

**THE DYNAMIC REFRAMING OF POST-DISASTER QUALITY OF LIFE:
A CASE STUDY OF POST-HURRICANE KATRINA**

A DISSERTATION

SUBMITTED ON MARCH 30, 2016

TO THE PAYSON CENTER FOR INTERNATIONAL DEVELOPMENT

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

OF THE SCHOOL OF LAW OF

TULANE UNIVERSITY

FOR THE DEGREE

OF

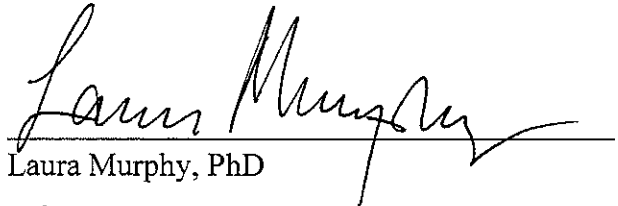
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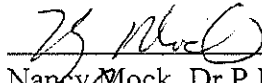


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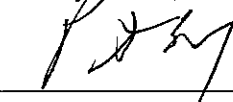
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ABSTRACT

Disasters provide a lens of disruption to explore the concept of Quality of Life (QOL). They help to move us beyond QOL as status quo to a highly dynamic post-disaster QOL that culminates into a 'new normal.' This shift is often coupled with complex movements in space and time as people engage in migration during and after a specific disaster event. Disasters magnify vulnerabilities and resiliencies that serve to enhance and diminish post-disaster QOL so that recovery is not experienced in a uniform way. In fact, post-disaster recovery often reproduces familiar systems and structures based on inequities. This dissertation adds to the extant literature by pushing the boundaries of QOL in order to understand how affected individuals conceptualize post-disaster QOL.

Key informant interviews were conducted with 50 respondents who were stratified according to whether they returned to New Orleans or permanently out-migrated. Respondents were further stratified by (relative) level of damage and socioeconomic status. The research was also informed by expert interviews with 16 New Orleans policy makers, local non-profit leaders and service providers, as well as archival data. A grounded theory approach was used to analyze data and develop the research findings.

This dissertation presents a new model of post-disaster QOL, which identifies four key domains: *Common*, *Local*, *Migration Control* and *New Normal*. The domain of *Common* comprises fundamental aspects of wellbeing that are impaired, diminished or threatened as a result of a disaster. *Local* factors interact with the domain of *Common* in a dynamic way that results in a core status for every individual in this study. The extent to which an individual is able to control their migration during and after a disaster determines post-disaster QOL, and this amount of control is determined by the interplay of two major domains of *Local* and *Common* that culminate into the formation of a *New Normal*. Those who have low control over their migration experience, predicated by weak interactions of their *Local* and *Common* domains, are more likely to experience a poor post-disaster QOL status.

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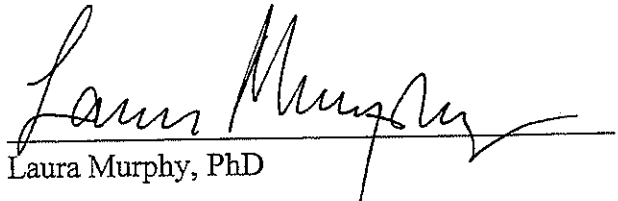
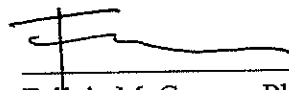
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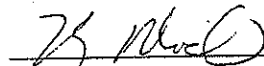


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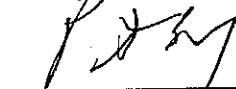
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ACKNOWLEDGEMENTS

Dissertations are never a solo endeavor and many people contributed to my success in completing this dissertation. I would like to express my sincere gratitude to Dr. Laura Murphy, my doctoral committee chair, for her unwavering support and guidance through my doctoral training. I am grateful to the committee members - Dr. Felicia McCarren, Dr. Peter Scharf and Dr. Nancy Mock for their guidance and encouragement through this dissertation process.

I would also like acknowledge to Dr. Mark VanLandingham for whom this study would not have been possible. I am grateful for his mentorship and wise counsel. I gratefully acknowledge Dr. Narayan Sastry and Christine Peterson at RAND Corporation for allowing me access to their survey respondents without which this study would not have yielded such rich information.

Many people listened and guided me on my intellectual journey. I would like to acknowledge Natalie Baker, Vy Dao, Peter Gamache, Layla Rummel and Erin Peacock.

I am grateful to Sonita Singh for sitting me back down in front of a computer after my son was born. I am so grateful to my mother, Linda Priebe, for her love and support and the countless hours of unpaid transcription. Finally, to my husband, Dawit, and my son, Aron, I am so grateful for your loving support throughout this process.

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CHAPTER 1

INTRODUCTION & OVERVIEW

Disasters provide a lens of disruption to explore the concept of Quality of Life (QOL) – moving beyond QOL as a status quo to a highly dynamic post-disaster QOL that culminates into a ‘new normal.’ This shift is often coupled with complex movements in time and space as people engage in environmental migration during and after a disaster event. The logic of studying disasters is that they breach norms, and thus we can learn fundamentals about human behavior that we would not be able to otherwise see because "most action is routine and relatively unreflective" (Baker, 2013).

Individuals and communities are increasingly under threat from natural and technological disasters due to climate change, population growth and geographic settlement patterns in areas of risk, particularly within coastal and river delta areas. The Intergovernmental Panel on Climate Change predicts that ‘hot extremes, heat waves, and heavy precipitation will continue to become more frequent during the next century (2007, p. 15).¹ The combination of climate change impacts and demographic forces are predicted to drive increasing numbers of people from their homes (Raleigh, Jordan, & Salehyan,

¹ The German Advisory Council (O’Brien et al., 2008), drawing on IPCC data, identified the following five regional “hotspots” in which major forms of climate-induced displacement and conflict are expected to occur: the Caribbean and the Gulf of Mexico; North Africa; the Sahel zone; South Asia (especially the Ganges-Brahmaputra Basin); and Eastern China. Erratic weather, rising sea levels and other climate change impacts will motivate resettlement, forced migration, or other forms of human mobility (Bogardi & Warner, 2008).

2008). Environmentally-induced migration could soon involve up to 3% of the current world population within the next four decades (Renaud, Dun, Warner, & Bogardi, 2011). This has profound implications for individual and community-level QOL.

In a period of increasing economic inequality, questionable infrastructure, burgeoning populations and strained social arrangements, disasters highlight the vulnerability of communities and the individuals that reside within them. Within a vulnerability/resilience paradigm, the extent to which social vulnerability exists within a community will affect its level of resilience (Morrow, 2008). In fact, disasters often result in the exacerbation and reinforcement of inequitable social arrangements. In addition to social and cultural disruption, the economic losses from disasters are not distributed equally across communities and individuals. Despite an increased recognition of these dynamics and refocused resources for disaster preparedness, critical conceptual gaps remain regarding how individuals and communities fare after a disaster. This is particularly evident when examining the disruptive effects of disasters that are long-lasting (Zakour, 2010).

Focusing on the case of Hurricane Katrina and the subsequent failure of the federal flood protection system that resulted in devastating floods throughout the City of New Orleans, this dissertation uses primary qualitative data collected over a two year period starting in 2010. Qualitative interview data were also supplemented by expert interviews of key policy makers and non-governmental stakeholders, as well as archival data. Hurricane Katrina was not merely an environmental disaster, but a social disaster. Many of the factors that set the stage for the disaster also served to shape the unequal

trajectories of recovery and rebuilding within a complex and dynamic socio-political-economic-ecological historical-bounded system.

Research Goals

Quality of Life (QOL) in a post-disaster context has been extensively examined in the literature. However, there is a dearth of research examining how affected populations reframe QOL following a disaster. A related gap involves how this dynamic reframing affects post-disaster migration behavior. To address the knowledge gaps about the dynamic reframing of QOL among affected individuals and disaster-related migration behavior, the main objective of this study is to conceptualize post-disaster QOL and contrast dimensions of QOL between individuals who returned to New Orleans post-Katrina and those who did not. This dissertation sought to address the following research questions:

1. How do people conceptualize QOL in a post-disaster context?
2. What is the relationship between post-disaster QOL and migration behavior?

Significance

The significance of this study results from the following three features. First, this study presents a multidimensional concept of QOL that is directly related to a post-disaster² context. The reframing of QOL in a post-disaster context is important to understand as disasters increasingly impact people's lives around the world. Second, this study addresses an important research gap on the well-being of non-returnees beyond the

² "Post-disaster" refers to the short and medium-term period of weeks, months to a few years following a major, catastrophic disaster when individuals and communities move from the phase of immediate disaster response and recovery to a gradual return to (new) normality (Eyre, 2006).

immediate aftermath of a major disaster. We know much less about non-returnees than returnees, because the former are more difficult to locate and assess. Among the few studies of non-returnees that have been published, many are based on data collected during the first year after the storm (Groen & Polivka, 2006; Landry, Bin, Hindsley, Whitehead & Wilson, 2007). This study addresses these gaps by examining key differences in QOL of returnees and non-returnees five years after the initial disaster. Finally, this study incorporates a systematic and dynamic assessment of QOL indicators into an analysis of post-disaster migration behavior. This study feature is important, since the existing literature on post-disaster QOL tends to focus on QOL as a static construct rather than one that can be profoundly altered by a disaster experience and its aftermath.

Case Background

A Brief History of the Built Environment of New Orleans

New Orleans was founded in 1718 as the capital of French Colonial Louisiana. It is located near the mouth of the Mississippi Delta. During its complicated colonial history, the city passed through the hands of the French (1682-1763), the Spanish (1763-1800), the French again (1800-1803), and finally the Americans in 1803. New Orleans quickly transformed from a colonial port at the time of the Louisiana Purchase to the economic capital of the antebellum South, due in part to its strategic location on the Mississippi River, the westward expansion of the nation and the introduction of steam powered river transportation (Nystrom, 2010). The economy was powered by the labor provided by slavery. The first slave ship arrived in Louisiana in 1719 (Hall, 1992). To address the issue of slavery, the French Colonial government enacted the Code Noir in 1724. This Code set the stage for a tripartite racial structure and racial fluidity that set

Louisiana and specifically New Orleans apart from the rest of the antebellum South (Sumpter, 2008). The tripartite system provided a social space for the *gens de couleur libres*, or free people of color, who were mixed-race people of both European and African ancestry who lived legally and socially between those who were considered White and those who were considered Black (Gelman, 1994; Sumpter, 2008).

From the outset, New Orleans was geographically strategic but also environmentally insecure, surrounded by swamps and threatened by environmental hazards such as floods and hurricanes (Gemenne, 2010). When New Orleans was protected only by natural levees, wealthier people tended to live on the higher, better-drained areas of the city while the poor were relegated to live within the areas lining the back swamps. In the first decade of the nineteenth century, the Faubourgs Treme and Marigny areas were developed and settled by free people of color, as well as recent White immigrants and former Haitian slaves³. New Orleans Creoles⁴ enjoyed a unique status imbued with wealth, education and culture until the 1830s, when their relatively elite status was steadily eroded by American influence (Gelman, 1994; Sumpter, 2008).

By 1830, New Orleans was a major commerce center and a conduit for southern wealth fueled by cotton and sugar.⁵ Early statehood (1830-1850) marked a period of “Americanization” reflected in the reification of racial boundaries and the steady dismantling of racial fluidity (Sumpter, 2008). Whites were increasingly fearful due to a

³ The Slave revolts of Saint-Dominique (Haiti) between 1791 and 1804 result in the overthrow of the French regime. Over 9,000 Saint-Domingues refugees arrive in New Orleans and integrate into Creole neighborhoods (Campanella, 2010).

⁴ Derived from the Portuguese word *Crioulo*, Creole refers to “a slave of African descent born in the New World” (Carrico, 2013).

