific to the geographical regions to which they migrate. This knowledge and awareness is critical to the wellbeing and safety of immigrants. One reason is that specific types of natural disasters and severe emergency weather conditions that are unique to particular geographical regions can be life threatening (Miller, Adame, & Moore, 2013). Another reason is that knowledge and awareness of natural disasters and emergency weather conditions can pose disruptions to public health and the delivery of social and health care services (Runkle, Zhang, Karmaus, Martin, & Svendsen, 2012).

There is limited research regarding immigrant Hispanics' role in disaster and emergency preparedness planning. Several scholars have identified racial, cultural, and ethnic barriers, to disaster and emergency preparedness within this population (Burke, Bethel, & Britt, 2012; Eisenman, Glik, Maranon, Gonzales, & Asch, 2009; Johnson, 2008; Kubicek, Ramirez, Limbos, & Iverson, 2008; Leyser-Whalen, Rahman, & Berenson, 2011; Messias, Barrington, & Lacy, 2012). In the aftermath of Hurricane Katrina, Latinos in New Orleans suffered substantial health disparities due to lack of resources and preparedness education, which were attributed to language and cultural barriers (Messias et al., 2012). According to APHA (2014b), undocumented immigrants have an increased risk of experiencing adverse health consequences due to lack of emergency preparedness knowledge and planning (APHA, 2014b).

Based on my review of the literature, researchers have not examined emergency preparedness among the study population in the U.S. state of Oklahoma. Immigrants have formed large communities in the cities of Oklahoma City, Tulsa, Lawton, Guymon, and



Altus (LCDA, 2013). Natural disasters occur frequently across the state of Oklahoma resulting in public health emergencies and disaster declarations. Oklahoma is centrally located in the U.S. Midwest and is often referred to as tornado alley (Pool, 2013). The constant contrast of cold, dry arctic weather from the north and warm, humid weather from the Gulf of Mexico creates meteorological conditions of clashing weather patterns resulting in perfect breeding grounds for year-round tornados (Ahlborn & Franc, 2012; Miller, Adame, & Moore, 2013; Pool, 2013). The Federal Emergency Management Agency ([FEMA], n.d.) found that 75 major disasters and 10 emergencies were declared in Oklahoma between 1955-2014, which were inclusive to winter and ice storms, tornadoes, wildfires, flooding, heavy rains, an explosion, and various combinations of these incident variables.

There is limited research regarding the lived experiences and beliefs, perceptions, and opinions concerning disaster and emergency preparedness planning of immigrant Hispanics living in Oklahoma. Immigrant Hispanics require special consideration to ensure adequate preparedness before, during, and after disasters to meet the unique necessary health and social needs of this population. Disaster and emergency preparedness planning including, but not limited to, having a disaster supply kit enables disaster and emergency victims to care for themselves during and post-disaster. Having a disaster plan and supply kit can be beneficial during an emergency as needed or until state or federal assistance is available to the public at large (Wofford, 2014). An emergency preparedness plan and supply kit increases a family's self-efficacy while

decreasing and mitigating their vulnerability and risk of experiencing potential injury or possible death (FEMA, 2014).

### **Background of the Problem**

The United States has experienced numerous natural disasters, which have directly affected communities by causing significant mortality, morbidity, and injury (Wallace, 2010). Natural disasters including Hurricanes Ike, Rita, and Katrina and tornadoes in 2011 and 2013, respectively, in Joplin, Missouri, and Moore, Oklahoma, have heightened awareness of the increasing occurrences and consequences of natural disasters. Furthermore, they magnify the need for community education and preparedness for natural disaster hazards (Akompab et al., 2013; Dynes, 2003; Kubicek et al., OEM, 2013; Orient, 1985; Prevatt et al., 2013; Villagran, Wittenberg-Lyles, & Garza, 2006).

In Oklahoma, natural disasters such as tornadoes, ice storms, and flooding contribute to loss of life, social structure, and result in financial instability and destruction of architectural infrastructure (FEMA, n.d.; National Weather Service Weather Forecast Office [NWSWFO], 2014; OEM, 2013). According to the Disaster Center (2014), among the 50 states in the United States, Oklahoma ranks second in the frequency of tornadoes, seventh in fatality incidence, ninth in injuries, and fifth in economic cost of damages stemming from tornadoes.

Hurricane Katrina and the 2013 Moore, Oklahoma, tornado have magnified how social processes encapsulating poverty and marginalization can heighten susceptibility to injury, displacement, death, as well as other complications in the wake of a disaster (OEM, 2013; Tate, 2012). Members of racial and ethnic minority populations experience

increased disparate health outcomes compared to other populations during and after disasters (Hutchins, Fiscella, Levine, Ompad, & McDonald, 2009; Truman et al., 2009). These disparate health outcomes include increased risk of injuries, poor health, adverse outcomes, and a lack of access to needed health care (Messias et al., 2012; Runkle et al., 2012). Hutchins et al. (2009) suggested that disparities within racial and ethnic populations are due to a higher rate of underlying health conditions as well as low socioeconomic status and cultural, linguistic, and educational barriers.

Research has found evidence of the effects of natural disasters on racial and social inequalities with respect to the allocation of resources (Messias et al., 2012). Schulz et al. (2008) posited that racial health disparities contribute to, and are concomitant with, the health of urban residents and social environmental stress. These inequalities are substantively prominent among racial and ethnic minorities, women, children, older adults, and those who are underprivileged (Leyser-Whalen et al., 2011). In addition, data from recent studies highlight numerous barriers to disaster preparedness among native Spanish speaking populations. These barriers include culture, language, transportation, and lack of geographical awareness of resources (Ahlborn & Franc, 2012; Andrulis, Siddiqui, & Gantner, 2007; APHA, 2012; Burke et al., 2012; Eisenman et al., 2009). Katrina underscored the obstacles that Latino residents of New Orleans experienced post Hurricane Katrina. Latinos faced tremendous obstacles in gaining access to vital social and life-sustaining resources such as food, shelter, health care, and other resources (Messias et al., 2012; Leyser-Whalen et al., 2011). There is a need to conduct further research studies that will further explore and allow for understanding the essence of what

disaster and emergency preparedness planning means to this study population (Ahlborn, L. & Franc, 2011).

### **Problem Statement**

I explored the problem of the deleterious impact that Oklahoma's natural disasters specific to tornadoes have on the vulnerable immigrant Hispanic population and of which is disproportionate to other ethnic populations. As already noted, there are natural disasters and emergencies specific to Oklahoma's geographic location, which increases an individual's risk of bodily injury and/or death (State of Oklahoma, 2013). The United States, divided into four regions that geographically reflect the number and strength of extreme windstorms, depicts Oklahoma City and surrounding areas as located in Region IV and experiencing the most frequent and strongest tornado activity with > 25 EF5 recorded tornadoes (FEMA, 2012). The Enhanced Fujita (EF) rating is vital to understanding the risk of injury or mortality related to living in areas such as Oklahoma where tornadoes are more likely to occur. Tornadoes are rated as EF0 – EF5 based on wind speeds and amount of structural damage (Norman National Weather Service Office [NNWSO], 2014).

As an example, during the period of 1950-2013, over 85 killer tornadoes struck Oklahoma, with 90% of these storms rating as an EF2, EF3, or EF4 on the EF scale (NWSWFO, 2014). More recently, in May 2013, an EF5 tornado hit Moore, Oklahoma, killing 24 people, injuring over 212 others, displacing hundreds of residents; and producing 61,500 power outages, and greater than \$1 billion in structural and economic impairment (FEMA, n.d.; NWSWFO, 2014; OEM, 2013). It is important to note, when

considering the amount of death and injury that can occur with an EF4 – EF5 that the Moore, Oklahoma, tornado carried energy that ranged from eight up to 600 times more powerful than the atomic bomb that was released on Hiroshima (Nature World News, 2014). Approximately 9.2% of Oklahoma’s population is comprised of Hispanics, and 9.0% individuals speaking a language other than English at home with a total Hispanic population of 347,000 in the state of Oklahoma noted demographically in 2011 (PRC, 2013; USCB, 2013). Further noted demographically, 33% of the 347,000 total Hispanic populations are foreign-born with 83% of the Hispanic population of Mexican origin (PRC, 2014; USCB, 2013).

Within communities across Oklahoma, disasters such as tornadoes may adversely affect certain populations’ vulnerable populations such as racial and ethnic minorities, more than others. Furthermore, they may produce negative consequences to include injury, disability, health disparities, and interruptions in access to healthcare services among these groups (Runkle et al., 2012). Immigrants, identified as a vulnerable population with factors such as socioeconomic status, limited English proficiency, limited access to health care, and stigma and marginalization increasing their risk and vulnerability (Derose, Escarce, & Lurie, 2007).

Statistically speaking in Oklahoma, 35% of Hispanics aged 17 and younger live in poverty, Hispanics 18-64 experience poverty at a rate of 24% as opposed to Non-Hispanic Whites 18-64 at a rate of 13% poverty. Oklahoma Hispanics are also at a risk to experience health disparities related to 37% of the population being uninsured with 69% of the total Oklahoma Hispanic population uninsured comprised of foreign-born

Hispanics. The afore mentioned rates are directly opposed to the health disparity risks that are decreased for Non-Hispanic Whites who experience an uninsured rate of only 14% (PRC, 2014; USCB, 2014).

The Hispanic population of Oklahoma is at an increased risk of experiencing health disparities, loss of financial resources and stability, social support and community network. They are also at risk of experiencing environmental instability and housing insecurity. The possible adverse effects are attributed to the high-risk area of Oklahoma geographical emigration combined with the lack of knowledge and awareness of the specific types of natural disasters and emergency weather conditions that are particular to the region as well as of how to prepare for them.

### **Purpose of the Study**

The purpose of this descriptive phenomenological study was to explore and to identify the perceptions, thoughts, and experiences of immigrant Hispanics living in the U.S. state of Oklahoma regarding their perceived risk of injury and beliefs, attitudes, and perceptions of natural disasters and emergencies. This study focused on qualitative findings in order to gain an in-depth understanding of disaster and emergency preparedness planning experienced by immigrant Hispanics. Personal experience with a natural disaster can have a powerful effect on an individual and their willingness to protect oneself from future risk (Martin, Martin, & Kent, 2009). Also noted, it is with recommendations from various prior quantitative researchers that qualitative research was conducted exploring these constructs to fill the gap in research and understanding of

this population and disaster and emergency preparedness (Ahlborn & Franc, 2012; Burke et al., 2012).

### **Research Questions**

The central research question answered in this study was what are the perceptions, thoughts, and experiences of immigrant Hispanics regarding their perceived risk for injury and knowledge of tornado preparedness behaviors? The HBM guided the development of five specific research questions:

RQ1. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding their personal risk of injury during a natural disaster?

RQ2. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding safe shelters during a natural disaster?

RQ3. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the development of a family emergency plan to prepare for a natural disaster?

RQ4. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the creation of a family emergency kit to prepare for a natural disaster?

RQ5. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding how to prevent personal injury or loss of personal resources during a natural disaster?

(See Appendices A for the interview questions that I used to answer each of these questions.)

### **Theoretical** Foundation and Conceptual Framework

The theoretical framework used to guide this phenomenological research investigation will be the health belief model (HBM). The HBM has been widely used in public health research, enabling investigators to predict health-related behaviors, and accordingly frame interventions to alter these health behaviors (McGarvey et al., 2003). The HBM, developed in the 1950s by Hochbaum and Rosenstock, is a framework, which elucidates the failure of individuals to participate in programs to prevent and treat diseases (Champion & Skinner, 2008). The constructs of the HBM consists of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy; making this an exceptional framework for health promotion programs targeting injury reduction (National Cancer Institute, 2005).

Researchers have employed the HBM to explain individual health behaviors and health promotion activities; and its constructs facilitate exploration of the research questions proffered by this dissertation project (Davenport, Modeste, Marshak, & Neish, 2010; McGarvey et al., 2003). Correspondingly, the HBM framework will simplify exploration and enlightenment of the perception of risk of injury and perceived benefits, barriers, and cues to action in initiating risk reduction and adaptive behaviors among Oklahoma's immigrated Hispanic population through responsible citizen awareness and disaster and emergency preparedness programs (Akompab et al., 2013; Schneiderman, Speers, Silva, Tomes, & Gentry, 2001).



### **Nature of the Study**

The nature of this study is qualitative and guided by a descriptive phenomenological approach. Qualitative researchers, using a descriptive phenomenological approach, give emphasis to the study participants' common lived experiences by conducting interviews within natural settings (Coffman, Shobe, & O'Connell, 2008). I conducted the interviews to explore the meaning of a common or shared lived experience of the study population to identify the essence of their lived experiences with a phenomenon (Creswell, 2009). It is vital to understanding these common and shared experiences in order to develop policies and practices or to gain a greater in-depth understanding of the phenomenon (Patton, 2013).