⁵ The cotton gin (Eli Whitney, 1793) and the process for granulating sugar (Jean Etienne de Bore, 1795, Uptown New Orleans) launched the Southern cotton and sugar plantation economies (Campanella, 2010).

number of insurrections by slaves in the South and within the Caribbean.⁶ Race relations were further compounded by the influx of Anglo immigrants, mostly Irish and German, who lacked experience with “racial” mixing and had a stake in differentiating themselves from the Creoles in order to compete for jobs, housing, and status as “White” (Gelman, 1994; Roediger, 1991; Sumpter, 2008).

As the city grew during the nineteenth century, European immigrants displaced the Black population near the riverfront of the American sector, pushing them toward the ‘rear’ swampy sections of the city (Colten, 2002; Sumpter, 2008). Historically, typology constrained the initial boundaries of the city until technological advances in swamp drainage allowed for geographic expansion (Campanella, 2002). As flood control technology improved, New Orleans expanded north toward Lake Pontchartrain and east toward St. Bernard Parish. With technology clearing the way, socio-economic and cultural factors influenced neighborhood settlement patterns (Campanella, 2010). Although geographers illustrate a positive correlation between typological elevation and economic wealth in select American cities, New Orleans’ patchwork neighborhoods present a more complex built environment (Campanella, 2010).

A series of state and municipal laws were passed to enforce the social and spatial segregation of Whites from people of color (Sumpter, 2008).⁷ By 1836, the political and

⁶ Major slave revolts included the St. Dominique (Haitian) revolution of 1790; the 1811 German Coast uprising (west of New Orleans, Louisiana); and the Nat Turner Rebellion in 1831 (Southampton County, Virginia).

⁷ The following laws sought to disenfranchise peoples of color: 1806 – Treatment of Whites, a free person of color could not legally strike, insult or show disrespect to Whites (Territorial); 1816 – Theater Seating, Whites, free people of color and Blacks were required to sit in separate boxes (Municipal); 1830 – Cemetery, Cemetery in Bayou St. John divided into one half for Whites, one-quarter for free people of color and one-quarter for slaves (Municipal); 1830 – Immigration of Free People of Color, All free people of color who had arrived in Louisiana after 1825 were required to leave the state (State); 1830 – Emancipation of Slaves, An owner who emancipated a slave was required to pay \$1000 bond (State); 1840 – Ball Attendance, Neither Whites nor slaves could attend a ball designated for free people of color

cultural division between Creoles and Anglos became so marked that the city was divided into three distinct municipalities: first, the French Quarter and part of Faubourg Tremé; second, the American Sector (west of Canal Street); and third, Faubourgs Tremé and Marigny (Gehman, 1994; Lewis, 1976; Rousey, 1996; Ryan, 1997; Sumpter, 2008; Tregle, 1992).

By the middle of the nineteenth century, the city's population growth outpaced Boston and closely matched that of New York City (Nystrom, 2010). With nearly 170,000 residents by 1860, New Orleans was more than four times the size of Charleston, South Carolina or Richmond, Virginia (Nystrom, 2010). The city had become a major importer, behind New York and Boston, with more than 659,000 tons of goods arriving at the port annually (Nystrom, 2010). In 1860, port receipts exceeded \$185 million with cotton comprising 60% of that figure. The city handled 2,000,000 bales of cotton that year (Hearn, 1995; Sinclair, 1942).

In 1861, Louisiana seceded from the Union. Although spared the destruction faced by other southern cities during the Civil War, such as Atlanta, the Confederates surrendered New Orleans with barely a shot fired. In May of 1862, Federal troops took control of the city and remained until 1877 (Nystrom, 2010). While many Whites saw the collapse of the Confederacy as calamity, free people of color viewed the Reconstruction Period as an opportunity to advance racial equality. The Radical movement in New Orleans was characterized by an unusually close alliance between the free peoples of

(Municipal); 1840 – Ball Attendance, Ball designated for “notorious and lewd women and other abandoned characters” were made illegal (Municipal); 1852 – Gambling, Gambling was illegal between white men, free men of color and slaves (Municipal); 1852 – Emancipation of Slaves, Owners who emancipated their slaves were required to send them to Liberia (State); 1857 – Brothels, Whites could not solicit brothels in which free women of color worked (Municipal); 1857 – Emancipation of Slaves, Emancipation of slaves was made illegal (State); 1859 – Taverns, Free people of color could not own businesses that sold alcohol (Municipal) (Sumpter, 2008).

color and the recently freed-people (Illingsworth, 2013, p. 42). In 1868, Radical Republicans passed a progressive state constitution calling for integration, but Blacks in New Orleans found that racial barriers remained untouched in many public spaces such as hotels, restaurants, theaters and steamboats.⁸ Blacks that dared to venture into these spaces were discouraged, and in some cases forcibly removed (Illingsworth, 2013; Somers, 1974).

The historical legacy of racial fluidity helped create a façade of racial harmony in the city with Whites and Blacks living in the same communities (Illingsworth, 2013). This thin veil was punctuated by periodic outbursts of hostility and violence, such as the Race Riot in 1866.⁹ In 1877, the end of Reconstruction was marked by the departure of Federal troops from New Orleans and the South as national leaders concluded that racial equality was a political liability (Fairclough, 2002). Without the support of the Federal government, Louisiana Reconstruction leaders were swept out of office. In 1879, Louisiana Democrats adopted a new State constitution that repealed all of the equal rights provisions of the previous Constitution and encouraged local officials and private citizens to segregate schools, hospitals, and other public institutions (Illingsworth, 2013). Four laws, collectively known as the Black Codes,¹⁰ gave local courts and police jurisdictions

⁸ The Louisiana Constitution of 1868 granted full rights to all citizens. In 1870, bills were passed establishing racially integrated public schools. Between 1867 and 1878, legislation outlawed discrimination in public spaces and other state institutions, as well as legalizing interracial marriage. Federal actions included the Fourteenth and Fifteenth Amendments and the Civil Rights Act of 1875. Please see Nystrom, 2010; Somers, 1974; Spain, 1979 for more in-depth discussion on Civil Rights legislation following the Civil War.

⁹ In July of 1866, the Louisiana Constitutional Convention reconvened in New Orleans. Black Radical Republicans and their supporters assembled at the Mechanics Institute to rally against the Black Codes and demand suffrage for Blacks (Illingsworth, 2013). White police officers and armed civilians, mainly ex-Confederate white Democrats beat, stabbed and killed several Black veterans marching to the Convention (Illingsworth, 2013). The mob then stormed the Mechanics Institute where several of the delegation were wounded and killed.

¹⁰ The Black Codes restricted the mobility and bargaining power of Black agricultural laborers by ensuring punishment for anyone who attempted to recruit contract laborer (Illingsworth, 2013).

tremendous power to regulate the movement and labor of Louisiana freedpeoples (Illingsworth, 2013). Erosion of racial equality was taking place on the national stage as well. The United States Supreme Court in *Plessy v. Ferguson* (1877) and *Hall v. DeCuir* (1878) gave legal authority to White supremacy by endorsing the “separate but equal” doctrine (Fairclough, 2002). The Court dealt a critical blow to the Fourteen Amendment in the Civil Rights Cases of 1883 when it ruled that Congress lacked the power to prohibit discrimination by individuals. By the turn of the twentieth century, racial segregation, codified under “Jim Crow,” had become the established policy of the Southern White population by putting an end to the Black vote and relegating Blacks to separate facilities (Fairclough, 2002, p. 38). It also served to transform the tripartite system into a biracial society.

In 1871, city engineers proposed an integrated system of protection levees and drainage networks to address the runoff from summer storms and expel municipal sewage (Campanella, 2010; Colten, 2002). Nationally, the U.S. Congress created the Mississippi River Commission and directed it to work with the Army Corp of Engineers to control the lower Mississippi. In 1886, the state created levee districts to begin coordinating levee management efforts. The Orleans Levee District and the Board of Levee Commissioners were created and tasked with the “construction, repair, control and maintenance of all levees in the District, whether on the river, lake, canal or elsewhere” (Campanella, 2002, p. 56).

In 1890, the City launched an ambitious publicly financed citywide drainage system to eliminate health problems associated with the existing open canals (Colten, 2002). Until that time, New Orleans relied on an ineffective series of gravity-fed canals.

While Progressive Era programs sought a type of environmentalism that uplifted people by improving their environment, “Jim Crow” policies worked in tandem to actively exclude Southern Blacks. For example, large public works projects often reflected a desperate attempt to prevent illnesses from spilling over from Black to White neighborhoods (Colten, 2002). Until the swamps were drained and filtered water was introduced in 1910, New Orleans had a well-deserved reputation of being the most deadly city in the country with frequent outbreaks of cholera and yellow fever (Daphne, 1979).¹¹

The new Wood Pumps installed in 1917 served as an unwitting agent of racial segregation in New Orleans. While the innovative drainage system opened new areas for settlement by lowering the water table, Jim Crow policies and real estate practices limited access to the newly available housing to the White population (Colten, 2002; Spain, 1979). In fact, New Orleans began adopting the residential patterns of large northern cities during the Jim Crow era (Daphne, 1979).¹² The expansion of the streetcar lines allowed Blacks to live in neighborhoods further away from their employers (Fussell, 2007; Spain, 1979). Blacks became increasingly concentrated in the central city, while Whites settled the newly drained land surrounding the initial settlement. One exception was the all-Black upper middle class Pontchartrain Park neighborhood built in the 1950s (Spain, 1979).

As race relations deteriorated in the rest of the nation, New Orleans was relatively insulated from the urban riots of the 1960s.¹³ The electorate succeeded in electing several

¹¹ Beginning in 1820, a series of cholera and yellow fever epidemics plagued New Orleans. The 1832 yellow fever/cholera outbreak killed 5,000 people, the 1847 yellow fever outbreak claimed 2000 people and another in 1852 claimed an additional 8,000 residents (Campanella, 2010).

¹² The Jim Crow period lasted from the 1890s to the 1950s (Spain, 1979).

¹³ This is not to imply that racial unrest did not occur in New Orleans during this period, just not to the same degree as other cities. For example, a branch of the Black Panthers established its headquarters near the Desire Projects. On September 15, 1970, New Orleans Police Department attempted to evict the group

Black politicians to key positions in the 1970s, indicating a workable interracial community. However, as race relations improved, residential segregation increased (Spain, 1979).

The creation of racially segregated New Deal public housing developments was the first implementation of legally enforced residential segregation in the city (Fussell, 2007). New Orleans school desegregation¹⁴ similarly marked the exodus of Whites out of the city, as evidenced by a demographic shift from predominately White residents (62% in 1960) to predominately Black residents (67% in 2000) (Colten et al., 2008). The Ninth Ward emerged in the 1960s and was home to the city's largest housing project (Florida/Desire), and Blacks were further displaced by Urban Renewal projects such as I-10 (Spain, 1979).¹⁵ The Ninth Ward was one of the few remaining low rent areas available to low income New Orleanians. By the end of the twentieth century, this area was almost 90% Black and comprised the City's highest unemployment, illiteracy and poverty rates (U.S. Census, 2000). New Orleans East, suburban in its quality, also provided inexpensive housing and a large number of rentals for New Orleans Blacks.

The city's population starting declining in the 1950s. Economically, New Orleans was briefly revitalized by the oil boom of the 1970s, only to resume its post-industrial decline with the global economic downturn in the 1980s. Many Blacks have become the

which resulted in a twenty minute shootout (Arend, 2010). They clashed several more time that Fall before 12 members of the Panthers were arrested.

¹⁴ Following *Brown v. Board of Education* (1954), a federal decree from Judge J. Skelley Wright in 1960 resulted in the desegregation of New Orleans public schools. A poll taken in New Orleans shortly after the ruling found that 82% of parents would rather see schools closed than desegregated (Breed, 1965; Spain, 1979).