The phenomenological approach is the most appropriate methodology for this study because the constructs of immigrant Hispanics and their role in disaster and emergency planning for their families need further exploration. Interviews conducted with 10 immigrant Hispanics, male and female, and will explore their experiences with disaster and emergency weather conditions. I explored if they had created a family emergency plan and an emergency supply kit. I will further explore if the study participants believe that they and their family are at risk to experience death, injury, or loss if they do not have a disaster and emergency preparedness family plan and kit. A detailed description of the study methodology is in Chapter 3. There is not always universal understanding of a specific word or terminology, with that understood the next section defines words and terminology used in the study that may need defined clarification.

### **Definitions**

*Hispanic*: that the U.S. Bureau of the Census used to collect census data information on the Census 2010 questionnaire. Hispanic and Latino used interchangeably, classified himself or herself as Puerto Rican, Mexican, Cuban, South or Central American, or other Spanish culture or origin regardless of race (USBC, 2011).

*Natural disasters*: Events that typically result in death, injury, displacement of residents, and loss of and damage to local infrastructure. These events include tornados, floods, fires, ice storms, hurricanes, and earthquakes (FEMA, 2013).

### **Assumptions**

A phenomenologist, a researcher conducting phenomenological research, would articulate a major assumption of the phenomenological approach regards human beings in that intentionality of consciousness is the reality of an experience and of which, directly related to one's consciousness of it (McPhail, 1995; Patton, 2013). Assumptions are that the study participants will be able to clearly and accurately understand the purpose of the research study, understand the interview questions posed to the study participants by the translator/interpreter, as well as the assumption that the study participants will feel comfortable, secure, and will be candid in their response to the interview questions.

### **Scope and Delimitations**

Delimitation of this study consists of immigrant Hispanics as participants who are age 18 and older, male and female, and who has experienced the effects of natural disasters or emergency weather conditions. This will provide rich data needed to explore the

phenomenon of interest comprehensively among Oklahoma's immigrant Hispanic population.

### **Limitations of the Study**

It is not a limitation of this research study is that it was comprised of a purposeful sampling of immigrant Hispanics and the participants for this research study were further comprised of a sub-section of a minority population. This research study was qualitative and used a phenomenological approach. However, a limitation of this research study is that the findings of the study may not be generalizable to other ethnic minority populations.

### **Significance of the Study**

Disaster and emergency preparedness education is a vital and essential service municipal and state public health departments should provide to all citizens residing in Oklahoma communities. Disaster and emergency preparedness is particularly crucial to those whose vulnerability and health outcomes are especially heightened during, and in the wake of a natural disaster. Understanding the beliefs, perceptions, and lived experiences with disaster and emergency preparedness by immigrant Hispanics residing in Oklahoma can help Oklahoma public health and emergency management officials prepare this community for natural disasters and emergencies common to the state.

### **Implications for Social Change**

Implications for social change include enhancing awareness and understanding of the beliefs, perceptions, and experiences concerning disaster and emergency preparedness among immigrant Hispanics. This study provided rich data and evidence to inform and

advance disaster and emergency preparedness programs consistent with the perspectives of the Oklahoma immigrant Hispanic population as per recommendations by the American Public Health Association (2014a) of the Ten Essential Services and three core public health functions. Furthermore, this study aimed to enhance natural disaster and emergency preparedness public health initiatives targeted towards Oklahoma's Hispanic population. It could facilitate reductions in risk for injury, morbidity, and mortality as well as decreasing health and social disparities due to natural disasters and public health emergencies, among this vulnerable population. This study can also create positive social change by facilitating public health outreach with the development of community multidisciplinary teams and community participation educating and empowering community citizens in emergency preparedness planning.

### **Summary**

This qualitative research study was conducted to explore and understand the construct of natural disaster and emergency preparedness related to immigrant Hispanics, regarding the state of Oklahoma and tornadoes. Oklahoma, one of the states commonly selected by immigrated Hispanics to relocate to and reside in, is subject to experiencing volatile weather conditions throughout the year. Oklahoma has a decade's long history of killer tornadoes with Central Oklahoma commonly referred to as tornado alley. Oklahoma has experienced over 85 tornadoes with storm ratings of EF2 – EF4 (NWSWFO, 2014). An EF5 tornado experienced in Moore, Oklahoma, resulted in a large number of fatalities, a multitude amount of injuries, hundreds of displaced residents, 61,500 power outages, and more than \$1 billion in structural and economic impairment (FEMA, n.d.; NWSWFO,

2014; OEM, 2013). The Hispanic populations have been identified by the APHA, FEMA, USDHHS, public health, and other federal and local government agencies and organizations as being a vulnerable population who are at an increased risk to experience injury, death, as well as loss of medical, financial, and social support and resources.

Chapter 2 consists of the literature review conducted that examined and explored previous research relevant to the constructs of this research study.

## Chapter 2: Literature Review

### **Introduction**

The purpose of this descriptive phenomenological study was to explore and to identify the perceptions, thoughts, and experiences of immigrant Hispanics who have experienced natural disasters and emergencies in Oklahoma specific to tornadoes. I explored their perceived risk of injury, beliefs, attitudes, and perceptions of natural disasters and emergencies. Chapter 2 includes an overview of the HBM, which I used to ground my research study. It also includes a discussion of previous research that was relevant to my investigation. The chapter concludes with a summary of information discussed in this chapter and a preview of Chapter 3.

### **Literature Search Strategy**

A review of the literature for a qualitative study differs from a literature review conducted for a quantitative study. A literature review in a qualitative research study does not set the stage for the study. In fact, there usually will not be much literature on the phenomena being explored (Creswell, 2009). Lack of extensive literature further validated and supported the need for a research study to have been conducted with this population. I used the literature sparingly in order to employ an inductive design; I used literature to compare and contrast my findings at the end of the study (Creswell, 2009). I derived the literature for the review by using the databases ProQuest Central, EBSCO, Science Direct, Google Scholar, Academic Search Complete, CINAHL, and MEDLINE. When conducting literature reviews social science researchers typically use these databases (Creswell, 2009). Key search terms used to search and retrieve prior research

data included public health, Healthy People 2020, disaster preparedness, immigrants, vulnerable population, natural disaster, Hispanic, health disparities, language barriers, Latino, social determinants, tornado, health belief model, and self-efficacy theory.

Additional key search terms used were immigration, social justice, diversity, cultural barriers, language barriers, linguistic, community resilience, Latino health care, disaster policies, disaster laws, Latinos in research, FEMA disaster declarations, and risk perception.

### **Theoretical Foundation and Conceptual Framework**

The theoretical framework that guided this phenomenological research investigation was the HBM. The HBM has been widely used by public health research investigators to predict health-related behaviors and to frame interventions to alter these health behaviors (Champion & Skinner, 2008). Therefore, the HBM was an optimal framework to explore the perceived risk of injury from a tornado as well as the self-efficacy of the Hispanics of creating an emergency preparedness plan and supply kit.

Perceived susceptibility, perceived severity, perceived benefits, and perceived barriers, along with cues to action and self-efficacy, are key constructs of the HBM (National Cancer Institute, 2005; Samaddar, Chatterjee, Misra, & Tatano, 2014). Semenza, Ploubidis, and George (2011) noted that perceived susceptibility and perceived barriers are associated with preventative behaviors. Consequently, all constructs of the HBM were used to answer this study's research question. Perceived susceptibility to an injury is crucial to explaining motivation to engage in protective behaviors.

The HBM constructs of self-efficacy and perceived barriers to emergency preparedness and self-efficacy lead to understanding the perceptions of risk of injury from a tornado as well as how this can influence decision-making regarding developing an emergency preparedness plan and supply kit. Furthermore, the HBM framework will simplify exploration and enlightenment of the perception of risk of injury and perceived benefits, barriers, and cues to action in initiating risk reduction and adaptive behaviors among Oklahoma's immigrated Hispanic population through responsible citizen awareness and disaster and emergency preparedness programs (Akompab et al., 2013; Schneiderman, Speers, Silva, Tomes, & Gentry, 2001). The HBM grounded this study, and the theory's constructs guided and facilitated further exploration of the research questions.

### **Literature Review Related to Key Variables and/or Concepts**

Traditionally public health practitioners have sought to assess, implement, evaluate, and protect individuals and communities from disease outbreak. After the terrorist attack on U.S. soil on 9/11, the U.S. Congress enacted the 2002 Public Health Security and Bioterrorism Act, which resulted in an expansion of public health roles to include emergency preparedness and response (Berg, 2004; Gamboa-Maldonado et al., 2012). The Act provided federal funding to states for them to establish disease surveillance systems. The systems focused on rapid identification of bioterrorism terrorist attacks. At this time funding is provided for an "all hazards" preparedness approach which encompasses educating communities on all possible hazards that could occur (Brand, Kerby, Elledge, Johnson, & Magas, 2006; Lomabardo & Buckeridge, 2007).



The “all hazards” approach is appropriate for the United States, because the U.S. faces a variety of threats that have the potential for large-scale health consequences, including but not limited to terrorism. According to Perry and Lindell (2003), emergency planning processes need to integrate plans for each identified community hazard into a comprehensive approach for multihazard management. This allows for an overall more effective response to natural disaster and emergencies.

An “all hazards” approach embraces preparedness for natural disasters and severe weather emergencies (Brand, Kerby, Elledge, Johnson, & Magas, 2006; Lomabardo & Buckeridge, 2007). Indeed, natural disasters are more common across the Nation. Public health is looked upon to educate communities on preparedness and to assist with emergency planning and response to natural disasters. Public health practitioners are expected to assist in mitigating the morbidity and mortality associated with threats related to natural disasters (USDHHS, 2014). Public health disaster and emergency preparedness using an “all hazards” approach advocates and facilitates a multidisciplinary approach for optimizing emergency planning with community stakeholders and residents (Stajura, Glik, Eisenman, Prelip, Martel, & Sammartinova, 2012).

Danforth, Doying, Merceron, and Kennedy (2010) concluded that multidisciplinary efforts are necessary to ensure community-wide efficacy of preparedness and response activities. Community-wide disaster and emergency preparedness is a vital public health service that strengthens and promotes self-efficacy within families and communities (Stajura et al., 2012). The multidisciplinary efforts result in a decrease in injury and mortality from natural disasters. Miller, Adame, and Moore (2013) made the point that

during and following a disaster crisis, residents expect that various government agencies will provide immediate assistance and protection. Citizens who experience a natural disaster or weather emergency need to have an emergency preparedness plan and supply kit so they may care for themselves adequately for up to 72 hours or until state or federal assistance arrives to provide resources to them.

Hurricane Katrina demonstrated that citizens needed to be prepared to care for themselves for a short time while government response is mobilizing (Messias, Barrington, & Lacy, 2012). Hurricane Katrina highlighted the need for public health to collaborate with community stakeholders and community leaders to include minority populations in disaster and emergency planning. There was a devastating lack of emergency preparedness by the city and community of New Orleans that resulted in the loss of thousands of lives during and post-Hurricane Katrina. The majority of those who died were minority residents (Neuhauser, Richardson, Mackenzie, & Minkler, 2007).

### **Immigrant Hispanics**

It can be a life-changing and challenging event to immigrate to another country, where the immigrant does not know and understand the language or culture. How would an immigrant ask for the location of needed resources such as shelter, utilities, or food? How would an immigrant fill out a job application or apply for a driver's license? How would an immigrant explain their injury or pain to an emergency room physician if they only spoke Spanish? The possibility is great that an immigrant, who does not speak English, has never experienced a tornado, nor previously resided in a geographic area that experiences tornadoes. They may lack knowledge of how to seek shelter during

emergency weather conditions. Furthermore, nor do they possibly possess the knowledge when searching to obtain shelter during emergency weather conditions that more people die while sheltering in mobile homes than in fix-structured homes (Brooks & Doswell, 2002).

An immigrant from a geographical area unfamiliar with tornadoes may not know what to do when a tornado siren signals a warning to take shelter. It is questionable that newly immigrated Hispanics know that the siren means a tornado is spotted and they need to take immediate cover to prevent harm. Brooks and Doswell (2002) concluded that one must know what a warning is and what actions need to be taken if injuries and death are to be prevented. Experiencing a tornado is a life-changing event that increases risks of injury or death. If a person resides in Oklahoma, then they are at an increased risk to experience a tornado (Keeping, 2014).

May 19, 20, and 31<sup>st</sup> of 2013 were days of disastrous emergency weather in Oklahoma that resulted in EF4 and EF5 tornadoes and flash flooding on the 31<sup>st</sup>. The three days of extreme weather events were the cause of at least 48 deaths and hundreds of injuries, which occurred during natural disaster weather conditions inclusive to tornadoes, high winds, and flooding (MRC, 2013). Hundreds of homes were destroyed and hundreds of Oklahomans immediately became homeless. Many businesses, as well as medical facilities and a school were destroyed.

### **Immigrant Hispanics and Disaster Preparedness**

Latinos were one of the vulnerable minority populations adversely affected by Hurricane Katrina. Allen and Katz (2010) discovered that immigrants, for whom English

is a second language, are not as knowledgeable of how to prepare for and respond to a public health emergency. A barrier identified to obtaining information on disaster preparedness and of where to go to receive assistance is language for the immigrant Hispanic/Latino population. Currie (2012) suggested that while the federal government has made improvements in educating citizens about the need for preparedness such as the development of Ready.gov and Citizen Corps, they are in English and an increased effort needs made to develop preparedness materials more accessible by those who experience barriers to English language and resources. It is important to note however, that during the last couple of years Ready.gov is integrating Spanish language preparedness information on their website.