¹⁵ Before Interstate 10, Claiborne Avenue was an oak-lined boulevard similar to St. Charles Avenue with a median ground that served as a main artery for predominately Black neighborhoods (Spain, 1979). Interstate 10 was built through the middle to Claiborne Avenue with concrete pillars holding up the raised highway.

low-skill, low-wage labor force for the city's tourist-based economy since the oil industry collapsed in the 1980s (Fussell, 2007). By the turn of this century, New Orleans was suffering from crumbling infrastructure, out-migration, a shrinking tax base, high rates of unemployment and crime, an abysmal public education system, and concentrations of dire poverty. In 2005, 17.7% of residents had less than a complete high school education compared with 15.8% for the United States; the median household income was \$30,711 compared with \$46,242 for the United States (Fussell, 2007). Pre-Katrina census data indicates that 23% of New Orleanians were living below the poverty line, with a third of the City's Blacks living below the federal poverty line (U.S. Census, 2007).

Modern-day New Orleans is a vulnerable city, since it is surrounded on all sides by water with the Gulf of Mexico to the south, Lake Pontchartrain to the north and the Mississippi carved through the middle. If flooding continues in a similar progression as it has over the past 290 years (with 27 *major* floods), then New Orleans will be even more vulnerable (Kates, Colten, Laska & Leatherman, 2006). A large portion of the city is below sea level and sinking. With improved flood control technology has come increasingly eroding land mass due to lack of new sediment build-up that was previously deposited by annual floods. According to the American Society of Civil Engineers (2007), "subsidence has been estimated to occur at an average rate of about 0.15 to 0.2 inches per year, although rates in excess of 1 inch per year occur in some locations" (p. 8). Decades of degradation of the surrounding wetlands and barrier islands in the Gulf from dredging for oil, canals for shipping and a poorly maintained levee system – all resulting from conflicting administrative authorities (Army Corps versus NOLA Sewer and Water Board versus the local levee boards) – has led to substantial subsidence

(Houck, 2006; Seed et al., 2006) and lack of a “buffer zone” to mitigate the energy of storms.¹⁶ It is notable that prior to Hurricane Katrina, experts had long warned of the risks faced by the city in the event of a major hurricane (Fischetti, 2001; Van Heerden, Li & Bryan, 2006).

On August 29, 2005, Hurricane Katrina made landfall on the Gulf Coast just to the east of the City of New Orleans. Initially, the storm crossed southern Florida as a moderate Category 1 hurricane, strengthening rapidly in the Gulf of Mexico to a Category 5 hurricane, which covered nearly the length of the Gulf. This rapid growth was due to the storm's movement over unusually warm waters of the Loop Current, which increased wind speeds of 157 miles per hour (Leben, Born, & Scott, 2005). It was downgraded to a Category 3 with sustained winds of 125 miles per hour just before landfall at Buras, Louisiana. It is thought that approximately 80% of residents left the city well in advance of the approaching storm (Brinkley, 2006; Cutter, 2011; Landry, 2008).

On August 28th, shortly after Katrina was upgraded to a Category 5 storm, Mayor Ray Nagin ordered the first-ever mandatory evacuation of New Orleans, calling Katrina "a storm that most of us have long feared" (AP, 2005). The City's evacuation plan was based on two key assumptions: 1) residents had the financial means to leave their homes and (2) residents had access to private transport for evacuation (Cutter, 2011). This plan made no provision for the 25% of New Orleans residents who did not own vehicles, which included the homeless, the poor, and the elderly. Emergency provision for the

¹⁶ In July 2013, the Southeast Louisiana Flood Protection Authority-East filed a lawsuit in Orleans Civil District Court against ninety-seven oil, gas and pipeline companies seeking damages for the extensive network of canals cut by energy companies since the 1930s through wetlands areas (Bullard, 2014). The canals have resulted in saltwater intrusion into the marshes, killing off vegetation that once served as a buffer to storm surges.

70,000 residents who were unable or unwilling to evacuate was made by a shelter of “last resort” at the Super Dome (Fussell, 2006; Kates et al., 2006; Landry, 2008).

With twenty-five feet of storm surge, the city’s levee system failed in multiple locations, resulting in 53 separate breeches throughout the city. Two days after landfall, the city was flooding and low-lying areas were quickly inundated with more than six feet of standing water. By September 1, 2005, portions of Lakeview, Gentilly, New Orleans East, and the Lower Ninth Ward were submerged in more than 10 feet of water (ASCE, 2007). Thousands of New Orleanians, many of them poor, Black and elderly, were stranded in attics, on rooftops, or at the Superdome. It has been estimated that about 1.5 million people along the Gulf Coast were displaced temporarily by Hurricane Katrina, and that 300,000 were permanently displaced. Among those who remain permanently displaced, approximately 140,000 are New Orleanians who did not return to the City of New Orleans (Grier, 2005; Plyer, 2011).

Organization of the dissertation

This dissertation comprises six chapters. The first chapter introduces the study, including the main objective and specific aims of the research. It also describes the case background. Chapter 2 provides a review of the literature on Quality of Life (QOL), disaster and migration, post-disaster recovery, vulnerability and resiliency. The research methods and study design are described in Chapter 3. As this study is using a grounded theory approach, Chapter 3 explicitly lays out the analytical steps involved in developing findings. Chapter 4 presents the results of this study. This chapter presents a conceptual framework of post-disaster QOL, explores the boundaries of QOL in a post-disaster context, examines key differences in QOL among returnees and non-returnees, and

provides a systematic and dynamic assessment of QOL indicators within an analysis of post-disaster migration behavior. Chapter 5 will discuss findings in relation to extant literature. Finally, Chapter 6 will conclude with a discussion of the limitations of the study, policy and program implications, and suggested directions for future research.

CHAPTER 2

LITERATURE REVIEW

Chapter 2 provides a review of literature relevant to the key concepts of this dissertation. This literature review begins with an overview of the extant Quality of Life (QOL) literature that explores divergent conceptual foundations as well as debates around the measurement of QOL. The second body of literature provides a definition of disasters and examines related concepts such as vulnerability, resiliency, and post-disaster recovery. Embedded within the resiliency literature are current debates around post-traumatic stress and post-traumatic growth. This section also explores literature on disasters and migration. Finally, literature related to post-disaster QOL research is examined, including social support and social capital. The chapter concludes with a summary of the literature reviewed.

Quality of Life

Quality of Life (QOL) has a relative general meaning for everyone. Delimiting its operational definition with distinctive domains that encompass it is quite another matter. Several disciplines have engaged in QOL research; however, there is little cross-disciplinary consensus on the definition of QOL, nor is there a uniform theoretical underpinning (van Kamp et al., 2003). For example, definitions of QOL can range from individual fulfillment to the ability to lead a 'normal' life (Bowling, 1995; van Kemp et al., 2003). Within social indicators research, QOL encompasses all circumstances of day-

to-day life, such as housing, work, leisure time, etc. (Bowling, 1995). Some authors include more macro-level conceptualizations of QOL. For example, Kahneman et al. (1999) argue that QOL experience is embedded in the cultural and social context of both the subject and the evaluator, with the objective characteristics of a society such as poverty, crime rates, and pollution predominantly influencing people's judgments of their lives. Despite these different theoretical approaches, it is "important to be able to describe human existence in a fairly reliable and valid fashion, and it is important to be able to evaluate human existence in the same way" (Sirgy et al., 2006, p. 347).

An Overview of QOL Research

Several disciplines have taken up QOL research, including economics, sociology, psychology, public health and medicine. Early economic research focused on gross domestic product (GDP) as a solid empirical measure of QOL (Stiglitz, Sen & Fitoussi, 2008). Meanwhile, early sociological research focused on aspects such as socio-economic status, level of living and social status (Cottum 1941; McKain, 1939; Sewell, 1940; Sirgy et al., 2006). Calling the construct 'standard of living,' Cottam and Mangus (1942) published an article identifying the following three components of QOL: level of living, social participation and social adjustment (Sirgy et al., 2006). Interest in the development of QOL measures grew during the 1960s as these measures were thought essential to the assessment of many aspects of social progress and social accounting and were useful for national goal setting, program evaluation, and priority ranking (Lui, 1976; Sirgy et al., 2006).

Moving away from a sole focus on GDP, economists began exploring alternative approaches to measuring well-being in the 1970s. Rejecting subjective measures of well-

being, such as individual happiness or life satisfaction, much of this work focused on objective measures of QOL (Fuchs, 1983, p. 14; Sirgy et al., 2006). Debates over individual versus global measures of QOL emerged. Easterlin (1974) was the first economist to attempt to assess well-being from personal reports on happiness or life satisfaction (Sirgy et al., 2006). In 1979, a precursor to the Human Development Index was purposed that combined measures of economic output, life expectancy, and education (Morris, 1979; Sirgy et al., 2006).

By the 1980s, health-related QOL studies outpaced all other QOL research (Sirgy et al., 2006). Health-related QOL (HRQOL) can trace its origins back to the functionalist tradition (Durkheim, 1897/1951) as it draws a distinction between normality and deviance (Sirgy et al., 2006). Health through this lens was defined as "the state of optimum capacity for the effective performance of valued tasks" (Parsons, 1958, p. 168; Sirgy et al., 2006). Cella and Tulsky (1990) define HRQOL as "patients' appraisal of and satisfaction with their current level of functioning as compared with what they perceive to be ideal" (p. 29). The field of medicine was an early proponent of HRQOL, as advances in medicine precipitated the need to understand the patient's experience of physical and emotional distress associated with medical conditions and/or their treatment (Sirgy et al., 2006). One early example of a HRQOL measure is the Karnofsky Performance Scale, a non-physiologic outcome parameter for cancer, which is still in use today in cancer therapy trials (Karnofsky et al., 1948; Sirgy et al., 2006).

Moving away from a functionalist duality, the World Health Organization (WHO) defines health as not only the absence of illness but "a state of complete physical, mental, and social well-being." Building on this previous definition, WHO defines QOL as "an

individual's perception of their position in life in the context of culture and value systems that they live in and in relation to their goals, expectations, standards, and concerns" (WHOQOL Group, 1993, p. 153). The public health literature recognizes QOL as a multi-dimensional construct (Chatterji et al., 2002), but this literature offers little in the way of specificity. Rather, HRQOL remains a nebulous concept that covers a range of components such as functional ability, psychological well-being, somatic symptoms, coping and life satisfaction (Bowling, 1995).

Conceptual approaches to QOL

The Report by the Commission on the Measurement of Economic Performance and Social Progress (2008), chaired by Stiglitz, Sen and Fitoussi, identifies the following three main conceptual approaches that are useful for thinking about how to measure QOL: subjective well-being, capabilities and fair allocation.

Subjective well-being

This approach is based on subjective self-reporting. In the sociological literature, QOL is often described as a subjective feeling of welfare-related well-being that refers to "how good, desirable and enjoyable life as a whole is felt by the person in question" (Chatterji et al., 2002, p. 13). Sociologists have argued that basic needs are the foundation for QOL and that QOL is the degree of satisfaction of these needs (Bowling, 1995). Campbell et al. (1976) defined QOL as a general sense of well-being, but tends to focus on domain specific satisfactions because of the greater relevance for public policy (Schuessler & Fisher, 1985). These domains included health, marriage, housing, family, friendships, financial situation, leisure, and community or place of residence.

Unlike Campbell et al. (1976), Costanza et al. (2007) use the concept of *needs*¹⁷ rather than *domains* for clarification purposes. Structural models of QOL are based on basic needs. One of the earliest structural models of basic needs is Maslow's (1954) "Hierarchy of Needs" which identified the following five distinct levels of need: physiological, safety, love/belonging, esteem and self-actualization. This Hierarchy of Needs is often represented as a pyramid with physiological needs as the largest and most fundamental base. Arguing against a hierarchy, Max-Neef (1992) created the "Matrix of Human Needs" that included a few finite and classifiable needs that stem from the human condition (i.e., subsistence, protection, affection, understanding, participation, leisure, creation, identity, and freedom). In addition, Max-Neef argued that these needs remained constant across cultures and time.

Building on Campbell et al. (1976), Marans (2003) stressed that quality of place or geographic setting (such as a neighborhood or city) was a subjective phenomenon, with each person differing in their perceptions of it. Drawing from this urban social geographical perspective, Pacione (2003) frames QOL as referring to either the condition of the environment in which people live or to some attribute of people themselves. Rogerson (1995) conceptualizes environmental QOL as divided among material life and personal life. Raphael et al. (2001) further moved the concept of QOL from the individual to the community-level by recognizing the complex relationship between community structures and individual well-being. The community QOL model is defined as the "degree to which a person enjoys the important possibilities of his or her life in three areas:" being, belonging and becoming (Raphael et al., 2001, p. 181). This model

¹⁷ Needs are derived from Neef's (1992) "Matrix of Human Needs" and Nussbaum and Glover's (1995) "Basic Human Functional Capabilities."

recognizes the following nine separate domains of QOL: physical being, psychological being, spiritual being, physical belonging, social belonging, community belonging, practical becoming, leisure becoming and growth becoming. Taken together, these models illustrate the need for a holistic, multi-level conceptual understanding of QOL.

Fair allocation

Mainstream development literature tends to focus on the economic aspects of QOL (please see Easterly, 1999; Lora, Powell, van Praag & Sanguinetti, 2010) with the predominant assumption that more income and consumption equates to better welfare (Costanza et al., 2008). This economic focus has early roots in development thinking. For example, welfare economics that traditionally relied on the notion of an individual's willingness-to-pay began to extend beyond purely monetary measures to non-market aspects of life (Boadway & Bruce, 1984; Stiglitz, Sen, & Fittoussi, 2008). The concept of fair allocation similarly extends beyond the uses of average 'willingness-to-pay' by recognizing that it may disproportionately reflect the preferences of those who are better off in society and results in differential equity across all members (Stiglitz, Sen, & Fitoussi, 2008). However, in the 1960s, policy makers grew increasingly dissatisfied with economic indicators as a proxy measure for QOL due to the fact that certain population groups remained dissatisfied with their social well-being despite overall economic prosperity and growth in the average standard of living (Rogerson, 1995).

Capabilities Approach

Other development paradigms, emerging out of disciplines such as welfare economics and geography, argue that QOL extends beyond economic aspects of development to include substantive freedoms (Easterlin 2003; Nussbaum & Glover,

1995; Sen, 1981, 1985). The capabilities approach conceives a person's life as a combination of "doings and beings" (functionings) and assesses QOL in terms of a person's freedom to choose among the various combinations of these functionings (capabilities) (Stiglitz, Sen, & Fitoussi, 2008). According to Sen, 'the quality of life a person enjoys is not merely a matter of what he or she achieves, but also what options the person has had the opportunity to choose from' (Sen, 1985; Ruta, Camfield, & Donaldson, 2007, p. 400). Building on Sen's Capabilities Approach, Nussbaum and Glover (1995) developed the following list of central human capabilities (i.e., the "Basic Human Functional Capacities"): (1) Life; (2) Bodily health; (3) Bodily integrity; (4) Senses, imagination and thought; (5) Emotions; (6) Practical reason; (7) Affiliation; (8) Other species; (9) Play; and (10) Political and material control over one's environment. Drawing from the Capabilities Approach, Ruta et al. (2007) define QOL as "the gap between desired and actual capabilities."

Collectively, these theories illustrate the importance of the concept of quality of life in describing and gauging the human experience. QOL is a cross-cutting policy goal, whether implicit or explicit; however, defining and measuring the wellbeing of individuals and society remains challenging.

Measuring QOL: Indicators and Scales

Attempts to measure QOL have been undertaken by the several disciplines outlined previously, but with little overlap. A debate across disciplines continues over the use of single item measures versus multidimensional composite indicators. This tension is illustrated within social indicator research that parses objective versus subjective measures. Objective measures tend to focus on basic needs, while subjective indicators

are intended to describe the way people perceive and evaluate conditions around them (Pacione, 2003). Many factors, such as age, gender, income, education and health status, interact with the objective and subjective interpretation of an individual's QOL (Pacione, 2003).

Subjective measurement tools typically focus on personal reports of life experience that complement social, economic and health indicators such as degree to which perceived need is being met and the importance of that 'perceived need' to one's overall QOL (Costanza et al., 2007, p. 268). Subjective well-being (SWB) has been used as a proxy for QOL (Hass, 1999). A potential limitation of SWB is that it is only definable by the individual. One of the fundamental methodological issues with SWB tools is that people tend to measure their well-being in relation to their peer groups rather than in absolute terms (Costanza, 2007, Schwatz & Strack, 1999). Costanza et al. (2008), attempting to synthesis subjective wellbeing (SWB) with objective measurement, define QOL as:

The extent to which objective human needs are fulfilled in relation to personal or group perceptions of subjective well-being. Human needs are basic needs for subsistence, reproduction, security, affection, etc. SWB is assessed by individuals' or groups' responses to questions about happiness, life satisfaction, utility or welfare.

Measurement of QOL remains problematic, particularly in a post-disaster context. Health-related QOL measures are the most commonly used in disaster-related studies (Ardalan et al. 2011, Bayram, Thorburn, Demirhan, & Bilgel, 2007; Kasapoğlu & Ecevit, 2003; Ke, Lui, & Li, 2010; Priebe et al., 2011; Wang et al., 2000). There is limited investigation on whether HRQOL measures accurately capture post-disaster QOL.

Vulnerability and the Social Geography of Disasters

There are two divergent bodies of literature around the causes of disasters. The first takes an ecological approach which focuses on hazard (Colten, Kates & Laska, 2008). The second, which is more relevant to this study, argues that underlying social factors, rather than hazards, are the foundation of disasters (Bankoff et al., 2004; Chhodaty & Few, 2012; Cutter & Emich, 2006; Merdjanoff, 2013; Oliver-Smith & Hoffman, 1999; Wisner et al., 2004). Zahour & Gillespie (2013) argue that a community's vulnerability to hazards is directly tied to the number of conditions or hazards in the community environment. This is evidenced by the fact that people living in hazardous areas are not equally at risk (Morrow, 2008). Mechanic and Tanner define vulnerability as "the susceptibility to harm which results from an interaction between the resources available to individuals and communities and the life challenges they face" (2007, p. 1220). Similarly, Cutter et al. (2008a) note that vulnerability arises from the intersection of human systems, the built environment, and the natural environment. They define vulnerability as "the pre-event, inherent characteristics or qualities of systems that create the potential for harm or differential ability to recover following an event" (Cutter et al., 2008a, p. 599).

Vulnerability may take the form of environmental, economic, socio/cultural, political, or demographic adversity or some combination of these aspects. It is a dynamic and highly contextual construct, the nature and characteristics of which vary across geographic and ecological regions, social systems, as well as communities and households within particular social systems (McLeman & Hunter, 2009). Cutter et al. (2008b) described vulnerability as a function of the exposure (i.e., who or what is at risk)

and the sensitivity of the system (i.e., the degree to which people and places can be harmed). Turner et al. (2003) offer a vulnerability framework for understanding how components interact and influence each other, describing these interactions as exposure, sensitivity, and resilience (coping/response, impact/response, adjustment/adaptive response). Adger (2006) notes that other researchers have conceptualized the components of vulnerability as exposure, resistance and resilience (Pelling, 2003) or exposure, coping capacity and recovery potential (Bohle et al., 1984).

Population growth, composition and distribution are perhaps the most important factors that have increased our vulnerability to disasters (Donner & Rodriguez, 2008). Urban centers are of particular concern due to numerous vulnerabilities. This consideration does not imply that rural communities are not vulnerable due to their remoteness and lack of infrastructure; however, the trend toward urbanization, particularly in developing nations, makes urban centers highly vulnerable to disasters for two reasons. First, urbanization exposes more people to disaster events. Second, from an ecological perspective, urbanization creates the conditions for greater exposure to hazards, such as high concentrations of poverty, limited mobility and dense but weak infrastructure (Donner & Rodriguez, 2008). In 2008, the proportion of the world's population living in urban areas exceeded 50% of the total population (Patel & Burke, 2009). The urban population is projected to reach 4.9 billion by 2030 (an increase of 1.6 billion) while rural populations are expected to shrink by 28 million (Parry, 2007).

Perrow (2007) draws attention to the ecological problem of population concentration in high-risk areas (e.g., coastal communities and flood-prone regions, areas with seismic activity, etc.). According to Kirsch-Woods et al. (2008), there has been a

300% increase in the recorded number of disasters caused by floods in the past twenty years. Smith and McCarty argue that population growth and economic development in such hazardous areas has directly resulted in the heightened social and economic impacts of disasters (1996). For example, the global increase in urban coastal populations heightens the risk of exposure to environmental events such as storm surge and extreme winds (Donner & Rodriguez, 2008; Klein, Nicholls, & Thomalla, 2003; Nicholls, 1995). In 2008, a cyclone in Myanmar displaced 2.4 million people (Lom, 2008) (compared to Hurricane Katrina's displacement of 1.5 million people in the Gulf Coast region). In 2011, flooding in Thailand resulted in the evacuation of the capital, Bangkok, which has a population of over 8.2 million (National Statistics Office, 2010).

Cutter (1996) argues that vulnerability is both socially differentiated and socially generated, "encompassing not only the likelihood of physical exposure to the hazard, but also people's underlying susceptibility to its effects and their ability to cope, respond and adapt" (Adger, 2006; Chhodaty & Few, 2012, p. 696; Eriksen et al., 2005). Wisner and Uitto define social vulnerability as "the characteristics of a person or a group that affect their capacity to anticipate, cope with, resist and recover from the impacts of a disaster" (2009, p. 213). Social vulnerability occurs when unequal exposure to risk is coupled with unequal access to resources (Morrow, 2008). It is comprised of both social inequalities and place inequalities (Cutter, Boruff & Shirley, 2003). Stated alternately, social factors influence or shape the susceptibility of various groups to harm, as well as affect their ability to respond while characteristics of communities and the built environment contribute to the social vulnerability of place. There is also a time dimension within this

definition, as degree of vulnerability may vary depending on life situation, age, gender, as well as seasonality (Uitto 1998; Wisner & Uitto, 2009).

A social vulnerability framework emphasizes that risk varies not just as a result of the hazards in a community, but is also distributed among affected populations according to larger social forces imbued with power and privilege (Morrow, 2008). Chhodaty and Few (2012) argue that people and society are not just ‘at risk,’ but social processes themselves constitute risk. For example, Cutter (2011) asserts that key assumptions in most U.S. coastal evacuation plans include most residents having the financial resources to leave their homes when told to evacuate and ready access to adequate private transportation. These flawed assumptions serve to reproduce social vulnerability in the face of hazards and disasters. In the case of Katrina, it was primarily low income African Americans and the elderly that rode out the storm in the ‘shelter of last resort.’ In fact, among the New Orleanians that evacuated to Houston from the Superdome, 60% had incomes of less than \$20,000 (Cutter, 2011; Hopkins, 2008).

A disaster is a complex and dynamic social event generally defined as a “collective stress situation” that happens relatively suddenly, although not always, “in a particular geographic area, involve[s] some degree of loss, interfere[s] with the ongoing social life of the community, and [is] subject to human management” (Erikson, 1976; Tierney, 1989, p. 12; Zakour & Gillespie, 2013). It is poignantly so severe and disruptive to the normal social order that it requires external assistance (Quarantelli, 1998; Wisner, 2003). Disasters disrupt the status quo and expose underlying social weaknesses at the community level. They are transformative experiences for individuals, as well as for affected communities, revealing both physical vulnerabilities (such as poor infrastructure)

and social vulnerabilities' (such as poverty and preexisting inequalities and power structures) (Oliver-Smith, 2002, 2004; Quarantelli, 1993; Warner, 2010). At the individual level, disasters may cause primary changes, such as loss of housing and employment, as well as secondary stressors, such as stress-related health issues, that impact several (if not all) aspects of an individual's life for a prolonged period. As such, the effects and subsequent secondary stressors are not experienced uniformly across affected populations.