Health disparities occur for immigrants when they are not able to acquire post disaster resources as easily or quickly as do other populations. Carter-Pokras, Zambrana, Mora, and Aaby (2007) concluded that due to lack of access to financial and material resources needed to recover their losses from a disaster and to cushion the impact of the disaster, low income Latinos are often at an increased risk following a disaster. Horton (2012) noted that other challenges and stressors for immigrants, both documented, and undocumented here in the United States, include fear of being deported if they seek post disaster assistance. The fear of deportation was a significant issue and created a significant amount of confusion post Hurricane Katrina that kept some immigrants from seeking needed resources.

In contrast, Miller, Adame, and Moore (2013) noted citizens may know how to prepare for natural disasters but for unknown reasons, do not always act in a prudent

manner when necessary. An example of this is failure to take shelter during a tornado warning. However, maybe it is as Perry and Lindell (2003) noted that in regards to risk and crisis communication, cultural groups differ from group to group based on their unique perceptions, which could also lend truth to disaster and emergency preparedness not meaning the same thing within every race and culture.

Shiu-Thornton, Balaris, Senturia, Tamayo, and Oberle (2007) concluded that disaster is a taboo topic within some language groups. For other cultural groups, a disaster cannot be foretold. Furthermore, Shiu-Thornton, Balaris, Senturia, Tamayo, and Oberle (2007) also concluded that for some cultures, preparedness did not exist as a concept or belief and therefore not prevented. This differed by migration history, language, and belief systems. Regardless, it is as Eisenman et al., (2009) concluded, culturally appropriate disaster preparedness programs need to be developed and employed to decrease disparities. Immigrant Hispanics are particularly vulnerable to disasters because they are not prepared for disasters or emergencies and have experienced many significant barriers and are therefore, disproportionately affected by them (Messias, Barrington, and Lacy, 2012).

### **Summary**

Ho, Lin, and Chiu (2008) noted that it was of consequence to acknowledge that technical-oriented mitigation measures were not enough to prevent devastating loss. Instead, it was of significance to understand the human system and how victims of natural hazards perceive risk including vulnerable populations such as Hispanics. It is with the understanding that based on an individual, community, or population's

perception of risk, the response to a natural disaster or emergency will vary depending on the perception of risk. This research study sought to explore and identify the perceptions, thoughts, and experiences of immigrant Hispanics who have experienced natural disasters and emergencies in Oklahoma as well as their perception of risk for injury.

## Chapter 3: Research Method

### **Introduction**

The purpose of this descriptive phenomenological study was to explore and to identify the perceptions, thoughts, and experiences of immigrant Hispanics who have experienced natural disasters and emergencies in Oklahoma specific to tornadoes. I explored their perceived risk of injury, beliefs, attitudes, and perceptions of natural disasters and emergencies. This study focused on the lived experiences of the study participants in order to gain an in-depth understanding of disaster and emergency preparedness planning experienced by immigrant Hispanics. This chapter includes a detailed description of the research design and rationale, my role in the investigation, and the methodology that I used a discussion of trustworthiness and ethical considerations, and a summary.

### **Research Design and Rationale**

#### **Research Questions**

The central research question answered in this study was what are the perceptions, thoughts, and experiences of immigrant Hispanics regarding their perceived risk for injury and knowledge of tornado preparedness behaviors? The HBM guided the development of five specific research questions:

RQ1. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding their personal risk of injury during a natural disaster?

RQ2. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding safe shelters during a natural disaster?

RQ3. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the development of a family emergency plan to prepare for a natural disaster?

RQ4. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the creation of a family emergency kit to prepare for a natural disaster?

RQ5. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding how to prevent personal injury or loss of personal resources during a natural disaster?

### **Phenomenon of Interest**

The phenomenon of interest in this research study was the lived experiences of immigrant Hispanics living in Oklahoma City, Oklahoma and surrounding communities. This geographical area encompasses the Oklahoma City Standard Metropolitan Statistical Area (SMSA). This research study sought to explore this phenomenon to enhance the level of understanding regarding perceptions of risk and possible injury as well as self-efficacy as it relates to disaster and emergency preparedness.

### **Research Tradition**

A qualitative research method using a descriptive phenomenological design provided the philosophical underpinnings for this research study. Moustakas (1994) posited that phenomenological researchers should focus on the essence of individuals' lived experiences and especially on the wholeness of these experiences. Moustakas relies on some of the philosophical ideas of Husserl, who has long been considered the founder of phenomenology (Shosha, 2012; Simon & Goes, 2014). Giorgi (2009) is another well-



known phenomenologist who is widely credited with the emergence of descriptive phenomenological research that aims to study the essence of phenomena as it appears in consciousness (Finlay, 2009).

### **Rationale for Chosen Tradition**

The qualitative descriptive phenomenological approach was selected for this research study, as I believe it was the most effective method for answering my research questions (Mortari, 2008; Romo, 2011). Qualitative research is just as vital and fundamental to policymaking and practice as quantitative research that facilitates social change (Hammersley, 2000). The aim of this study was to explore a phenomenon as experienced by a group of individuals, who are immigrant Hispanics, and to understand the essence of their lived experiences as well as to describe in full what the experience (phenomena) meant to the study participants (Sadala & Adorno, 2002). The phenomenological approach provided a thick textural description of the lived experience of natural disasters and emergencies experienced by immigrant Hispanics.

### **Role of the Researcher**

In qualitative studies, the researcher is the “tool” or “instrument” whereby data is collected for a research study (Casey, Eime, Payne, & Harvey, 2009). In qualitative research, the researcher situates oneself into the study whereby taking an active role throughout each process of the research study and giving a voice to study participants who share their own lived experiences regarding the phenomena of interest (Willig, 2007). My role as researcher for this study was to locate the study participants, conduct interviews with the study participants, transcribe, and analyze and code data for analysis.

I sought to conduct this study in a manner that was as least disruptive and intrusive to study participants as possible. In order to delineate and limit my biases, I strove to set aside my own thoughts, feelings, and perceptions while employed in the Oklahoma Department of Health Emergency Preparedness and Response Division.

Acknowledging one's own biases and beliefs along with understanding that one can never presume to understand another individual's personal experience signifies the need for participants to take the lead in sharing their own experiences in qualitative research (Daly, 2007; Wickstrom, 2009). In this study, I bracketed my presuppositions and assumptions prior to beginning the study in an effort to decrease my subjectivity and bias and therefore increase the trustworthiness of the study results (Colaizzi, 1978). I did this by carefully considering my own presumptions regarding what the study participants might believe about natural disasters.

## **Methodology**

### **Sample Population**

The population of this research study consisted of immigrant Hispanics who were 18 years of age and older. Study participants included males and females living in Oklahoma City, Oklahoma, and SMSA, who had experienced the effects of crisis weather conditions common to Oklahoma during the spring of 2013.

### **Criteria for Participant Selection**

The criteria for participant selection and participation in this research study aligned with the research questions and the population recruited to participate in this research study were able to answer the research questions. Participants were delimited to

immigrant Hispanics. Male and female participants who were 18 years of age or older, who identified themselves as being of Hispanic ethnicity, and who had experienced the effects of crisis weather conditions during spring 2013 while residing in Oklahoma City, Oklahoma, or surrounding SMSA, were eligible to participate in the study.

### **Identify/Justify Sampling Strategy**

The recruitment strategy selected for the research study was purposeful recruitment and snowball sampling. Snowball sampling began with the first study participant interviewed in this research study. There are two justifications for selecting purposeful sampling. The first is that purposeful sampling is intrinsic to qualitative research because it allows researchers to choose individuals who have experienced the phenomena being explored, in this case natural disasters. Therefore, the study participants are most representative and can provide rich data. Purposeful sampling is also employed by qualitative researchers to select participants who can best provide an understanding of the research questions being asked and phenomenon central to the research study being conducted. Further justification for selecting purposeful sampling strategy is that the study design approach of phenomenology means all participants need to have experienced the phenomenon that is to be explored (Englander, 2012). Snowball sampling enabled me to recruit additional potential study participants by obtaining contact information from the current study participant interviewed of additional potential participants.

**Participants known to meet Participant Criteria**

Potential study participants who responded to the recruitment flyer met the participation criteria for this research study if they met the following inclusion criteria:

1. They were an immigrant Hispanic to the U.S.
2. They identified themselves as being of Hispanic ethnicity.
3. They were male or female who were 18 years of age and older.
4. They experienced crisis weather conditions during the spring of 2013.
5. They resided in Oklahoma City, Oklahoma, or surrounding SMSA.

**Rationale and Number of Participants**

The number of study participants recruited for this research study was 10 or until saturation occurred. The rationale for the number of study participants was based on the recommendations of 5 – 10 participants from other researchers and scholars who employed the phenomenological approach and have conducted interviews for data collection. Saturation occurs when new information obtained from the study participants during interviews does not occur. Instead, repetitive data collected is and will be the same as data collected from previously interviewed study participants (Onwuegbuzie, Dickinson, Leech, & Zoran, 2009). Rationale for the number of participants for this study allowed for optimal amount of data collection. Individual interviews provided sufficient time to present interview questions to the participants. The aim of the research study was to facilitate answering the central research question and to illuminate the phenomenon under study.

### **Procedures for Identification, Contact, and Recruitment**

I created a volunteer recruitment flyer in both English and Spanish and with permission from a Director; I posted a flyer at an appropriate location. The flyer contained information regarding the purpose of the research study and inclusion criteria for participation. I listed my telephone number on the recruitment flyer that allowed potential study participants to call to inquire about participation in the research study.. During the prescreening interview introductions were conducted and the purpose of the study was reiterated. During the reiteration, issues of confidentiality were addressed and each prospective study participant as queried to assess whether they meet the criterion for sampling inclusion.

I reserved a centrally located location that was easily accessible for which conduct the interviews at a specific date and time pertinent for data collection. When a study participant met the criteria, I informed the participant of the date, time, and location of where the interview was conducted. I obtained informed consent once the study participant arrived for the interview session. The consent form was reviewed with the study participant upon arrival for the interview. This allowed the study participant to ask any questions they had and to have the questions answered prior to the interview process. This procedure served to alleviate any concerns or misunderstandings that any study participant might have experienced before data collection occurred.

### **Relationship between Saturation and Sample Size**

It is essential for a researcher to understand the relationship between saturation and sample size, especially with regards to how it affects data and data analysis and

ultimately, the results of a research study. Qualitative research sample size must be large enough that all perceptions are discovered, yet not be so large that the data becomes repetitive. Data that becomes repetitive during data collection process signifies data saturation. When data saturation occurred during the data collection process, I understood that new themes would not be discovered (Carlsen & Glenton, 2011). Therefore, my study's sample size was sufficient to thoroughly explore the phenomenon being explored in this study.

### **Data Collection Instrument and Source**

Qualitative research design uses open-ended interview questions and allows the research to ask follow-up questions to elicit more in-depth responses and also clarify the respondent's statements. Data collection for this approach consists of gathering data from interviews, documents (field notes taken during each interview), and observations (Englander, 2012). Personal interviews were conducted using digital audio recorders. Data was also collected data from field notes and observations. I used a translator fluent in Spanish whose skill was essential in assisting to translate during interviews with the study participants who were not fluent in speaking English. This ensured accuracy of interview question construction and translation, data collection, and transcription of interview audio tapes of the study participants who were not fluent in speaking English. A semi-structured interview facilitated the ease of translation of questions and responses by the translator between the participants and myself as the researcher .

I trained the translator in the method of qualitative research, inclusive to their role in data collection and analysis of interviews. The translator had completed the National

Institute of Health's training that educates and informs on human subjects in research. It was vital to the success of the research study the translator had sufficient understanding of the methodology, as well as vital the translator fully understood how crucial her role was to the study and the importance of the data being translated accurately. It was also essential that she understood the necessity of translating the data as soon as possible after the interviews were conducted with study participants not fluent in speaking English. I conducted a debriefing immediately after each interview with the translator in order to obtain her impressions of each interviewee and provide an opportunity for the translator to discuss anything she thought was relevant that might not have been revealed in the transcription of the study participants' transcripts.

While Walden University Institutional Review Board (IRB) does not require specific credentialing of the translator utilized for the research study, I previously worked with the translator for 5 years at the Oklahoma State Department of Health (OSDH). During that time, I observed her expertise in providing translation services firsthand. The translator holds certification as a translator, is fluent in Spanish language, and is of Hispanic ethnicity herself.

Personal interviews conducted for approximately 60 minutes allowed adequate time for study participant interviews. This amount of time also allowed for translation of questions and of participant's responses with study participants not fluent in speaking English. Participants were informed that during the interview they could take a break if they needed one. The last 15 minutes of the interview was dedicated to each of the study participants to exit from the interview in a transitionally smooth manner. Each interview

began by informing participants that they may request to cease participation at any point. I took field notes during each interview as part of the interview data collection. Study participants were informed that time was allotted at the end of the interview for any questions or concerns that arose in discussing their lived experience with natural disasters and emergencies. This provided for an ethical, respectful, and nurturing exit for the study participants.

### **Sufficiency of Data Collection to Answer Research Question**

I was confident that the five research questions and each of their sub-set of interview questions were sufficient to collect all data necessary to answer the central research question. The five research questions and each research question's sub-set of interview questions aligned with the central research question. Furthermore, it is important to note the problem statement, purpose statement, and the research questions of this research study aligned and facilitated authentically answering the study's central research question.

### **Data Analysis Plan**

I adapted the methods of data analysis used by Moustakas (1994) and Giorgi (2009). Qualitative data analysis is not a repetitive mechanical task. Instead, it is a rigorous and challenging undertaking that allows researchers to explore and gain in-depth meaning, and insight into the complexities of individuals lived experiences (Smith, 2011; Srivastava & Hopwood, 2009). Although there are some software programs that are useful in qualitative data analysis, hand coded data analysis allowed for increased detection of significant statements. This precision allowed for grouping into meaning



units and themes critical to the trustworthiness of the study (Crowston, Allen, & Heckman, 2012; Marshall & Friedman, 2012; Northway, 2013).

Qualitative research analysis has specific methods that are used for data analysis specific to the qualitative approach used in this research study. Hand coding analysis of the data was the most appropriate method for data analysis for the research study and population. I conducted data analysis of identifying significant statements considered meaning units, which I then used to identify emergent themes. The themes contributed to the development of a description of the essence of the individual's experience. Further analysis was conducted by relating and coordinating the emergent themes with the constructs of the HBM. This provided me with a rich, detailed understanding of the perception of risk of injury and perceived benefits, barriers, and cues to action in emergency family planning and creating an emergency supply kit within the study population.

The study population of immigrant Hispanics had terminology that was specific to their ethnicity and culture. I did not want to lose the essence of the participant's experiences, perceptions, and beliefs in the data analysis processes. Speech from the interviews was not "cleaned up" and inserted grammar filling in any identified gaps was limited to maintain integrity of tone and meaning of verbal response (Frost, et al., 2011). The beginning stage of data analysis is preparing the data for analysis. I believed that it was essential to maintaining the integrity of interview question responses during the interviews that transcripts were translated within 72 hours of each interview.

## **Trustworthiness**

### **Credibility, Transferability, and Dependability**

Qualitative research, held to the same rigor and standards that are pillars supporting qualitative research processes, has increased in frequency with social and behavioral scientists (Pereira, 2012). Consequently, social and behavioral scientists routinely analyze and scrutinize the validity of qualitative research studies. It is paramount that a researcher commit to incorporating steps within their research study design that provide for increased rigor of the methodology of the study, which ultimately contributes to increased trustworthiness of a research study.

When certain procedures performed result in triangulation, the validity of a research study increases and contributes to the objectivity of the research study findings (Schwandt, 2007). This study used the following three step process to achieve triangulation:

1. Audiotape of each participant interview.
2. Transcribed audio recordings
3. Conducted member checking with each of the study participants.

Lincoln and Guba (1985) posit that when conducting qualitative research member checking is the most critical technique used to establishing credibility. Member checking provided for prolonged engagement with study participants, which enhanced credibility and transferability. Triangulation among the study data achieves dependability and credibility of the results and works to establish trustworthiness in qualitative inquiry (Guba & Lincoln, 1989).

**Confirmability**

Confirmability refers to the degree of neutrality of the research study's results. This means the degree in which results of the research study reflect and are shaped by study participants and not by researcher bias, motivation, or interests (Robert Wood Johnson Foundation [RWJF], 2008). Triangulating the various forms of data inclusive to audio recording of personal interviews and field notes established and strengthened confirmability within this research study.

**Ethical Procedures****Agreements to Gain Access to Population**

The first agreement obtained was permission from Walden University's IRB. Walden University required an IRB research proposal application. The application was submitted along with all supporting documents prior to any recruitment or collection of data. The IRB thoroughly reviewed the proposed research study and proposed sample population based on their criteria for an ethically conducted research study. Once Walden University IRB granted permission, I posted volunteer research flyers at an appropriate location. Copies of the research volunteer recruitment flyer, informed consent form, submitted along with the IRB research proposal application, was vital to IRB knowledge and awareness of this research study's proposed research design. Evaluating all potential ethical concerns, the IRB must have full disclosure of this research study's design, inclusive to all documents used for this research study.

### **Treatment of Human Participants**

Informed consent forms typed in English language (Appendix B) and Spanish language (Appendix C) were used for this research study. The two versions fully disclosed the purpose of the study, the expectation of those in the study, the participant's ability to decide to stop participating at any point during the study without fear of reprisal, as well as confirmation that the participant's identity would remain anonymous. Each participant was identified by ID number and pseudonyms were assigned for data collection and analysis to preserve anonymity. The assigned ID number and pseudonym identified each individual participant throughout the research study. I educated the translator regarding privacy issues of the study participants and required the translator to sign a confidentiality form before serving as translator for this study. In an additional effort to preserve the confidentiality of study participants, I deleted any mention of a study participant's last name during transcription of the audio tapes and analysis reporting.

The vulnerable population interviewed for this study has experienced extreme life stressors and possible loss. Therefore, care needed to be taken to identify and anticipate any questions or concerns they may have developed during and post-interview. This vulnerable ethnic population is under-represented in research and their tendency is to be wary of participating in research (Donner & Rodriguez, 2008). Therefore, it was important not only to this research study but also for future research studies, that participation in this research study experience be an ethical and positive experience. This positive experience could serve to encourage the participants and other Hispanics to

participate in future research studies. No personal or professional relationships existed between any of the study participants and me as the researcher.

### **Treatment of Data**

Data protection is vital to the success of the research study and therefore, I backed up the data daily onto a compact disk (CD), thumb drive, and on my computer. The backup activity occurred daily to prevent data loss and continued until data results were complete. When working with and analyzing data from the personal interviews a copy of the work was printed and placed in the locked safe that prevented possible loss of data. Collected data is being stored in a locked safe for five years at my place of residence and will promptly be destroyed as per Walden University's policy after that length of time. Consent forms containing the participant's signature of their names and the confidentiality form containing the translator's signature were stored and kept locked separately from the researcher's journal, field notes, and audio recordings.

### **Summary**

A qualitative, descriptive phenomenological approach, chosen as the appropriate methodology based on the central question that underlies this research study, guided this research study. The central research question this research study sought to answer was what were the perceptions, thoughts, and experiences of Hispanic immigrants regarding their perceived risk for injury and knowledge of natural disaster preparedness behaviors? Interviews were conducted with Hispanic immigrants who experienced crisis weather conditions spring of 2013. Data collection methods consisted of interviews with each study participant, audiotape and transcription of interview data, journal, and field notes. I

performed data analysis by hand coding the research data. Data management consisted of storage in a locked safe, password protection of data on laptop and thumb drive, data backed up on a thumb drive as well as a hard copy of data printed out for additional data security. The updated hard copy of the data is stored in a locked safe with older copies having been shredded. Ethical issues and procedures outlined and discussed in Chapter 3 consists of providing full disclosure of the study to the study participants, the purpose of the study, and acquiring signatures on informed consent documents prior to participation in the research study. I ensured measures used throughout the research study maintained ethical and quality standards as overseen by Walden University's IRB. Chapter 4 outlines the results of data analysis.

## Chapter 4: Results

### **Introduction**

The purpose of this descriptive phenomenological study was to explore and to identify the perceptions, thoughts, and experiences of immigrant Hispanics who have experienced natural disasters and emergencies in Oklahoma specific to tornadoes. I explored their perceived risk of injury, beliefs, attitudes, and perceptions of natural disasters and emergencies. The central research question answered in this study was what are the perceptions, thoughts, and experiences of immigrant Hispanics regarding their perceived risk for injury and knowledge of tornado preparedness behaviors? The HBM guided the development of five specific research questions:

RQ1. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding their personal risk of injury during a natural disaster?

RQ2. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding safe shelters during a natural disaster?

RQ3. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the development of a family emergency plan to prepare for a natural disaster?

RQ4. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the creation of a family emergency kit to prepare for a natural disaster?

RQ5. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding how to prevent personal injury or loss of personal resources during a natural disaster?

This chapter includes information regarding my participant sample and the process I used in conducting interviews. Further expansion on data analysis and evidence of trustworthiness, as well as a concluding summary, completes this chapter. The conclusion includes an introduction to Chapter 5, which focuses on interpretation of the findings, limitations of the study, recommendations, and implications of the study.

### **Setting**

I conducted 10 face-to-face interviews with participants in a location I believed would be easily accessed by them. I chose a setting that was open to the public and that had private rooms and offices for rent. The office in which I conducted the interviews was temperature controlled and set at a comfortable room temperature. I chose this location because it was close to multiple city landmarks that are easily recognizable even if one does not speak or read English. The study participants who did not speak or read English indicated themselves that they were already familiar with the city landmarks close by the venue of where I conducted the interviews. Therefore, the study participants experienced no difficulties locating the venue. All study participants arrived on time for their scheduled interviews. I scheduled the interviews for 1 hour, with the understanding that the interview could be shorter or longer than 1 hour. Interviews ranged from 45 minutes to 1 ½ hours.



### **Demographics**

Ten individuals agreed to participate in this research study. All study participants self-identified as Hispanic, with two participants speaking only Spanish and requiring the use of a translator during the prescreening process and subsequent interview. Seven women and three men between the ages of 23 and 64 years of age participated in this research study. All study participants were married and had children that ranged in age from 6 months old to middle age adult children. Among the male participants, one was retired, one was working in construction, and one was working as a receptionist and translator. Two of the female participants were employed as childcare providers; five females were employed as receptionists, three of whom also served as translators in their workplaces.

All study participants had migrated from another country to Oklahoma. At the time of the study, they resided within Oklahoma City, Oklahoma, or surrounding SMSA. Participants had all experienced the crisis weather conditions that occurred in spring 2013 in Oklahoma City, Oklahoma or surrounding SMSA. There were no organizational conditions influencing participants nor did the participants have any experience at the time of study that might have influenced interpretation of the study results.

### **Data Collection**

After obtaining Walden University IRB authorization to conduct the research study, I posted research volunteer recruitment flyers at an appropriate location. Ten potential participants contacted me, requesting more information on the research study. Subsequently, all 10 stated that they would like to participate in the study and inquired as to whether they would meet the inclusion criteria for participation in the study. All 10

participants were prescreened using the five question prescreening questionnaire. I informed potential participants the purpose of the research study and discussed confidentiality as well as informing each potential participant that their participation was voluntary. After determining that participants met my study criteria, I scheduled interview dates and times.

I rented an office space, which was close to multiple city landmarks that were easily identifiable, in order to conduct interviews. All 10 participants arrived on time for their scheduled interviews and were greeted by the interpreter and me. I gave each participant a \$20 Wal-Mart gift card upon arrival that had been approved by Walden University's IRB as an incentive for participation in the research study. The interpreter was available during all interviews in case a participant did not understand a question(s) asked in English or I needed clarification of a study participant's response to a research question.

Once the participants were welcomed, introductions conducted, and the \$20 gift card given to each participant upon presenting for the interview, I reviewed the informed consent form with each participant. I explained the interview process and member check procedure to the study participants. I also reiterated that participation was voluntary and could be ceased at any time without fear of negative repercussion or reprisal. Questions the participants asked were answered and clarifications were given as necessary. The interpreter translated as needed and required with the two study participants who were not fluent in English. I gave each participant a copy of the signed informed consent form for his or her records. I collected data with the use of audio tape recorders of each study participant's interview was recorded after receiving consent to audio tape the interview. I

also collected data by means of field notes and observations during each individual interview.

The interviews were scheduled in hour blocks, with an explanation given that they could be shorter or longer depending upon each individual interview. The shortest interview time was 45 minutes while the longest interview one was 1 ½ hours. The longest interviews conducted were when the translator was utilized to facilitate communication during the interview process with the participants who were not fluent in speaking English language. No participant requested to cease participation in the study. At the conclusion of each interview, I asked each participant if there were any questions or concerns. No questions or concerns were asked at the end of the interviews, nor were any concerns expressed.

Interviews was scheduled and conducted with each participant and upon completion of the interview, another appointment was made with the participant for them to return to the same location at the scheduled time so that member checking could be performed with the study participant. Once again, all ten participants arrived on time and I conducted the member checks with each participant. The interpreter translated for me during member checking procedures for the two study participants who did not speak fluent English. No revisions were required; as all ten participants stated I was accurate in the interpretation of their answers and their meanings. Additionally, it is important to note that no variation in data collection occurred and data was collected by the researcher as planned and was stated in Chapter 3. Nor were there any unusual circumstances encountered during the data collection process.