At the community level, Erikson (1976) observed the collective trauma that impacts the recovery process in his seminal work on the Buffalo Creek disaster in West Virginia. Disasters, as community disruptions, tend to unfold and develop overtime, leading to collective stress and biological, psychological and social dysfunction (Zakour & Gillespie, 2012). Marsella, Johnson, Watson & Gryczynski (2008, p. 9) note that "in the case of Katrina, the losses extended beyond individual and family tragedy to the loss of an entire city, and with it a sense of collective and personal identity related to location."

While disaster plans are enacted with extensive public involvement in the response, there are often major recovery challenges following a disaster (Tierney, 2009). Social structures systematically discriminate against the socially, culturally, and economically marginalized (Morrow, 2008; Mustafa, 1998). Understanding the social and political context underlying disasters and disaster recovery is a vital first step in mitigating the effects of hazards (Mitchell et al., 1989; Morrow, 2008). Tierney argues that early social science research on disasters failed to pay attention to the ways in which "broader social structural factors such as social and economic inequality and political

power shape disaster vulnerability” (2009: p. 2). She contends that the Katrina experience validated new theoretical perspectives in disaster research, including in particular the social vulnerability approach to the study of disasters (Blaikie et al., 1994; Bolin, 2007; Cutter, Boruff, & Shirley, 2003; Cutter & Emrich, 2006; Tierney, 2005). For example, people of higher socioeconomic status tend to fare better after a disaster compared to low income individuals (Bolin & Boltson, 1986; Fothergill, 2004; Fothergill & Peek, 2004; Morrow, 1997; Scudder & Colson, 1982; Underhill, 2009). They are also less likely to encounter job loss and experience fewer fluctuations in income following a disaster (Fothergill, 2004; Underhill, 2009). The elderly are particularly vulnerable to disasters, as demonstrated by the 1995 Chicago heat wave (Klineberg, 2002; Whitman et al., 1997), the 2003 European heat wave, and Hurricane Katrina (see Hartman & Squires, 2006); as the majority of victims in these disaster were 65 or older. Ardalan et al. (2011) found that older people were among the most vulnerable after the 2008 earthquake in Bam, Iran. Fothergill’s (2004) examination of the challenges faced by women after the 1997 Grand Forks Flood found that class, race, gender, sexual orientation and disability all deeply impact disaster recovery. An increased incidence in the abuse of women has been documented after several disasters, including Hurricane Katrina (Anastario, Shehab, & Lawry, 2009; Fothergill, 2004; Jenkins & Phillips, 2008; Pittaway, Bartolomei, & Rees, 2007).

The vulnerabilities discussed previously are also likely to intersect (Morrow, 2008), and research on the impacts of Katrina illuminated how these disparities in vulnerability and resiliency centralize along race, class, gendered and generational lines (Finch, Emrich, & Cutter, 2010; Fussell, Sastry, & VanLandingham, 2010; Myers, Slack,

& Singelmann, 2008). For example, several studies demonstrated a disproportionate impact on Black and low-income populations (Brunsma et al., 2007; Chia-Chen Chen et al., 2007; Elliot & Pais, 2006; Fussell et al., 2010; Hartman & Squires, 2006; Shakey 2007). In New Orleans, a disproportionate number (140,845 people or 29% of New Orleans' pre-Katrina population) are residents with lower socioeconomic status, African Americans and families with children (Plyer, 2011; U.S. Census, 2010). Several disaster researchers have also noted that misaligned recovery policies and interventions (e.g., the Road Home Program) affected return migration following Hurricane Katrina (Colten et al., 2008; Cutter, 2011; Kates, Colten, Laska, & Leatherman, 2006).

Major factors that influence social vulnerability include lack of access to resources (including information, knowledge, and technology); physical and mental impairment; limited access to political power and representation; limited social capital, including social networks and connections; cultural beliefs and customs; aging housing stock; and type and density of infrastructure (Blaikie et al., 1994; Cutter, 2011; Cutter, Boruff & Shirley, 2003; Putnam, 2000; Tierney, Lindell, & Perry, 2001). These same factors may also impact post-disaster QOL, since their vulnerability provides a foundation for understanding the impact of disasters on QOL, as well as the spatial and temporal patterns of post-disaster migration.

Disasters and Migration

Migration is only one within a broader set of potential adaptive responses that individuals and households engage in when dealing with environmental and resource stresses (Adamo, 2010; Black, 2001; McLeman, & Hunter, 2009; McLeman & Smit, 2006). Warner (2010) identifies the following five drivers of migration: economic drivers, political drivers, demographic drivers, social drivers and environmental drivers.

He noted that while individual factors may not drive migration, the combination of these factors may affect whether a population decides to move and the scale of their migration.

Along Warner's line of thought, Lee (1966) conceptualized 'push-pull' factors that influenced migration. An increasing 'push-pull' factor appears to be environmental drivers, as evidenced by empirical research that indicates how environmental changes (including climate change) currently play a major role in migration (Jäger et al. 2009; Warner, 2010; Warner et al., 2009). The Intergovernmental Panel on Climate Change (IPCC) predicts that 'hot extremes, heat waves, and heavy precipitation will continue to become more frequent' during the next century (IPCC WG-I, 2007, p. 15). The combination of potential climate change impacts and demographic forces is predicted to drive increasing numbers of people from their homes (Raleigh, Jordan, & Salehyan, 2008). Environmental migration, defined as the migration of persons due to sudden or gradual changes in their environment, could soon involve up to 3% of the current world population within the next four decades (Biermann & Boas, 2010; Lueck, 2011; Renaud et al., 2011). Within the U.S., four main climate change impacts may induce environmental migration – drought, sea level rise, floods and extreme weather events (Lueck, 2011). The main geographic areas most likely to be affected are the southwestern United States, flood zones, and areas along the Atlantic and the Gulf coasts (Field et al., 2007; Lueck, 2011).

Brown and Crawford (2008) frame the complexity of human-environmental interactions in relation to long-term environmental process and sudden-onset environmental events. Sudden events and slow-onset processes create a range of

migration patterns ranging from cyclical migration and permanent migration to temporary and permanent displacement, both domestically and internationally (Warner, 2010).

Slow-onset processes are cumulative environmental changes that lead to the destruction or degradation of livelihoods over a long period of time, such as droughts, land degradation, or oscillations in precipitation patterns. Typically, slow-onset processes do not stimulate permanent relocation as a first-order household adaptation. However, they may stimulate changes in temporary migration as a short-term adaptation (McLeman & Hunter, 2009). These seasonal or circular migration patterns have been seen in Mali, Senegal, Ethiopia, Argentina, and India, among others. The 1930s Dust Bowl, that impacted Oklahoma, Texas, Kansas and Colorado, is the most dramatic U.S. example of environmental migration brought on by a slow onset process.

Environmentally induced migration is more clear-cut in sudden-onset events, as these types of events have the potential to cause considerable damage to infrastructure and property, as well as resulting in loss of life (McLeman & Hunter, 2009). There are numerous historical examples of post-disaster out-migration, such as the droughts in East Africa in the 1980s, 1990s and 2010s (prominently Hurricane Mitch in Central America in the late 1990s and the perennial flooding in South Asia) (Naik et al., 2007; Renaud et al., 2011). The 2004 Indian Ocean Tsunami displaced over 2 million people (AidWatch, 2006). The UN Office of the Special Envoy for Tsunami Recovery estimates that 1.5 million people lost their livelihoods in the aftermath of the tsunami, further complicating the resettlement of migrants (Fernando, Warner & Birkmann, 2008). In addition to Hurricane Katrina, Levine, Esnard, and Sapat (2007) identified five U.S. disasters that caused large, forced and in some cases permanent migration: Hurricane Andrew (Florida

in 1992), the Mississippi river floods (Iowa, Illinois, and Missouri in 1993), the Loma Prieta and Northridge earthquakes (California in 1989 and 1994), and Hurricane Floyd (North Carolina, South Carolina, and Virginia in 1999) (Lueck, 2011). Most recently, Hurricane Ike (Texas in 2008) and Hurricane Sandy (New York and New Jersey in 2012) caused massive damage along the Gulf and Mid-Atlantic coastlines resulting in out-migration of areas such as the Bolivar Peninsula in Texas. Even smaller disasters, such as a tornado, result in permanent migration (Lueck, 2011; Gutmann & Field, 2010).

The International Organization for Migration (IOM) defines environmentally induced migrants as “persons or groups of persons, who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad” (IOM, 2007, p. 1; Warner 2010). Lueck (2011) argues that environmental migration is a social phenomenon where environmental changes are filtered through social structures to force the most vulnerable populations to permanently migrate, and once displaced, these populations face numerous barriers to becoming resilient. She posits that social vulnerability to disasters “results from social inequalities and historic patterns of social relations manifest as deeply embedded social structural barriers that are resistant to change” (Lueck, 2011; Phillips & Fordham, 2010, p. 4).

Why do some return and others out-migrate after a disaster? Event-induced migration is a survival strategy, which may be considered a type of forced migration as changes in the resource base compel people to move and sudden disasters force immediate distress migration (Hugo, 1996; Johnson & Krishnamurthy, 2010; Lueck,

2011). However, ‘pull’ factors may also serve to keep people in the disaster-affected location. For example, out-migration did not occur following the 2004 tornado in Bangladesh due to the availability of aid, the effectiveness of distribution, and the limited area affected (Renaud et al., 2011).

Environmentally induced migration may be in response to drivers outlined by Warner (2010); however, this decision is influenced partly by personal and family characteristics, in addition to existing barriers (Black, 2011). Black (2011) identifies the following fundamental characteristics that influence migration decisions: age, sex, educational level, wealth, marital status, attachment to place, and attitudes and preferences (such as degree of risk aversion). Barriers or obstacles to migration include the cost of moving, access to the means of moving, and the presence of legal or administrative barriers and constraints; however the existence of transportation networks, social networks and diasporic links may influence who moves to where and for how long (Black, 2011). As such, those who are most likely to resist relocation tend to be those who have the strongest attachments to the community’s cultural roots (Mileti & Passerini, 1996).

Lueck (2011) calls for moving beyond push/pull or rational choice models to a social vulnerability framework in order to examine how certain populations are more vulnerable to environmental migration. Event-induced migration impacts not only the affected community, but also serves to shape individual-level recovery. Social vulnerability shapes the trajectory of populations throughout disaster recovery, influencing the resilience of those who return and those who permanently migrate. The displacement that results is likely to become more prolonged and even permanent for

vulnerable populations (Lueck, 2011). Researchers have documented two types of Katrina migrations: 1) voluntary migration by more affluent residents (some of whom returned and others did not); and 2) involuntary migration of disadvantaged residents who did not return because they lacked resources, job opportunities and affordable housing (Cutter, 2011; Kates et al., 2006).

Lueck (2011) further argues that environmental migration negatively affects the resilience of all internally displaced persons, whether socially vulnerable or not. However, individuals who are forcibly displaced are more likely to lose housing during disaster recovery compared to those who are not displaced (Hori & Schafer, 2010). Because minorities tend to reside in vulnerable areas, they are more often displaced after a disaster. Evidence from Hurricanes Andrew and Katrina indicated that the quickest returnees were predominantly White, older, better educated, homeowners, and had sustained less damage to their property (Fussell et al., 2010; Lueck, 2011). This is particularly problematic as homes represent a disproportionate amount of minority households' wealth compared to Whites (Finch et al., 2010; Li et al., 2010).

Poor populations are also less likely than non-poor populations to move from their original communities, so when a large disaster displaces entire communities, families and social networks are severely disrupted (Li et al., 2010). Once displaced, the most vulnerable face greater obstacles to recovery. For example, 150,000 Haitians are still living in temporary structures following a 7.0-magnitude earthquake that destroyed the capital of Port-au-Prince and displaced 2.3 million people and killed 220,000 in 2010 (Amnesty International, 2014; Granitz, 2014). Haiti, which ranks 145 out of 169 on the

Human Development Index,¹⁸ has been plagued with recovery challenges. A Brookings-London School of Economics study found that 60.9% of families displaced by the earthquake say that their overall living conditions have been worse since the disaster, compared to 38.9% of households that were not uprooted (Bradley, 2014).