### **Data Analysis**

Data analysis for the study began during the participant interviews, when I mentally began identifying reoccurring meaning units and making field notes. I also transcribed the audio tape of each participant interview within 72 hours of the interview. Moustakas (1994) asserted that a researcher should become familiar with their research data. The transcripts were carefully read for accuracy while listening to audio taped participant interviews and then the transcripts were reread in completion again (Giorgi, 2009). The field and observation notes were embedded into the participant transcripts. In order to maintain the upmost confidentiality of the participants, each participant was recognized by a participant number and a pseudonym.

I hand coded the interview data which facilitated beginning the process of initially identifying meaning units. I created an Excel theme spreadsheet and entered the meaning units into the spreadsheet. This procedure allowed emergent themes to manifest and be identified. I conducted further analysis by relating and coordinating the data with the constructs of the HBM, which facilitated answering the study's research questions. The themes I identified contributed to the development of a rich, thick description of the essence of the participant's lived experiences with tornadoes in their residential geographical area in Oklahoma.

Research question 1: "What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding their personal risk of injury during a natural disaster?" Research question 1 had the following themes emerge during data analysis: Participants had experienced multiple tornadoes while living in Oklahoma City and the surrounding

SMSA. Participants had experienced flash flooding, strong winds, and hail; participants believed that a tornado could cause bodily injury and had the potential to be fatal; and participants indicated they experienced emotional distress from fear of possible injury or death during a tornado.

Research question 2: “What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding safe shelters during a natural disaster?” Research question 2 had the following themes emerge during data analysis: sheltering locations, safety, family togetherness, peace of mind, language barrier, basement flooding, fear of injury/death from past experiences and other experiences, spousal role in preparedness planning, and purchase of shelter.

Research question 3: “What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the development of a family emergency plan to prepare for a natural disaster?” Research question 3 had the following themes emerge during data analysis: has a family emergency plan, does not have a family emergency plan, plan can keep you safe, never heard or seen information on how to create a family emergency plan, want self and family to be safe, and has a verbal plan.

Research question 4: “What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the creation of a family emergency kit to prepare for a natural disaster?” Research question 4 had the following themes emerge during data analysis: has an emergency supply kit, does not have an emergency supply kit, provide care for an injury after a tornado, does not know what goes into creating an emergency

supply kit, had used their emergency supply kit, and plans to create an emergency supply kit.

Research question 5: “What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding how to prevent personal injury or loss of personal resources during a natural disaster?” Research question 5 had the following themes during data analysis: loss of personal resources and personal family keepsakes due to a tornado and flooding, having a family emergency plan and emergency supply kit would be helpful in preventing injury and loss of personal resources, and preparedness actions based on past experiences with tornadoes.

### **Discrepant Case**

There was only one possible discrepant case and it occurred with Participant 2. While all of his responses were congruent across the data, this participant is the only participant who had heard of the volatility of Oklahoma tornadoes and the risk of injury and death from experiencing one prior to emigration from another country to the United States. Based upon that information, he intentionally purchased a home with a tornado shelter already installed. This was in direct contrast with all nine other study participants who stated that they had not heard of tornadoes nor had they ever experienced a tornado in the country from which they emigrated. However, this contrasting case of data did not influence the results of the data analysis and was able to be coded under the HBM construct “self-efficacy,” and having done so, was included in the data analysis.

## **Evidence of Trustworthiness**

### **Credibility, Transferability, and Dependability**

In order to obtain trustworthiness, thick descriptions in responses to interview questions were obtained from the participants during the interviews. Member checking was conducted with each of the participants. Member checking occurs when the participant reviews the interview data after data analysis has been conducted to ensure reliability and validation of participant interview data. Lincoln and Guba (1985) posited that member checking is the most critical technique used for establishing credibility. Member checks with each participant allowed for prolonged engagement with each participant therefore increased credibility and transferability of this study. In an effort to obtain further transferability, I documented the sampling strategy and process, data collection method, and process I used for data analysis.

Persistent observation was also conducted which also increased credibility. Triangulation increases the validity of this study while contributing to the objectivity of the research study results. Triangulation of the data was achieved by utilizing a three step process of triangulating various types of data including audiotapes of each participant interview, transcribed text of each audiotape recording, and member checks to crosschecked for consistency and accuracy of data. Field notes and observation notes were also crosschecked for accuracy. I documented each step of the research process, which demonstrates dependability. This documentation also provided justification for the research study as well as the research study design, recruitment strategy, data collection, and data analysis.

## **Confirmability**

The degree of neutrality of a study's results refers to confirmability, which correlates with the degree to which the results of the study are without researcher bias, motivation, or interests and are instead, reflected and shaped by the participants (RWJF, 2008). I bracketed my own thoughts, experiences, and assumptions so that the voice of the participants would be authentically reflected in the study's findings. Moreover, the HBM constructs guided the development of the research and interview questions, which decreased researcher bias and increased confirmability. Additionally, I coded the data to each of the HBM constructs, further grounding this study in theory and achieving increased confirmability.

## **Results**

I applied the theoretical and conceptual framework of the HBM to the coding and thematic analysis of the interview data. Applying thematic analysis to the HBM constructs allowed me to obtain the essence of the study participants lived experience with tornadoes and their perceived risk for injury from experiencing a tornado. I present the findings in chronological order of the study's research questions.

### **Research Question 1**

The interview questions for research question 1 were: "What experience do you have with a tornado and of weather conditions such as strong winds, flash flooding, and hail, which can occur during that time?" and "What risk of injury do you believe you have when it comes to a tornado and the weather conditions that can occur during that time?"



### **Perceived Susceptibility for Experiencing an Injury**

Ten out of ten of the study participants stated that since migrating to Oklahoma they have been in multiple tornado situations, including the spring 2013 tornado and accompanying crisis weather conditions (flash flooding, strong winds, and hail). Two of the participant's first experience with a tornado was while they were walking down a street and since they had never experienced a tornado before, they were not sure as to what actions to take to protect themselves. Participant 1 provided this information:

I was walking down the street to work and everything just happened. The tornado was coming for me and I didn't know where to go because I was on the street. It wasn't just one tornado; it was a lot of tornadoes.

However, seven participants were at home when they experienced their first tornado. Participant 10 explained her first experience with a tornado after migrating to Oklahoma:

Whenever I got here, I didn't not know what the weather was because I thought it was pretty because I could feel the humidity. I just opened the doors and thought, "Oh, it's so pretty." Everyone was yelling that I should take cover because we were under a tornado watch. I had no idea of what it was, not at all. The sirens were going off and I had no idea of what was happening.

Participant 8's response was in accordance with the other participants experiencing their first tornado while at home and being uncertain of what protective measure to take. She explained that she was concerned because a tornado had been spotted and her children were at school and not at home with her at the time:

It was May 20<sup>th</sup> and I was at home in Moore. My kids were in school and I really didn't know what to do. I didn't know if I should go and pick up my kids. But they [the school] told me they didn't need my help. I went to pick them up anyway.

Nine out of 10 participants reported when experiencing a tornado, they experienced emotional distress from the fear of an injury or death from a tornado. One of the participants described her feelings as the first major worry she had ever experienced. Participant 5 explained, "With a tornado in Moore, it was my first major worry. I am not used to these dangers...I was afraid." Additionally, participant 10 stated, "You could hear the pebbles of the hail hitting the garage door. That was very scary and we go back in. We were afraid and we did not want to go out of the storm shelter." Three participants demonstrated distress as they were recalling their experiences with a tornado. Participant 1 began wringing her hands as she stated, "Everyone was in the bathroom and we were panicking." Moreover, participant 6's eyes became moist with tears as he expressed "The whole family was scared." Furthermore, participant 4's hands began to shake and her voice progressively rose up in pitch as she was telling her experience with the tornado in Moore that destroyed her home as she stated "I still get so scared...I have a phobia. I have post-traumatic stress from what happened."

### **Perceived Severity of an Injury**

The study revealed that 10 out of 10 study participants believed that they were susceptible to experiencing a severe or fatal injury during a tornado and accompanying crisis weather conditions. Participant 1 stated, "It [tornado] can kill you. They happen

quickly and can destroy anything or anyone in its path.” There was a consensus among participants as to the degree of severity of injury that can occur during a tornado among the participants. For example, participant 4 expressed her belief regarding the severity of injury that can occur during a tornado when she stated, “There are all kinds of injury. They [tornadoes] can throw you. All kinds of injuries. They [tornadoes] can do things, drop you, and hit you with things. All kinds [of injuries]”. Additionally, participant 10 explained how she perceived the degree of severity of an injury that can occur during a tornado:

I know now that everything that goes in a tornado if it hits you, that is a projectile. That goes very strong and it will hit you and that is the bad about tornadoes. With the wind that is so strong, everything, even little, will pick up heavier things and if they hit you, you are done. If you are lucky, you may be hurting but you will be alive. Tornados can cause death.

### **Research Question 2**

The interview questions for research question 2 were: “Do you know where the closest safe shelter near you is located?” “Would you know how to locate a safe shelter?” “Would you please tell me how you think you would go about locating a safe shelter?”

### **Sheltering**

The results revealed that the study participants shelter in multiple places such as within a specific area of their home, inside a tornado shelter or basement at their home location, at a friend or relative’s tornado shelter or basement, or at an available public

location such as an area church that the participant knows is open to the public. Ten out of 10 participants stated that in the past they have and routinely still do, attempt to locate and to take shelter somewhere during a tornado. Participant 4 explained, “Now we don’t wait. I know when they [tornado] is coming and we go in. There isn’t much time to get in there.” Additionally, participant 1 expressed “I have a church next door and they are always willing to let people come there.” Several of the participants will shelter with family and friends. Participant 6 explains, “I have a couple of friends that have shelters and they always welcome me and my family over.” Likewise, participant 3 stated, “I use the shelter at my in-laws and at my sister’s house.”

### **Perceived Benefits to Sheltering**

Ten out of 10 participants stated that the benefits of sheltering meant safety for themselves and for their families. Participant 10 verbalized, “For me a storm shelter means security. It means that we are going to be safe during the storm and I think every new house should have one.” Additionally, participant 9 declared, “We are going to be safe. My daughter and granddaughters come over and we go into the shelter together.” Participant 4 had her home destroyed in Moore by a tornado and in the loss of the home; she lost precious family heirlooms and legal documents. Due to her experience, she also developed post-traumatic stress disorder. She explained, “The thing is that when they [tornado] take your house, they take your memories. The house you can get back, save, and buy another one, but not your memories.” Now, participant 4 keeps her family valuables in plastic tubs and takes those into the shelter when her family goes into the shelter so that she does not lose additional family valuables.

Eight out of the 10 participants stated that they were concerned about their family members during a tornado and expressed the importance of family being together, sheltering together, during a tornado. Participant 9 expressed, “Yes; we were holding hands and staying close together. It was a scary moment, but a happy moment because we were all together in the house too with the mattress over our heads.” The results also demonstrate that many participants and family member will communicate (such as by telephone) and make plans of where to meet during crisis weather conditions. They will also call to check in and see how others are doing during a tornado. Consequently, participant 7 expressed concern when his sister was not with the rest of the family in the shelter and could not be reached by phone in order to check on her:

My sister was also living in Moore at the time the tornado passed her house. When the power outages happened and I could not get ahold of her I was very, very scared because at that time she had a little baby.

Four out of the 10 participants also expressed that a shelter gave a person peace of mind. Participant 2 expressed, “It means safety and peace. I did not want to be hunting around for a place to go to when I hear a tornado siren. I see people do that and that is not safe.” Moreover, participant 4 elaborated, “So now I got all my papers in plastic containers, my kid’s keepsakes, my pictures. My granddaughter brought her toys and her clothes in her little basket. Now I don’t have any anxiety, I feel better now, at peace.”

### **Perceived Barriers to Sheltering**

The study revealed there were multiple barriers perceived by the participants when it came to sheltering during a tornado. Six out of the 10 participants identified language as a

barrier. Participant 7 stated that he often turns on the television when a tornado siren sounds, but does not feel that he is getting current and complete weather information:

I will turn our TV to Spanish news, but still I don't think that I am getting all of the information I need. I do not think that it is always relevant to what is going on with the weather at that time. Sometimes they are behind what is going on. This is one of the things that worries me.

Participant 10 discussed how when she first migrated to the United States and of how she did not know any of the English language. After time spent residing in Oklahoma, experiencing tornadoes, and through hearing English crisis weather information, she progressively learned some English and made up information of what she thought it should be in regards to listening and understanding crisis weather information. She stated, "I kinda learned a little bit more about English and I could understand a little bit, not a lot in some words I understand and some other words I made up in my mind what I thought they were saying." Participant 5 expressed her concern of there being a language barrier for her during a tornado:

I remember when a tornado happened it wasn't on the radio in Spanish. You have no idea where you can go. Some people get information but I can't understand it because it wasn't in Spanish so we didn't have that. I think I could understand better if it was in my language.

Secondly, lack of emergency sheltering information was identified as a barrier. Eight out of 10 participants reported they lacked emergency shelter information for tornado safety when they first migrated to Oklahoma. Participant 10 explained, "I was looking for

bridges where I could go and hide from the weather.” Furthermore, participant 4 stated, “I wanted to live, so when the tornado came, I would get in the car and try to drive away from it. Everyone was driving crazy because everyone was trying to get away from it.”