In the case of Hurricane Katrina, Weber and Peek (2010) found that those who were displaced moved anywhere from two to more than 12 times. Internally displaced persons also had lower odds of employment recovery and larger declines in income, which made African Americans particularly vulnerable (Hori et al., 2009). Forced migration also increases mental and physical trauma (i.e., higher levels of stress result from the loss of homes, family, friends, and employment) (Morrow-Jones & Morrow-Jones, 1991). Large-scale migrations also extend place-specific disasters to other communities, resulting in the erosion of social capital. For example, Peek (2010) described “Katrina fatigue,” whereby the compassion of destination communities for evacuees faded within months. Internally displaced persons were no longer seen as victims, but as competitors accused of changing the racial and cultural composition of the community. Collectively, these dynamics illustrate how migration may not enhance disaster survivors’ resilience, but instead increase their vulnerabilities and erode their post-disaster QOL.

Resilience

Originating from the Latin word, *resilire*, which means ‘to spring back,’ resilience refers to the ability to withstand and respond to stressor events, traumatic exposure, or

¹⁸ The Human Development Index is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. Retrieved from <http://hdr.undp.org/en/content/human-development-index-hdi>

crisis in a constructive way and recover quickly and effectively (Berger, 2015). Different theoretical perspectives have been used to understand resilience; however, debates continue regarding whether it is a personal trait, a dynamic process, a capacity, or an outcome (Berger, 2015). Norris et al. (2008) also assert that the concept of resilience is often viewed metaphorically rather than operationally in that it may represent a return to a prior steady state after an event or shock.

At the individual level, resilience is defined as the ability of individuals to recover from adversity (Berkes & Ross, 2013; Buikstra et al., 2010). While resilience plays an important role in individual recovery, several scholars have argued that disasters can have a transformative effect on survivors (Calhoun & Tedeschi, 2006; Tedeschi & Calhoun, 1995). An increasing focus is paid toward the role of post-traumatic growth following disasters. Post-traumatic growth (PTG) refers to perceived positive changes following the encounter and the struggle with highly stressful events. Developed by Tedeschi and Calhoun (1996), the post-traumatic growth model focuses on individual level cognitive-emotional processes of challenges triggered by an exposure to a stressor event.¹⁹ Tedeschi and Calhoun (1995) posit that “PTG occurs when people experience a trauma severe enough that it takes a central place in their lives; changes their worldviews, assumptions, and schemas; and shifts their self-identities, the consequent distress they experience may provoke cognitive processing that results in personal growth” (Lowe, Manove & Rhodes, 2013, p. 877). This model identified the following five domains:

¹⁹ Berger and Weiss expanded Calhoun and Tedeschi’s (2006) model of PTG to the family systems level (Berger, 2015). In this model, the family can become the unit that grows. PTG in families includes three dimensions: 1. Positive changes that the family perceives in itself; 2. Improved relationships among family members and with extended family, friends, and neighbors; 3. Changed belief system and priorities.

personal strength, new possibilities, relating to others, appreciating life, and spiritual change.²⁰

Cerdá (2014) argues that post-traumatic growth offers a means to provide a positive reinterpretation of the events. Central to PTG is the process of rumination or “turning over in one’s mind” (Calhoun & Tedeschi, 2006, p. 9). Calhoun and Tedeschi argue that the presence of PTG indicates that “persons who are experiencing it are living lives in ways, at least from their point of view, are fuller, richer and perhaps more meaningful” (2006, p. 7). Critics of this approach counter that PTG is a Janus-faced model (Hobfoll et al., 2007; Maercker & Zoeller, 2004). On one hand, PTG signals functional growth, associated with constructive, adaptive, and meaningful changes in survivors’ lives; conversely, PTG may represent illusory growth associated with self-deception, positive illusions, and avoidance (Lowe, Mangrove & Rhodes, 2013).

A growing body of evidence shows that post-traumatic stress (PTSD) and PTG are not mutually exclusive reactions to stress, since growth and distress can be experienced by the same individual (Lowe, Mangrove & Rhodes, 2013; McMillen, Zuravin & Rideout, 1995). While the relationship between PTSD and PTG remains unclear, the sequencing of negative and positive post-trauma reactions is distress preceding growth, and the greater the level of PTSD symptoms, the higher the level of PTG (Chen, Zhou, Zeng & Wu, 2015; Lowe, Mangrove & Rhodes, 2013).

Research has also found a gender difference concerning women who are more likely to report PTG compared to men (Park, Cohen, & Murch, 1996; Powell et al., 2003;

²⁰ The Post-Traumatic Growth Inventory (PTGI), one of the most commonly used instruments, has five dimensions: relating to others (RO), new possibilities (NP), personal strength (PS), spiritual change (SC), and appreciation of life (AL) (Tedeschi & Calhoun, 1996). The PTGI is composed of 21 items designed so that the person reports the degree of positive changes after a potentially traumatic event.

Tedeschi, Park, & Calhoun, 1998). Jin, Xu and Lui (2014) examined gender differences in PTSD/PTG with survivors one year after the Wenchuan earthquake in the Chinese province of Sichuan. They found high rates of both with 40.1% of survivors reporting PTSD and just over half reporting PTG. When analyzed by gender, significant differences between men and women were reported in total PTSD scores and within all domain scores, with women experiencing higher levels of PTSD. However, women consistently reported a higher PTG than men, especially in the PTG domains related to improved relationships with others and increased personal strength.

While PTG is closely linked to resilience, Tedeschi and Calhoun (2004) suggested that the two concepts are different, arguing the PTG is transformative while resilience “refers to dynamic processes that lead to adaptive outcomes in the face of adversity” (Lepore & Revenson, 2006, p. 29). They contend that individuals who are resilient may be less likely to experience PTG as they are more resistant to threats to self- and world-views that often accompany traumatic events, thereby mitigating the effects of the event and bypassing the opportunity to grow and learn from the trauma (Lepore & Reenson, 2006; Tedeschi & Calhoun, 2004). Although conceptually different, resilience and PTG influence post-disaster QOL and post-disaster recovery trajectories.

At the community-level, two main approaches to resilience have emerged. The first approach draws from the field of ecology, addressing resilience of ecosystems or integrated *social-ecological systems* (Chapin et al., 2009) by focusing on adaptive resilience and social learning within a system (Berkes & Ross, 2013). Resilience in this case refers to the ability of a human system to respond and recover (Cutter et al., 2008;

Morrow, 2008); to absorb changes or disturbances (Adger et al., 2005); to cope with potential impacts (Klein et al., 1998); and to survive (Nicholls & Branson, 1998).

Rose (2004) distinguishes between inherent and adaptive resilience. Inherent resilience refers to the characteristics of different social units that serve as sources of strength when the social order is disturbed, while adaptive resilience refers to the capacity of social units to overcome crisis-related problems (Tierney, 2009). Adger (2006) defines resilience as the magnitude of disturbance that can be absorbed before a system changes to a radically different state as well as the capacity to self-organize and the capacity for adaptation to emerging circumstances. A key assumption of this approach is that there is equilibrium, which does not account for a fluctuating state of non-equilibrium or multi-equilibrium conditions and unpredictable systems (Berkes & Ross, 2013; Chapin et al., 2009; Norberg & Cumming, 2008).

The second approach evolves from psychology (mental health and developmental psychology) and views resilience as the identification and building of community strength. It asks the fundamental question, ‘What leads some individuals to cope better than others through major disturbances in their lives?’ Within this approach, a resilient community is defined as “one that anticipates problems, opportunities, and potentials for surprises; reduces vulnerabilities related to development paths, socioeconomic conditions, and sensitivities to possible threats; responds effectively, fairly, and legitimately in the event of an emergency; and recovers rapidly, better, safer, and fairer” (Morrow, 2008, p. 1; Wilbanks, 2008). Agency is a central part of this approach, encompassing “both individual-level action, premised on confidence among autonomous and able members of society that change is possible, and collective agency, expressed in

the cultural, infrastructural, and communicative resources that enable collective action” (Davidson, 2010, p. 1145). Davidson (2010) has argued that a fundamental loss of agency in a given social system amounts to a breakdown in the collective capacity to persist. An extreme example of this phenomenon is the Buffalo Creek Disaster in 1972 when a coal slurry impoundment dam failed, resulting in the destruction of the town below. The destruction to the community was so profound that it destroyed the collective capacity of survivors to recover (Erikson, 1978). Given the utility of these separate approaches, researchers have called for a synthesis of these approaches to better understand the complex and multidimensional aspects of resilience (Brown & Westaway, 2011; Davidson, 2010).

Several frameworks have been developed to apply community resilience to disasters (Tierney, 2009). Norris et al. (2008) present a resilience model illustrating the process through which communities adapt following disaster events. Resistance is conceptualized as the condition in which resources are sufficient to buffer the immediate impacts of a disaster. Depending upon levels of resistance and resilience, this process can result in either post-event adaptation or continued dysfunction. Community resilience in this way flows from a set of resource-based and networked adaptive capacities in the following four domains: information and communication, community competence, social capital, and economic development. Norris et al. (2008) similarly argue that resilience rests on both the resources and the dynamic attributes of those resources. However, Morrow (2008) argues that these factors are not spread equally through societies, whereby some groups within disaster-affected populations are more resilient than others.

Tierney (2009) cautions that high levels of social vulnerability do not automatically translate to low levels of resilience. For example, the Vietnamese in New Orleans East proved to be much more resilient than their neighbors, despite migrants' tendency to be more socially vulnerable. Morrow (2008) argues that community level resilience is closely tied to the economic and political circumstances of a community, as well as to the strength of its social institutions and social networks. At the individual or household level, resilience is associated with not only economic resources but also cultural resources, such as literacy and education, and social resources, such as family and friends (Cutter et al., 2008). Research shows that predictors of resilience include gender, age, education, and personality traits (Bonanno, Galea, Bucciarella & Vlahov, 2007). Almedom (2004) identified the critical need to combine the supporting roles of macro (government) and micro (family, community) factors when assisting people suffering displacement so that they can emotionally adjust (Berkes & Ross, 2013).

Post-Disaster Recovery

The following four sequential periods have been identified in disaster management: emergency response, restoration, replacement, and reconstruction (or recovery) (Ganapati, Cheng, & Ganapati, 2012). Recovery can be perceived as a trajectory in which individual and community functioning deteriorates for a period of time and then gradually returns to pre-event levels (Bonanno, 2004). The recovery period takes the greater amount of time (a multiple of roughly 100 times the extent of the emergency period), yet remains an understudied area in disaster studies (Drabek, 1986; Ganapati & Ganapati 2008; Mileti et al., 1975; National Research Council, 2006; Peacock et al., 2007; Rubin 2009; Tierney et al., 2001; Zhang & Peacock, 2009).

While the conceptualization of post-disaster recovery is broadening, Abramson et al. (2010) argue that too often recovery is measured in a singular fashion, such as quantifying infrastructure, without taking into account the human side of recovery at the individual and community levels. Measures of post-disaster recovery tend to view disaster recovery periods as linear and sequential; however, social groups do not move through these phases at the same rate (Tierney, 2009). As a result, underlying dimensions and causal pathways of individual and community-level recovery are often missed, particularly in contexts where risk is continuous or cyclical, mediated by recurring hazards that deplete resources and chronically challenging livelihood situations that stem from resource poverty (Chhotray & Few, 2012).

The Socio-Ecological Model of Recovery developed by Abramson et al. (2010), using a confirmatory factor analysis, is a multidimensional framework that provides an operational measure of post-disaster recovery that incorporates the following five dimensions: housing stability, economic stability, physical health, mental health and social role adaptation. Findings suggests that there are multiple interacting pathways or processes that lead to full or partial recovery following a disaster. Abramson et al. argue that achieving a state of recovery could involve “a combination of measures – relief of stressors, mitigation of vulnerability, enhancement of individual buffering capacities, and increased adaptive capacities – at a minimum” (2010, p. S46). Researchers have argued for a meaningful investigation of the concept of recovery within the context of complex social, economic, and political systems (Merdjanoff, 2013); a similar argument could be made for post-disaster quality of life.

Post-disaster Quality of Life

The concept of Quality of Life (QOL) provides a theoretical framework for assessing the well-being of individuals and communities, particularly after a disaster. A growing body of literature focuses on QOL to examine various aspects of post-disaster impacts on people. Studies find that lower QOL is often associated with gender (i.e., women tend to fair worse than men), age (i.e., older adults fair worse than younger adults), living alone, severity of exposure, poor living conditions and temporary housing (Ardalan et al., 2011; Chen et al., 2001; Giuliani et al., 2014; Ke et al., 2010; Papanikolaou, Adamis, & Kyriopoulos, 2012; Seplaki et al., 2006; Wang et al., 2000). A substantial body of disaster-research has focused on mental health and QOL (Chou et al., 2004; Goenjian et al., 2011; Priebe et al., 2011). In particular, several studies have found that QOL varied according to whether survivors had post-traumatic stress symptoms (PTSS) after a disaster event (Livanou et al., 2005; Tsai et al., 2007; Wang et al., 2012).

Disaster-related QOL research tends to rely on health-related quality of life (HRQOL) measures as a proxy for post-disaster quality of life (Ardalan et al., 2011; Chen et al., 2001; Chou et al., 2004; Goenjian et al., 2011; Priebe et al., 2011, Tsai et al., 2007; Wang et al., 2012). Numerous individual instruments have been developed to measure HRQOL, which range from the broad and general Short Form 36 (SF-36) to highly specialized instruments for specific subpopulations based on age, disease status and condition²¹. The SF-36 includes the following eight health concepts: physical

²¹ The Global Personal Generated Index (GPGI) is based on the Patient Generated Index of QOL (Ruta, Camfield & Martin, 2004) has been validated in Bangladesh, Thailand, and Ethiopia. The Schedule for the Evaluation of Individual Quality of Life (SEIQOL) and SEIQOL-DW (short version) are used to measure QOL in numerous clinical conditions. The Functional Assessment for Chronic Illness Therapy (FACIT) measures QOL on six subscales: physical wellbeing (13 items), emotional wellbeing (10 items), function and global wellbeing (13 items), social wellbeing (8 items), cognitive functioning (3 items) and general illness and HIV/AIDS-specific QOL concerns (3 items) (Hasanah, Zaliha & Mahiran, 2011).

functioning, role limitation caused by emotional problems, vitality, mental health, social functioning, bodily pain, and general health perceptions (Chen et al., 2007). These eight subscales are hypothesized to form two higher ordered components: physical health and mental health.

The WHOQOL-100 is a one hundred item QOL scale developed by the World Health Organization as a result of qualitative and quantitative research through the collaboration of fifteen global centers (Bayram, Thorburn, Demirhan, & Bilgel, 2007). This scale enables self-reported QOL to be measured in relation to health and covers 25²² dimensions of QOL. It has been translated into 50 languages. There are several versions of this scale, including an abbreviated version, WHOQOL-BREF, the WHOQOL-OLD for respondents over age 60, and a version for children. Bayram et al. (2007)²³ noted that there are still vulnerable populations' QOL who are rarely assessed, such as migrants and refugees.

While QOL is a broad and multidimensional concept, the empirical operationalization of QOL highlights various components as relevant while muting the impact of others. Many HRQOL measures either measure health status in isolation or

²² There are 7 domains: Physical health, psychological, levels of independence, social relationships, environmental, spirituality, religion and personal beliefs, and social pressure. Within Domain *physical health*: pain and discomfort, energy and fatigue, sleep and rest. Within Domain *psychological*: positive feeling, thinking (learning and memory), self-esteem, bodily image and appearance, negative feeling. Within Domain *level of independence*: mobility, activity of daily living, dependency on medication, work capacity. Within Domain *social relationships*: personal relationships, social support, and sexual activity. Within Domain *environmental*: physical safety and security, home environment, financial resources, health and social care availability and quality, opportunities for acquiring new information and skills, participation in and new opportunities for recreation and leisure, physical environment, transport. Within Domain *spirituality, religion and beliefs*: spirituality, religion and beliefs. Within the Domain *social pressure*: overall QOL and general health. (Source: <http://www.who.int/healthinfo/survey/whoqol-qualityoflife/en/index4.html>)

²³ Bayram, Thorburn, Demirhan and Bilgel (2007) used the WHOQOL-100 TR, a Turkish version, to examine quality of life among Turkish immigrants in Sweden. The purpose of this study was a comparison in QOL between the Turkish immigrants and Turks. They found that third generation Turkish-Swedish had higher QOL than native Turks, first generation and female Turkish immigrants.

combine health status with non-health proxies such as social network and material circumstances (Bowling, 1997; Grewal et al., 2006; Higgins & Carr, 2003). Costanza et al. (2007, p. 268) contend that while these scales provide a snapshot of health and well-being, they are far too narrow and cannot incorporate issues that contribute to QOL, such as identity and psychological security. Berger-Schmitt (2002) has argued for the incorporation of welfare measures, such as social cohesion, in QOL measures. Clearly more research is needed around post-disaster QOL measures. The ability to meaningfully assess the post-disaster QOL of affected populations is critical as a policy tool for post-disaster recovery (Liang & Wang, 2013).

Social Landscape: The Role of Social Support and Social Capital on Wellbeing

Early sociologists recognized the protective functions of being part of a community or group and argued that social participation and identification promote psychological well-being and reduce potential distress (Durkheim, 1947; Faris & Dunham, 1939; Kasapoğlu et al., 1999). Social support refers to “the degree to which individuals have access to social resources, in the form of relationships, on which they can rely” (Johnson & Sarason, 1979, p. 155; Kasapoğlu, 1999). It plays an especially important role in post-disaster QOL. For example, Ke et al. (2010) found that earthquake-affected survivors in Wechan, China with stronger social support were more likely to report better QOL. Priebe et al. (2011) similarly found that strong community support after an earthquake in Italy helped to overcome community distress. Social support has also been associated with stress-related growth (Lepore & Revenson, 2006; Park, Cohen & Murch, 1996; Weiss, 2004). Examining low-income women that experienced Hurricane Katrina, Chan and Rhodes (2013) found that individuals who engaged in

positive religious coping, such as remaining engaged in their churches, tended to experience psychological growth and lower levels of post-traumatic stress.

Lepore and Revenson (2006, p. 32) identify three global dimensions of resilience-promoting environments: 1) environments that promote physical and mental health; 2) environments that promote normative development; and 3) environments that promote social cohesion and the development of social capital. However, the scale and scope of disasters can often undermine resilience-promoting environments. Examining perceptions of disaster disturbance, relief and recovery, Forgette, Dettrey, Van Beoning & Swanson (2009) found that Katrina survivors perceived their social networks to provide greater sources of psychological, financial and social disaster relief than government sources. However, the study also found that these social networks decayed sharply in the immediate aftermath of the disaster and did not appear to fully recover a year from the disaster, implying that social networks themselves are not fully resilient to a disaster. This was also observed by Erikson (1976). While investigating the impact of the Buffalo Creek Flood in 1972 on the affected communities, he found not only individual suffering but also a collective level of trauma experienced at the community level. The psychological implications of stressors, such as those caused as a result of the Buffalo Creek Floods, deplete coping resources, threaten individuals' social connections, and destroy people's belief in safety and predictability (Hobfoll et al., 2007). Norris et al. (2001) identified a number of chronic problems experienced by those impacted by disasters, including financial loss, strained social and familial relationships, concerns about the larger community, and obligations to provide support to others (Kuhlicke et al., 2011).

Within the social landscape of disaster, the erosion of social support is also linked to the erosion of social capital. Social capital plays an important role in post-disaster QOL. Social capital is defined as those networks and norms that facilitate cooperative action (Putman, 2000). It does not belong to individuals, but is a collective entity comprising trust, reciprocity and other integrative norms and values accruing to social networks (Phillips, 2006). It is the social 'glue' that binds groups and communities together.

Woolcock & Narayan (2000) identify the following three categories of social capital: 1) bonding; 2) bridging; and 3) linking. Bonding social capital is comprised of the ties between immediate family members, neighbors, close friends, and business associates sharing similar demographic characteristics (Nakagawa & Shaw, 2004). Bridging social capital is comprised of the ties between people from different ethnic, geographical, and occupational backgrounds but with similar economic status and political influence (Nakagawa & Shaw, 2004). Finally, linking social capital is made up of the ties between a community and those in positions of influence in formal organizations such as disaster relief agencies, local and state government, or the police (Nakagawa & Shaw, 2004).

Disasters can have a profound negative impact on social capital, as evidenced by the Buffalo Creek Floods (Erikson, 1976). However, researchers have also found that there is a strong, positive relationship between social capital and community resiliency (Chamlee-Wright & Storr, 2011; Murphy, 2007). This relationship shows that social capital is critical before and after a disaster to coordinate disaster mitigation, evacuation and recovery. One example of the critical role of social capital in disaster recovery is the

rapid and thorough recovery of the Vietnamese community of New Orleans East (Airriess et al., 2007; Leong et al., 2007; Vu, VanLandingham, Do, & Bankston, 2009). By the spring of 2007, 90% of the Vietnamese American residents had returned while fewer than 50% of the African American residents had returned to the community (Airriess et al., 2007).

Summary of Literature

Quality of life provides an important theoretical framework for assessing the well-being of individuals and the communities in which they live, particularly after a disaster. Disasters are complex and dynamic social events that have profound and long-lasting impacts on affected individuals and communities. Although catastrophes on the order of Hurricane Katrina are relatively rare events, climate change, population pressures, and increased urbanization in high-risk areas mean that more people will be impacted by disasters.

Scholars argue that within the social vulnerability framework, vulnerability and resilience are inextricably linked in the disaster recovery process, as well as post-disaster QOL. Research on the impacts of Katrina illuminated these disparities in vulnerability and resiliency along race, class, gendered and generational lines (Finch, Emrich & Cutter, 2010; Fussell, Sastry & VanLandingham, 2010; Myers, Slack & Singelmann, 2008). A growing body of literature has begun to explore the positive outcomes of disasters, particularly post-traumatic growth (Chan & Rhodes, 2013; Chen, Zhou, Zeng, & Wu, 2015; Jin, Zhou, & Lui, 2014; Paxton, Fussell, Rhodes, & Waters, 2012).

Disaster researchers also recognize the need for a greater understanding of the recovery process. The Abramson et al. (2010) Socio-Ecological Model of Recovery is an

especially useful multidimensional framework that provides an operational measure of post-disaster recovery with the following five dimensions: housing stability, economic stability, physical health, mental health and social role adaptation. However, similar frameworks that focus on post-disaster QOL are lacking and disaster research tends to default to HRQOL measures. Furthermore, understanding the underlying drivers of migration and their relationship to post-disaster QOL has important developmental implications. A better conceptual understanding of the relationship between post-disaster QOL and migration will serve to inform the variation observed in post-disaster recovery trajectories of returnees and non-returnees.

CHAPTER 3

RESEARCH METHODS

This chapter describes the research methods and study design of this dissertation. As this dissertation used a grounded theory approach, Chapter 3 explicitly lays out the analytical steps involved in developing findings.

This dissertation used qualitative data collected from individuals who lived in New Orleans at the time of Hurricane Katrina to explore post-disaster Quality of Life (QOL) and the migration behavior of current and former New Orleans residents following the disaster. RAND Corporation allowed me to contract respondents that had participated in a survey that they conducted which focused on similar topics. Informants were recruited based on geography, level of damage sustained, and income. In-depth interviews, expert interviews, and archival data were used to inform this dissertation's grounded theory approach. Ground theory is the "discovery of theory from data systematically obtained from social research" (Glaser & Strauss, 2006, p. 2). This chapter provides details on the methods and materials used to collect the data and the analytic approach used to answer the research questions.