Regardless of having access to a basement to shelter in, three participants stated they were scared to use the basement because the basement they were sheltering in would flood. Two refused to stay in the basement and to continue to shelter, they were afraid of drowning. Participant 8 stated, “Our basement is just not safe because there is water that goes in. We know the basement is not safe and that worries us the most.” Additionally, participant 9 explained in further detail “I know there is a little bit of flooding around the house so I was concerned if went down into the basement the water would be coming to us and we could drown.”

### **Cues to Action to Sheltering**

Five out of 10 participants indicated that a fear of injury/death from their own personal experience and others’ experiences were a cue to action in sheltering actions and in the purchase of a tornado shelter. Participant 4 responded, “I know what a tornado can do. It took my home, thankfully, we are alive. My neighbor, the tornado killed her. They found her in the street. There were marks there everywhere.” Additionally, participant 5 stated, “It was very bad, things were all over the place. There were clothes and blankets everywhere. Babies were crying. It was a shock because you don’t know what to do.”

### **Self -Efficacy to Sheltering**

Two out of the 10 participants, both female, stated that their husbands were native to Oklahoma and that they relied on them for understanding when a tornado was occurring

and what they should do at that time. Participant 3 stated “I rely allot on my husband. He is like my watchdog and if something is going on then he lets me know.” Participant 9’s husband is also attentive to the weather conditions and quick to let her know what is occurring and informs her of protective actions to take. When participant 9’s husband is out working and a tornado occurs, he is quick to call her and let her know the location of the tornado, if she needs to take immediate shelter, and of where to shelter:

My husband said that the tornado was not too close from where we live so he said that we could stay home. Try to calm down. Just don’t worry too much and keep the TV on and be listening to what is going on around you.

When participant 10 first migrated to Oklahoma and experienced several years of tornados, enduring misinformation in the crisis weather communication received, she purchased a tornado shelter for herself and her family. Participant 10 stated, “I feel that a storm shelter is a need, a first need whenever you live here in Oklahoma.” Participant 2 was the only participant that had heard of tornados occurring in Oklahoma before moving to the state and had purposefully purchased a home with a shelter installed so that he and his family would be safe during tornados. Participant 2 expressed “At the beginning of tornado season I make sure that I clean out the shelter and get it ready to use and that a flash light is in it.” Moreover, participant 4 expressed, “I am lucky now that I have my shelter and I hope everyone else has shelter too. Every year I go into there and we get it ready and clean with blankets and everything.”



### **Research Question 3**

The interview questions for this research question 3 were: “Do you have a family emergency plan that you use in the event of a tornado? If so, would you please explain to me what your family emergency plan is?” “Have you ever used the family emergency plan?” “Did you find the plan helpful to you and to your family?” (If the answer is no, they do not have a family plan)- “If you were going to create a family emergency plan, what would it consist of?” Have you ever heard of or seen information on how to create a family emergency plan?” “Would you consider creating a family emergency plan for you and your family?” “Would you please explain why you would or would not create a family emergency plan?”

The results revealed that 5 out of 10 participants have a verbal emergency family plan and have used it at least once. Participant 2 explained, “Yes, I have a rather large family and the plan is to meet at one place. The place that we meet is at our neighbor’s house.” Three out of 5 participants’ plans include calling their spouses to let them know that they are fine and to make further plans to meet at a specific location. Participant 7 stated, “Yes, well last time we made a plan to call each other and let each other know that we were ok and to meet at a certain place.”

#### **Perceived Benefits**

Ten out of 10 participants perceived that having a family emergency plan can assist in keeping a person safe. This was inclusive to participants who did not already have a family emergency plan. Participant 10 expressed, “I would like to have the plan so that

we can stay safe and make it for at least three days.” Furthermore, participant 6 explained, “You need one [a plan] to be safe.”

### **Perceived Barriers**

Nine out of 10 participants stated they had never heard or seen information on how to create a family emergency plan. Participant 10 stated, “No, I have not seen or heard of how to write one. That would be good information to know, not only for me but for allot of people.” Likewise, participant 6 also stated, “No, no one has told me how to create one [a plan].”

### **Cues to Action**

Five out of 5 participants stated they developed the plan to keep themselves and their family members safe. Participant 8 explained, “It gives you security when you know all of your kids are here.” One participant who did not have a family emergency plan created decided at the conclusion of the interview to create one with her family. Participant 1 stated, “Now that you have asked me all of these questions, it has gotten me to thinking. I realize that I need to make an emergency plan.”

### **Self-Efficacy**

The results revealed that 5 out of 10 participants had a verbal family emergency plan and had used it at least once. Participant 9 expressed, “We have done the plan once before.” Likewise, participant 8 discussed when she and her family used their verbal family emergency plan:

Yes, we have used it [the plan]. My sister says it is a really good plan, but we have to understand in the moment while we are trying to get our kids, it can be a challenge to get there.

#### **Research Question 4**

The interview questions for research question 4 were: “Do you have a family emergency supply kit? If so, have you ever used the family emergency supply kit? Did you find it helpful to have it?” (If the answer is no, they do not have a family emergency supply kit). “Do you feel that a family emergency supply kit would be important to have after a tornado has occurred?” “Have you ever heard or seen information on how to create a family emergency supply kit? Would you consider creating a family emergency supply kit for you and your family?” “Would you please explain why you would or would not create an emergency supply kit?”

The results revealed that 3 out of 10 participants had an emergency supply kit and had used it at least once. However, during the interview process, it was noted that none of the emergency supply kits were complete. Participant 7 stated, “Yes, we do have a kit that has some stuff in it like a flashlight, a radio, and some water. Yes, we have used the radio.” Similarly, participant 2 explained, “Yes, I have one but it does not have all of what we need in it.”

#### **Perceived Benefits**

Eight out of 10 participants stated that they perceived an emergency supply kit would be beneficial to have after a tornado had occurred. One participant thought an emergency supply kit would be beneficial to have in the event she might need to relocate following a

tornado. Participant 10 explained “A kit could help keep us afloat so if we have to go somewhere else.” Two participants felt that an emergency supply kit would be beneficial for providing first aid care for a minor injury after a tornado. Participant 1 elaborated, “Yes, I think it could help with first aid if someone is injured.”

### **Perceived Barriers**

The results indicated that 6 out of 10 participants had not seen or heard of how to create an emergency supply kit. Participant 6 expressed, “No, no one told me how to create one.” Even though two of the participants interviewed had not heard or seen information on what supplies are suggested for creating an emergency supply kit, one created a small emergency kit on his own and the other participant spoke with her husband about creating one. Participant 9 stated, “I have talked to my husband about it, but I haven’t seen or heard anything about it. So that would be helpful to have that and tools like that.”

### **Cues to Action**

Two out of 7 participants that did not have an emergency supply kit stated at the end of the interview that they would be creating one because they felt it was necessary to have one in the event of a tornado. Participant 9 stated, “I believe these tools would help us to keep our belongings and to be prepared and to help us to go through the situation if we happen to be in that situation with tornadoes and bad weather.” Participant 10 explained, “This is going to prevent injuries caused by going looking for things whenever you have the problem [tornado] on top of you. Looking for things can make you late to get to the storm shelter.”

**Self-Efficacy**

The results revealed that 3 out of 10 participants had an emergency supply kit and had used it at least once. The weather radio was commonly used when listening to weather and each of the three participants expressed they had a radio in their emergency supply kit. Participant 7 stated, “Yes, we have used the radio.” Likewise, participant 6 explained, “I would also listen to the weather to see what was going on.”

**Research Question 5**

The interview questions for research question 5 were: “Have you ever experienced personal injury or loss of personal resources during a tornado? If so, please tell me about that.” “Do you think that a family emergency plan and emergency supply kit would help prevent injury and loss of personal resources?” “If so, please tell me about how a family emergency plan and family emergency supply kit could help you and your family.”

The study results indicated that 4 out of 10 participants stated they experienced personal injury or loss of personal resources during a tornado. Two of the participants had experienced loss from flooding in their basements. Participant 3 shared, “We did have some that caused some damage on the walls.” Similarly, Participant 8 provided, “I have had some mold in the stove and the fridge because of the flooding in the basement shelter. After we had went in to clean up we noticed some sand in there. Then there was a different smell.” Electrical power was noted by several of the participants as going out during a tornado and could result in loss of food. Participant 10 explained, “The only thing that has ever happened is that we lost electricity and everything goes out too. The food gets spoiled and we lost food.” Moreover, participant 4 elaborated in detail on the

various losses that occurred during one of the tornadoes she experienced in Moore, Oklahoma:

Yes, [I lost] my house. My house, but thank God we are ok. The thing is that when they [tornado] take your house [they] take your precious memories. I lost allot of things like my baby's clothes and a lot of pictures. I had so many things I wanted to keep like baptism things and I lost everything. I don't have anything of my babies, their first shoes and clothes. There is no way to get it back.

Ten out of 10 participants indicated they perceived having a family emergency plan and emergency supply kit would be helpful in preventing injury and loss of personal resources. Participant 5 stated, "Yes, I think these can save lives and prevent from getting hurt. The little things in a tornado can cause a lot of injury and if you have things on hand, they can help. Yes, they can definitely help." Participant 7 was thankful that he and his family had a family emergency plan and emergency supply kit and provided the following information:

I do believe that they can. Last time when the power outages went out and we were trying to find out what was going on, the only thing that would work was the radio. If we had not had that, we would not know if the tornado had gone past, we would not have known what was happening.

### **Self-efficacy**

Participant 4, one out of the 4 participants who had experienced loss during a tornado expressed her perception of her self-efficacy after her own experience as follows:

I have learned a lot of things every time a tornado comes. Sometimes you are not ready for them, for things like that. I tell people we are learning. We are bound to make mistakes. Now I have my own shelter and we use it.

### **Summary**

Chapter 4 provided a textual-structural analysis describing the essence of the participant immigrant Hispanics' experiences with tornadoes and of their knowledge of tornado preparedness behaviors and their perceived risk for injury during a tornado. I hand coded the interview data using the HBM constructs which provided insight into thematic patterns. The themes indicated that all participants had experienced multiple tornadoes while living in Oklahoma City, and SMSA. Participants perceived that they were at an increased risk for injury during crisis weather conditions, particularly tornadoes. The results also indicated that the participants perceived the benefits to preparedness planning by creating a family emergency plan and emergency supply kit in an effort to decrease risk of injury. Analysis of the data indicated that all participants seek shelter during a tornado. However, there was concern over basement flooding during use of sheltering. Chapter 5 expands on the implications of the data analysis. Limitations of the study are discussed as well as, future recommendations and considerations regarding potential impact for social change.

## Chapter 5: Discussion, Conclusions, and Recommendations

### **Introduction**

The purpose of this descriptive phenomenological study was to explore and to identify the perceptions, thoughts, and experiences of immigrant Hispanics who have experienced natural disasters and emergencies in Oklahoma specific to tornadoes. I explored their perceived risk of injury, beliefs, attitudes, and perceptions of natural disasters and emergencies. I interviewed a purposeful sample of 10 immigrant Hispanics living in Oklahoma City and SMSA. Interview data were coded into meaning units and analyzed using the constructs of the HBM in order to answer my research questions.

The currently available research focus primarily on immigrant Hispanics regarding their disaster preparedness behaviors in decreasing their risk for injury is limited and inadequate, based on my review of the literature. In order to address this gap in research, I selected as my study population immigrant Hispanics who lived in Oklahoma City, Oklahoma, and the surrounding SMSA who had experienced crisis weather conditions during spring 2013. I explored my study participants' perceived risk for injury and knowledge of tornado preparedness behaviors.

Five of my 10 study participants had a verbal family emergency plan and had used the plan at least once. The other five participants, all of whom are married, routinely speak with their spouses during a tornado and decided upon the immediate plan of action to be taken by their families. Furthermore, all plans called for immediate sheltering from a tornado. Sheltering was performed at various locations consisting of an in-ground tornado



shelter, a house basement, a living area inside a home, and a family member or friend's home.

The research study findings indicated that only 3 of the 10 participants had an emergency supply kit and had used the kit at least once. However, these 3 study participants indicated that none of the three kits was complete. In addition, four of the 10 participants had experienced loss of personal resources during a tornado. Two of the four participants had experienced flooding that resulted in damage. The third participant lost food due to electrical power outage during a tornado. The fourth participant noted that she had posttraumatic stress disorder related to losing her home during a tornado, which was compounded by the loss of irreplaceable family heirlooms as well as family legal documents. All participants said that having a family emergency plan and emergency supply kit would be helpful in preventing injury and loss of personal resources.

### **Interpretation of the Findings**

I used the HBM to examine the individual health behaviors and health promotion activities of my participants (Champion & Skinner, 2008). The constructs of the HBM facilitated the exploration of the research questions by allowing for ease of organization of meaning units and facilitating in identification of data themes while simplifying theme organization (National Cancer Institute, 2005). This research contributes current literature and fills in knowledge gaps in the literature related to research previously conducted with vulnerable minority populations in disaster preparedness behaviors and risk for injury.

### **Perceived Susceptibility and Severity of Injury**

All 10 participants reported having experienced multiple tornados since migrating to Oklahoma and coming to reside in Oklahoma City and the SMSA. Participants stated they had experienced flash flooding, strong winds, and hail. None of the 10 participants reported having experienced a tornado before migrating to Oklahoma. Tornados were not a natural geographical hazard in any of the countries from which participants migrated. Only one of the participants had prior knowledge of tornadoes and knew tornados were a geographical natural hazard that poses a risk of injury in Oklahoma.

All 10 participants said that they would immediately seek emergency sheltering upon hearing a tornado siren. Immediate emergency sheltering was a part of the family emergency plan for five of the study participants who had a family emergency plan. This is in contrast to findings by Miller, Adame, and Moore (2013) who posited that, while individuals may have the knowledge to prepare for emergency weather conditions they do not always act in a prudent manner (e.g., seek emergency shelter during a tornado).

The findings of my research study substantiate those of Perry and Lindell (2003) that cultural groups differ based on their perception and patterns of thinking in regards to risk and crisis communication. My research study explored study participants' understanding and knowledge of study participants' risk of injury and possible death from a tornado. The results substantiate findings by Brooks and Doswell (2002) not only the understand of the participants' risk of injury and possible death from a tornado, they also confirm the findings of Brooks and Doswell (2002) who concluded that one must know what a warning is and what action should be taken if injuries and death are to be prevented.

Participant 1 expressed, “It [tornado] can kill you. They happen quickly and can destroy anything and anyone in its path.” Participant 1’s statement exemplifies all 10 participants’ understanding of the possible severity of injury that can occur during a tornado.

### **Perceived Benefits of Sheltering and Preparedness Planning**

Immigrant Hispanics have knowledge and experience of the use of emergency sheltering from a tornado. My study participants disclosed that personal safety and the safety of their family members was of utmost concern to them. Therefore, preventing injury by sheltering during a tornado was a necessary preventative action to be undertaken immediately. All participants had either sheltered at their own home, at a public tornado shelter, or church that had an open-door policy offering a safe place to the public to shelter from a tornado. The participants also had experience sheltering in a tornado shelter and/or basement of family members or friends. The perceived benefits of sheltering were a decrease of risk for injury and death from a tornado. Participant 4 expressed her perception and belief regarding sheltering during a tornado by stating, “We are going to be safe, my daughter and granddaughters come over and we go into the shelter together.”

Participant 10 expressed the benefits of preparedness planning which allowed her family to be self-sustaining for 3 days, explaining, “I would like to have the plan so that we can stay safe and make it for at least 3 days.” Participant 6 stated, “You need one [a plan] to be safe [from injury].” However, I found that 7 of the 10 participants did not have an emergency supply kit, and, while three participants did have such a kit, none of

the kits were complete. My research findings also substantiate prior research by Allen and Katz (2010), who found that immigrants for whom English was a second language were not as knowledgeable of how to prepare for a public health emergency such as a natural disaster. However, five of my 10 study participants had verbal family emergency plans that they continuously revised based on lessons learned with each tornado event they experienced. These findings demonstrate that the study population is integrating knowledge as it becomes available to them despite it coming from their own experiences and not educational outreach from public health or other appropriate emergency preparedness outreach.

### **Perceived Barriers of Sheltering and Preparedness Planning**

The results of this research study revealed barriers to sheltering included not knowing where to locate a shelter when working within the community and lack of knowing where their nearest public shelter is or how to locate that shelter posed challenges. Moreover, a second barrier to sheltering discussed by several of the participants was of their fear of drowning while taking shelter in a basement. Their experience with flooding in these shelters exacerbated their fear and ultimately, they refused to shelter in the basements. Instead, they would shelter in the living room area of their home, which is a less safe, preventative action.

Language was revealed as a barrier to sheltering by 6 out of 10 participants in this study. Similarly, language was identified as a barrier to disaster preparedness planning with 9 out of 10 study participants stating they had never previously seen or heard information on how to create a family emergency plan. Six out of 10 of my study

participants stated they had not previously seen or heard information on how to create an emergency supply kit. Participant 7 shared his concern regarding not understanding the English language fluently and instead listening to a Spanish television station to receive current weather information “I will turn on the TV to Spanish news, but still I do not think that I am getting all of the information that I need.” This research substantiate previous research by Carter-Pokras et al., (2007), Currie (2012), and Messias, Barrington, and Lacy (2012) that language creates a significant barrier to disaster planning and receiving accurate knowledge of available resources both during and post disaster.

### **Cues to Action**

As previously indicated, my research study participants did not wait to shelter from a tornado once they were informed that a tornado was present or close to their vicinity. Cues to action were from their own personal experiences as well as stories of other persons’ experiences with tornadoes and flash flooding. Participant 4 was visibly distraught still when she shared, “I know what a tornado can do. It took my home, thankfully, we are alive. My neighbor, the tornado killed her.” My research findings substantiate the findings of Messias, Barrington, and Lacy (2012) that pre-existing social networks, including family and friends, is a primary source of pre-disaster information and that such information was not always accurate. Furthermore, findings were further substantiated when participant 10 explained how she had been informed by other Hispanics to shelter underneath a bridge; “I was looking for bridges where I could go and hide from the weather.” Additionally, participant 4 shared the experience and loss of an entire family that has been friends of her own family “They tried to run from the tornado

so they hide under the bridge. They died because there was a lot of water that came; flash flooding, because they didn't know what to do." This research finding confirms previous research findings by Eisenman et al. (2009) that culturally appropriate disaster preparedness programs and emergency management related information in general are needed in order to assist populations in informing and understanding how to best prepare themselves for disasters.

### **Self-Efficacy**

This research study's findings revealed that self-efficacy appeared to grow and to become stronger with the participants as they experienced tornados. Two participants purchased tornado shelters for their home after their experiences with tornados. As previously noted, one of the study participants had prior knowledge of what tornadoes are and that tornados were a geographical natural hazard and risk of injury prior to migrating to Oklahoma. As soon as he and his family migrated to Oklahoma, he purchased a home that was equipped with a tornado shelter. He also immediately developed a family emergency plan and an emergency supply kit. Participant 4 shared her own perception of her self-efficacy:

I have learned a lot of things every time a tornado comes. Sometimes you are not ready for the, for things like that. I tell people we are learning. We are bound to make mistakes. Now I have my own shelter, we use it.

### **Limitations of the Study**

It is not a limitation of this research study is that it was comprised of a purposeful sampling of immigrant Hispanics and the participants for this research study were further

comprised of a sub-section of a minority population. This research study was qualitative and used a phenomenological approach. However, a limitation of this research study is that the findings of the study may not be generalizable to other ethnic minority populations.

### **Recommendations**

It is recommended that future qualitative and quantitative research focus on the evaluation of culturally appropriate disaster preparedness communication strategies that utilize a framing of protection and safety of loved ones. Cues to action for sheltering, creating a family emergency plan, and an emergency supply kit for their own safety and that of loved ones also needs to be explored further. The research findings of this study also revealed that it is of utmost concern and a desired outcome of study participants that all family members be together when sheltering during a tornado.

Another recommendation based upon the study findings include replication of the same study with the same population residing in Oklahoma to assess for variances of this study's findings among other immigrant Hispanics residing in other geographical regions of Oklahoma. If similarity is substantiated by future research conducted with immigrant Hispanics experiencing tornados, flash flooding, strong winds, and hail, such findings strengthen and enhance the knowledge and understanding of how public health can best inform and assist immigrant Hispanics in preparing themselves for natural disasters and crises weather events such as tornadoes. If this study's findings were not substantiated then a greater understanding can be gained of how public health can best serve this population across geographic regions of Oklahoma. This provides an opportunity for

Oklahoma public health to decrease health disparities in this vulnerable, minority population and facilitate positive social change.

### **Implications**

Theoretically speaking, the HBM was the appropriate choice to frame and guide this research study. The HBM framework simplified the exploration and discussion of the immigrant Hispanic study participants' perceptions of risk of injury and perceived benefits of sheltering and preparedness planning to decrease the risk of injury. Furthermore, the HBM also provided exploration and discussion of the perceived barriers to sheltering and preparedness planning cues to action, as well as to their self-efficacy. This research study provides further insight that can facilitate action by initiating risk reduction and adaptive behaviors among Oklahoma's immigrant population through public health and collaborative multidisciplinary partnerships (Akombap et al., 2013 Schneiderman, Speers, Silva, Tomes, & Gentry, 2001).

Oklahoma public health, in working to establish collaborative multidisciplinary partnerships with Hispanic communities, can identify Hispanic community leaders who need to be invited to participate on disaster planning and response planning committees in order for the Hispanic community to be adequately represented within this area. Multidisciplinary organizations, agencies, and faith-based organizations should include Public Health, Oklahoma Emergency Management, American Red Cross, Medical Reserve Corp, Salvation Army, United Way, Catholic Charities, and faith-based organizational disaster relief teams such as Baptist and Methodist disaster relief teams. In order to decrease the risk of injury and health disparities in the immigrant Hispanic



population, it is imperative that Hispanic community leaders take an active rather than a passive role in all disaster planning processes affecting their communities and population. Moreover, for social change to occur and health disparities to decrease, it is crucial to provide immigrant Hispanics a voice. This can be achieved by ensuring community Hispanic leaders are an integral part of disaster planning processes. Collaboration with community Hispanic leaders ensures that the unique and specific needs of immigrant Hispanics are recognized and integrated into all current and future community preparedness planning including by not limited to county and state emergency operation plans (Cong, Liang, & Luo, 2014; Perry & Lindell, 2003).

Previous research findings indicate that post disaster, immigrant Hispanics encounter significant barriers to seeking needed governmental assistance due to confusion regarding deportation laws that may or may not be enforced post disaster (Horton, 2012). This research study's findings indicate that four of the study participants had experienced various types of loss during crisis weather conditions, such as loss of home, food, and damage to housing due to flooding and rainwater damage. This population's fear of deportation is real and so are their needs post disaster. These needs were related to study participants' disclosure of their own loss of basic living essentials including housing, food, and utilities. Public health, working collaboratively with multidisciplinary organizations, community agencies, and faith-based organizations can assist in providing and disseminating information regarding both governmental and non-governmental assistance available post disaster to Hispanic communities (Messias, Barrington, & Lacy, 2012).

Additionally, at the local county health department level, implications for practice within the scope of recommendations of this research study's findings include administrators ensuring that their health departments consistently provide disaster preparedness and emergency weather information year round. Educational information available needs to be information on seasonal crisis weather events such as tornado, ice storm, earthquake, and other potential crisis weather events in both English and Spanish languages (Messias, Barrington, & Lacy, 2012). County health department administrators should also ensure that a current list of public shelters is available to immigrant Hispanics who visit the county health departments. County health department administrators can also work diligently to decrease the risk of injury in the immigrant Hispanics by assisting this population in building self-efficacy so that they can increase their ability to protect themselves from injury or death during a tornado and other crisis weather conditions.

The implications for social change are multiple from this study's findings. One implication is that the results of this study provide insight, awareness, and understanding of the beliefs, perceptions, and opinions concerning disaster and emergency preparedness among immigrant Hispanics in Oklahoma. This study promoted and facilitated positive social change by giving a voice to this vulnerable, ethnic minority population regarding their lived experiences with tornadoes in Oklahoma. Moreover, the findings provided rich data and that informs public health, community organizations, agencies, and faith-based organizations whose work is to prepare communities for disaster weather conditions.

This research study also promoted and facilitated positive social change by providing insight illuminated by the research study data that organizations, agencies, and faith-

based organizations can use to advance disaster and emergency preparedness programs, as well as community workshops, and other community emergency preparedness planning activities consistent with the perspective of the Oklahoma immigrant Hispanic population. Furthermore, this study may promote and facilitate natural disaster and emergency preparedness public health initiatives targeted towards Oklahoma's immigrant Hispanic population. Public health initiatives can serve as catalysis for positive social change because they aim to reduce health and social disparities inclusive to injury risk reduction due to natural disasters and public health emergencies among this ethnic minority population.

### **Conclusion**

I explored and identified the perceptions, thoughts, and experiences of immigrant Hispanics who have experienced natural disasters and emergencies in Oklahoma regarding their perceived risk of injury, beliefs, attitudes, and perceptions of natural disasters and emergencies. The HBM provided the underpinnings for this research study, guided the creation of the research questions, and the interview data was hand coded to the constructs of the HBM. The construct of perceived susceptibility was used to determine the participants' perception of the severity of injury to self and family members should they experience a tornado and not be prepared. The HBM constructs of perceived benefits and perceived barriers was used to determine what study participants' beliefs were regarding the health benefits of changing behaviors to reduce risk of injury during a tornado. Additionally, the constructs of cues to action and self-efficacy were used to determine what motivated the study participants into making desired injury

reduction behavioral changes, and of their belief that they have the ability to affect the said change (Glanz, Rimer, & Viswanath, 2008).

The results of this qualitative research study that utilized a descriptive phenomenological approach revealed the study participants all sought shelter when experiencing a tornado. Various locations were identified as sheltering locations utilized by immigrant Hispanics including in-ground tornado shelters, house basement, living area inside a home, and at a family member or friend's home. Five out of the ten student study participants had a verbal family emergency plan and had used the plan at least once. The other five participants would routinely speak with their spouse during a tornado and decide the immediate course of action to take.

The study findings also indicated that only 3 out of 10 study participants have an emergency supply kit and had used the kit at least once. Alternately, 7 out of the 10 participants did not have an emergency supply kit. However, of the 3 participants who did have emergency supply kits, none of the 3 kits were complete. The findings substantiate research previously conducted by Bethel and Britt (2012) that immigrant Hispanics may not have complete emergency supply kits as needed during disasters. The findings of this study validate previous findings from studies that identified language as a barrier to natural disaster preparedness along with the barriers of inadequate information and knowledge of accurate and complete preparedness information (Horton, 2012; Messias, Barrington, & Lacy, 2012; Burke et al., 2012).

The findings of this research study can promote and facilitate positive social change for immigrant Hispanics residing in Oklahoma who experience crisis weather conditions

and events that are specific to their geographic region. This is crucial if injuries and death (morbidity and mortality) related to tornadoes, ice storms, and heat related events, as well as earthquakes are to be decreased within this population. As the final participant interviewed, participant 10 stated in her concluding statement during the interview process, “Death can be prevented if people are prepared.”

Historically, public health has been on the front lines protecting and saving lives by working diligently to decrease mortality and morbidity, while also working to eliminate health and social disparities among vulnerable populations. Public health in Oklahoma can make a positive difference in the lives of immigrant Hispanics by working together with multidisciplinary organizations, community agencies, and faith-based organizations to identify and collaborate with Hispanic community leaders. Public health in Oklahoma has the opportunity to do what public health does best by stepping to the forefront and pushing forward the Healthy People 2020 objective to achieve the goals of preparedness by fostering informed, empowered individuals, and communities in situational awareness and preparedness education (USDHHS, 2014).

Public health in Oklahoma can provide community and state level leadership, promote, and facilitate the planning, designing, implementation, and evaluation of community disaster and emergency preparedness programs and activities. Working both independently and collaboratively to improve access and dissemination of preparedness planning information thereby decrease morbidity and mortality related to injury sustained from tornadoes and other disaster weather conditions. The findings of this study allow public health practitioners in Oklahoma to lead in positive social change by targeting

public health natural disaster preparedness planning interventions designed to eliminate health and social disparities within the immigrant Hispanic population residing in Oklahoma.

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## Appendix A: Research Questions and Related Interview Questions

RQ1. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding their personal risk of injury during a natural disaster?

Interview questions: What experience do you have with a tornado and of weather conditions such as strong winds, flash flooding, and hail, which can occur during that time? What risk of injury do you believe you have when it comes to a tornado and the weather conditions that can occur during that time?

RQ2. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding safe shelters during a natural disaster? Interview questions: Do you know where the closest safe shelter near you is located? What does a safe shelter mean to you? Have you ever used a safe shelter? Would you use a safe shelter if one were available to use? Would you know how to locate a safe shelter? Would you please tell me how you think you would go about locating a safe shelter?

RQ3. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the development of a family emergency plan to prepare for a natural disaster? Interview questions: Do you have a family emergency plan that you use in the event of a tornado? If so, would you please explain to me what your family emergency plan is? Have you ever used the family emergency plan? Did you find the plan helpful to you and to your family? (If the answer is no, they do not have a family plan)- If you were going to create a family emergency plan, what would it consist of? Have you ever heard of or seen information on how to

create a family emergency plan? Would you consider creating a family emergency plan for you and your family? Would you please explain why you would or would not create a family emergency plan?

RQ4. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding the creation of a family emergency kit to prepare for a natural disaster? Interview question: Do you have a family emergency supply kit? If so, have you ever used the family emergency supply kit? Did you find it helpful to have it? (If the answer is no, they do not have a family emergency supply kit)- Do you feel that a family emergency supply kit would be important to have after a tornado has occurred? Have you ever heard or seen information on how to create a family emergency supply kit? Would you consider creating a family emergency supply kit for you and your family? Would you please explain why you would or would not create an emergency supply kit?

RQ5. What are the perceptions, thoughts, and experiences of immigrant Hispanics regarding how to prevent personal injury or loss of personal resources during a natural disaster? Interview questions: Have you ever experienced personal injury or loss of personal resources during a tornado? If so, please tell me about that. Do you think that a family emergency plan and emergency supply kit would help prevent injury and loss of personal resources? If so, please tell me about how a family emergency plan and family emergency supply kit could help you and your family.

## Appendix B: Research Study Participant Consent Form

## CONSENT FORM

You are invited to take part in a research study of exploring the perceptions and experiences of natural disasters and disaster planning of Hispanic immigrants migrating to Oklahoma. Persons who meet the inclusion criteria to participate in the study are persons who have migrated to Oklahoma and identify themselves as of Hispanic ethnicity. The person is male or female, age 18 years and older, experienced crisis weather conditions during spring of 2013, and reside in Oklahoma City, Oklahoma or surrounding communities encompassing the Oklahoma City Standard Metropolitan Statistical Area. This form is part of a process called “informed consent” to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Rebekah Doyle, who is a doctoral student at Walden University.

**Background Information:**

The purpose of this study is to explore and to identify the perceptions, thoughts, and experiences of immigrant Hispanics who have experienced natural disasters and emergencies in Oklahoma regarding their perceived risk of injury, beliefs, attitudes, and perceptions of natural disasters and emergencies.

**Procedures:**

If you agree to be in the study, you will be asked to:

- Participate in a face-face personal interview for an hour up to one hour and a half.
- The interview will be audio taped.
- Member checking will be conducted with the study participant after I has written up a summary of the participants responses to the interview questions. The participant will review the summary to ensure I is accurate in the accuracy of the study participant’s answers and meaning.

Here are some sample questions:

- What experience do you have with a tornado and of weather conditions such as high winds, flash flooding, and hail which can occur during that time?
- Would you consider creating a family emergency plan for you and your family?
- Would you consider creating a family emergency supply kit for you and your family?

**Voluntary Nature of the Study:**

This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time.

**Risks and Benefits of Being in the Study:**

Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as stress or of becoming upset when recalling and discussing an experience that might be stressful. Being in this study would not pose risk



to your safety or wellbeing. While there are no direct benefits to participating in this study, your participation in this study will provide insight and understanding of natural disaster preparedness planning you performed prior to and post crisis weather conditions of Spring 2013. This insight and understanding will better inform and educate Oklahoma public health, Oklahoma Emergency Management, Latino Community Development Agency, Oklahoma Red Cross chapters, and faith-based organizations on how to assist immigrant Hispanics in disaster and severe weather preparedness.

**Payment:**

Participants will receive compensation for participating in the study. The compensation will consist of a \$20.00 Wal-Mart gift card that is redeemable at any Wal-Mart store. The \$20.00 gift card will be given to the study participant upon presenting for the interview appointment.

**Privacy:**

Any information you provide will be kept confidential. I will not use your personal information for any purpose outside of this research project. Also, I will not include your name or anything else that could identify you in the study reports. Data will be kept secure by way of a locked safe at I's place of residence. Data will be kept for a period of at least 5 years, as required by the university.

**Contacts and Questions:**

If at any time you have questions, you may contact I, Rebekah Doyle, via phone or email: (xxx) xxx-xxx or rebekah.doyle@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is (xxx) xxx-xxxx. Walden University's approval number for this study is 09-10-15-0317174 and it expires on September 9, 2016.

I will give you a copy of this form to keep.

**Statement of Consent:**

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By signing below, I understand that I am agreeing to the terms described above.

Printed Name of Participant \_\_\_\_\_

Date of Consent \_\_\_\_\_

Participant's Signature \_\_\_\_\_

Translator's Signature \_\_\_\_\_

Researcher's Signature \_\_\_\_\_

## Appendix C: Research Study Participant Consent Form (Spanish)

## FORMA DE CONSENTIMIENTO

Usted es invitado a participar en un estudio de investigación de explorar las percepciones y experiencias de desastres naturales y planificación de desastres entre la población hispana quienes han emigrado a Oklahoma. Las personas que tienen los criterios de inclusión para participar en el estudio son la gente que ha emigrado a Oklahoma y se identifica de ser de étnica hispana. La persona puede ser masculino ó femenino, tener 18 años ó mayor, tuvieron experiencia con los desastres naturales que ocurrieron durante la primavera del 2013, y residen en la ciudad de Oklahoma, en el estado de Oklahoma ó las comunidades alrededor que cercan el área Estándar Metropolitano Estadístico de la ciudad de Oklahoma. Esta forma es parte de un proceso llamado “consentimiento informado” para permitir que usted entienda este estudio antes de decidir si usted participaría.

Este estudio está siendo conducido por una investigadora llamada Rebekah Doyle, que es una estudiante doctoral en la Universidad Walden.

**Objetivo:**

El proposito de este estudio es explorar é identificar las percepciones, pensamientos, y experiencias de hispanos inmigrantes quienes han experimentado desastres naturales y emergencias en Oklahoma en cuanto a su riesgo percibido de herida, creencias, actitudes, y percepciones de estos desastres naturales y emergencias.

**Procedimientos:**

Si usted accede en estar en el estudio, le preguntarán que:

- Participe en una entrevista personal cara á cara por una hora hasta una hora y media.
- **La entrevista sera audio grabada.**
- Conducirá un miembro una revision con el participante del estudio despues que la investigadora tenga un resumen escrito de las respuestas del participante a las preguntas de la entrevista. El participante revisara el resumen para asegurar que la investigadora haiga entendido correctamente y tenga las respuestas precisas que el participante del estudio dio.

Aqui estan algunas muestras de las preguntas:

- Que experiencia tiene usted con tornados y de condiciones de tiempo como fuertes vientos, inundaciones de ultima hora y granizo que pueden ocurrir en ese momento.
- Usted consideraría crear un plan de emergencia para usted y su familia.
- Usted consideraría crear un equipo de proviciones para usted y su familia.

**Naturaleza Voluntaria del Estudio:**

Este estudio es voluntario. Todos respetarán su decisión si usted decide ó no en estar en el estudio. Si usted decide en unirse al estudio ahora, usted todavía puede cambiar de opinión despues. Usted puede parar en cualquier momento.

**Riesgos y Beneficios de Estar en el Estudio:**

Estar en este tipo de estudio involucrá algo de riesgo de incomodidades menores que pueden ser encontradas en la vida diaria, como estrés o de llegar a disgustarse al discutir o al recordar una experiencia que podría ser estresante. Estar en este estudio no representa ningun riesgo a su seguridad o bienestar. Aunque no haiga un beneficio directo en participar en este estudio, su participación en este estudio proporcionará información y entendimiento de la planificación de preparación ante desastres naturales que usted realizó antes y despues le las condiciones de el tiempo de crisis en la Primavera del 2013. Esta información y entendimiento informará mejor y educará la salud pública de Oklahoma, La Gerencia de Emergencia de Oklahoma, La Agencia de Dessarrollo de la Comunidad Latina, La Cruz Roja de Oklahoma, y las organizaciones basadas en la fé de cómo asistir a los hispanos inmigrantes en desastres y en la preparación para el tiempo severo.

**Pago:**

Los participantes recibirán una compensación por participar en el estudio. La compensación consistirá en una tarjeta de regalo de Wal-Mart de \$20.00 que puede ser usada en cualquier tienda Wal-Mart. La tarjeta de regalo de \$20.00 sera dada al participante del estudio al presentarse para la cita de la entrevista.

**Privacidad:**

Cualquier información que usted proporcione será guardada confidencial. La investigadora no usará su información personal para ningún proposito fuera de este proyecto de investigación. También, la investigadora no incluire su nombre ó cualquier cosa que pueda identificarlo en los informes del estudio.

Los datos serán guardados seguros en una caja fuerte con llave en el lugar de residencia de la investigadora. Los datos serán guardados for un periodo de al menos 5 años, como es requerido por la Universidad.

**Preguntas y Contactos:**

Si en cualquier momento usted tiene preguntas, usted puede contactar a la investigadora, Rebekah Doyle, vía teléfono ó por el email: (xxx)xxx-xxxx ó rebekah.doyle@waldenu.edu. Si usted quiere hablar en privado acerca de sus derechos como un participante, usted puede llamar a la Dra. Leilani Endicott. Ella es la representante de la Universidad Walden que puede discutir acerca de esto con usted. Su

numero de teléfono es (xxx) xxx-xxxx. El numero de aprobación de la Universidad Walden para este estudio es 09-10-15-0317174 y este expira en Septiembre 9, 2016.

La investigadora le dará una copia de esta forma para usted.

**Declaración de Consentimiento:**

He leído la información y siento que entiendo el estudio lo suficiente para tomar una decisión sobre mi participación. Firmando abajo, entiendo que estoy de acuerdo con los términos descritos.

Nombre Impreso del Participante \_\_\_\_\_

Fecha de Consentimiento \_\_\_\_\_

Firma del Participante \_\_\_\_\_

Firma del Traductor \_\_\_\_\_

Firma del Investigador \_\_\_\_\_