Research Design

This study employed a case study design to examine broad questions around QOL and migration behavior in New Orleans' post-disaster context following Hurricane Katrina. A case study design is "an empirical inquiry that investigates a contemporary

phenomenon within its real-life context, especially when the boundaries between the phenomenon and the context are not clearly evident” (Yin, 2003, p. 13). Case studies require the collection of multiple sources of evidence for data to converge in a triangulated²⁴ fashion (Yin, 2003). Case study data may include quantitative data, qualitative data, or a combination of the two. The research methods used for this study design include key informant interviews, expert interviews with community stakeholders and policy makers, and an examination of archival data.

Research Methodologies

Study Component 1: Key Informant Interviews

Unlike structured interview methods, such as surveys, key informant interviews are used to elicit in-depth and textually-rich data from individuals who have first-hand knowledge about a phenomenon. Qualitative interviews are also flexible and dynamic (Taylor & Bogdan, 1998), explicitly involving the interviewer and respondent as interactive partners (Kelly, 2010). This interactive process, with its attention to reflexivity and subjectivity, makes qualitative interview methods an especially suitable tool for examining human behavior and motivation. It is particularly useful for answering research questions regarding the meaning of an event or phenomenon to research participants (Kelly, 2010). The goal of qualitative interviews is to gain an understanding of how participants view, experience, or conceptualize a central feature of their lives (Kelly, 2010, p. 309).

²⁴ Triangulation is a strategy for establishing validity through one or a variation of the following: a) the use of different sources of data, b) the use of several different researchers, c) the use of multiple perspectives to interpret a single set of data, and d) the use of multiple methods to study a single problem (Beebe, 2001).

Fifty informants, stratified by their current place of residence (returned to New Orleans or permanently out-migrated), (relative) level of damage (“below \$50,000 damage” or “\$50,000 or above”), and socioeconomic status (SES; “at or below the median average for New Orleans at the time of Katrina” or “above the median average”), were identified for in-depth interviews. Twenty-one interviews with respondents that currently reside in the City of New Orleans and twenty-nine with Katrina evacuees residing in Texas, Mississippi and northern Louisiana were completed (please see Appendix A). These locations were chosen for their accessibility and pertinence.

Using a semi-structured interview guide designed to elicit open-ended responses (please see Appendix B), my research assistant and I conducted narrative interviews that guided respondents through their Katrina experience and post-disaster recovery process. Informants discussed their experiences beginning with the period just before Katrina up to the time of the interview. Results were coded along five broad themes: *Pre-Katrina*, *Katrina Experience*, *Period of Displacement*, *Return to New Orleans* and *Perceptions of Self and City*. *Pre-Katrina* discussions included informants’ lives in New Orleans before Katrina, and whether or not informants had evacuated for previous hurricanes. *Katrina Experience* was whether or not informants evacuated prior to Hurricane Katrina making landfall on the city, in addition to their experience during the storm. *Period of Displacement* allowed informants who evacuated before Katrina as well as those who left the city after the storm to describe where they went, where they stayed, and who did (or did not) help them. During the *Return to New Orleans* portion of the interview, informants described whether or not they returned to New Orleans, their decision making process, and how they felt about that decision. Finally, the interview turned to a

discussion of *Perceptions of Self and City*. This allowed informants to reflect on and discuss personal QOL living in their current home city, as well as perceptions of QOL in New Orleans for informants living outside the Crescent City. This discussion included the quality of recovery in New Orleans as well as various emergent themes that directly impact informants' lives in New Orleans or elsewhere, such as crime, education, infrastructure, access to supermarkets, issues of race, risk, and others.

Using a process of 'active listening,' probes and follow-up questions were employed to clarify and gather fuller explanations of topics of interest (Kelly, 2010). Interviews varied in length from 30 to 120 minutes. Permission was requested and granted for all interviews to be recorded in order to avoid interviewer-recall bias. Interviews were transcribed verbatim and coded in NVivo. All materials and protocols for these key informant interviews were reviewed and approved by Tulane's Institutional Review Board (IRB) prior to fieldwork. Informed consent was gained prior to each interview, and informants received a nominal gift card upon completion of the interview as a gesture of appreciation for their time.

From May to July 2010, we piloted the interview guide with four purposively-sampled individuals. The guide was revised based on these pilot interviews. From May to August 2011, we interviewed 21 respondents residing in New Orleans. Nineteen of these interviews were conducted face-to-face. Two interviews were conducted by phone at the respondents' request.

Respondents who did not return to New Orleans were recruited and interviewed in two additional waves. The second wave was conducted with potential respondents residing in Texas. Face-to-face interviews were conducted with nineteen of these Texas

respondents over a two-week period, from September 20, 2011 to October 2, 2011. We selected Texas for two reasons. First, a majority of displaced New Orleanians settled in Texas after Katrina, so the destination captures a large segment of displaced people (Groen & Polivka, 2008; Koenig, Rainey & Sayre, 2015).²⁵ Second, Texas was accessible from New Orleans, thereby facilitating the completion of the research. The third wave was conducted with potential respondents residing in Alabama, Mississippi and Louisiana. Nine face-to-face interviews were conducted over a one-week period from May 1 to May 7, 2012. All of the interviews were transcribed verbatim except for two which we reconstructed due to technical difficulties with the audio recording devices.

Study Component 2: Expert Interviews

Expert interviews were conducted with sixteen New Orleans policy makers, local non-profit leaders and service providers. A theory-based sampling strategy was employed to identify expert informants based on key issues identified by key informants and/or because of the experts' obvious roles in the disaster experience and/or recovery process. A type of purposive sampling, theoretical sampling, is "directed towards the generation and development of conceptual theory as opposed to creating a descriptive account" (Breckenridge & Jones, 2009, p. 113). In this case, initial data collection and analysis from key informant interviews drove the theoretical sampling strategy for expert interviews (Glaser, 1978). An interview guide was developed following initial analysis of

²⁵ Groen and Polivka (2008) found that more than 81% of those who did not return to their counties of origin relocated to one of eight states in the Southeast Region: Louisiana, Mississippi, Alabama, Texas, Tennessee, Georgia, Florida and Arkansas. Thirty-seven percent of Katrina evacuees from Louisiana who did not return to their pre-Katrina parish went to Texas. Data from the Internal Revenue Service found that more than 22,500 households settled in Harris County, Texas immediately after the storm (Koenig, Rainey & Sayre, 2015). More people migrated to Harris County than any other county or parish in the country that first year.

the key informant interviews (please see Appendix D). Each interview guide was then tailored to the specific domain of expertise of the expert interviewee.

Study Component 3: Archival data

Archival data were extracted from policy documents and reports of demographic and other data at the city, state and national level. These documents included the Unified Plan, the American Planning Association's New Orleans Planning Assessment Report, the National Disaster Recovery Framework, and Congressional transcripts on Katrina and the Road Home Program. Rather than forming the basis of a separate content analysis, these documents and archival data were used to establish context, frame the process of recovery, and inform the interpretation of respondents' narratives of the dynamics of QOL and migration.

Table 3-1. Data collection periods

	Location	Data collection
Key Informant Interview Pilot	New Orleans	May – June 2010
Key Informant Interview Wave 1	New Orleans	May – July 2011
Key Informant Interview Wave 2	Texas	September – October 2012
Key Informant Interview Wave 3	Louisiana, Mississippi	May 2013
Expert Interviews	New Orleans	November 2012-April 2013

Study participants and Sampling

Key Informants

The initial sample employed by the RAND Corporation used a stratified, area-based probability sample of pre-Katrina residences. Respondents were then traced to their current locations and surveyed (Fussell, Sastry, & VanLandingham, 2010). Drawing

from that sample, the sampling strategy for key informant interviews used stratification based on whether respondents returned to New Orleans, extent of damage, and median income at the time of Katrina to allow for maximum variation of experiences. Table 3.2 shows the number of informants sampled in relation to the number proposed. In several cases, multiple informants were from the same household.

Table 3-2. Sampling Strategy of Key Informants by Category

Location	Degree of damage*	Socioeconomic status**	N (Proposed)	N (Actual)	HH
New Orleans (returned)	Significant	More privileged	5	5	5
		Less privileged	5	6	6
	Light or none	More privileged	5	5	5
		Less privileged	5	5	5
TX, MS, LA (did not return/moved away permanently)	Significant	More privileged	5	7^	5
		Less privileged	5	9^	7
	Light or none	More privileged	5	9^	6
		Less privileged	5	4	4
Total			40	49	43

* Significant damage is classified as over \$50,000 **More privileged is classified as above the median income at the time of Katrina ^ Multiple individuals from the same household were interviewed.

The list was divided into four categories of more privilege/high damage, more privilege /low damage, less privilege /high damage and less privilege /low damage. For the first three categories, simple random sampling was used to select twenty potential respondents. For the final category, there were only seven potential respondents, so all seven were selected. The research team subsequently interviewed five respondents per category (with the exception of the low income/high damage category, from which we interviewed six).

We had hoped to use the same procedure in Texas, but there were not enough potential respondents to fill each cell. There was also clustering of high income/low

damage individuals in Austin and high damage individuals (of both income categories) in the Houston area. In addition, several of the high income/low damage respondents in Texas were from the same household. As a result, additional key informant interviews were conducted with respondents in Alabama, Mississippi and northern Louisiana.

Description of Key Informants

Age, race, and sex were not considered as selection criteria, but the distribution of the respondents are as follows:

Table 3-3. Characteristics of Key Informants

Location	Race			Sex		Age		Total
	Black	White	Other	Male	Female	>45	45+	
New Orleans (Returned)	12	8	1	12	9	7	14	21
Elsewhere (Did not Return)	17	12	0	12	17	4	25	29
Total	29	30	1	24	26	11	39	50

At the time of the interview, all informants were over the age of 18 and were living in Louisiana, Texas, or Mississippi.

Expert Informants

Theoretical sampling was used to identify expert informants (please see Appendix E for Expert Informants). Unlike selective sampling, theoretical sampling in grounded theory is the process of data collection directed by evolving theory rather than by predetermined population dimensions (Drauker, Martsof, Ross, & Rusk, 2007; Strauss, 1987). It is a pivotal strategy in grounded theory methodology (Charmaz, 2000). The theoretical sampling process begins with initial data collection and analysis (Glaser 1978). In this case, the sample for expert interviews was driven by data collected from key informant interviews. Emergent categories identified during key informant interviews

that affected post-disaster QOL and/or migration behavior were used to generate a sampling list of information-rich participants. A wide range of policy makers, non-profits leaders and service providers involved in the disaster recovery process were approached to participate in interviews. As theoretical sampling is an iterative process, data from expert interviews were used to identify additional informants until theoretical saturation was reached. Theoretical saturation is achieved when “categories and their properties are considered sufficiently dense and data collection no longer generates new leads” (Breckenridge & Jones, 2009, p. 120; Glaser & Strauss 2006).

Analytic Strategy

Grounded Theory

Grounded theory was initially developed by Glaser and Strauss (1967, 2006) as a post-positivist challenge to the hypothetico-deductive approach, which demands the development of precise and clear-cut theories or hypotheses before data collection takes place (Kelle, 2005). Rather, grounded theory methods are employed for “discovering theories, concepts, hypotheses and propositions directly from data” (Taylor & Bogdan, 1998, p. 137). The centerpiece of grounded theory research is the development or generation of theory closely related to the context of the phenomena being studied (Creswell, 1998). Although there has been substantial debate over the differing approaches (Boychuk & Morgan, 2004; Kelle, 2005; Walker & Myrick, 2006), “there is the flexibility and the necessity for each researcher to select and adapt the methods to his or her own research aims and data” (Wade, Elliott & Hiller, 2014, p. 685).

Regardless, the process of data collection and analysis was iterative and ongoing. Constant comparison and memos were used throughout the process. Analytic memos

have been used to keep track of emerging themes, interpretation and concepts throughout the study process. Three distinct phases of theory development were conducted through coding. Coding is a systematic and iterative process that consists of open coding (which forms the initial categories of information) and axial coding (the development of a coding paradigm or logic diagram to identify the central phenomenon conditions), and selective coding (to present conditional propositions or hypotheses) (Glaser & Strauss, 2006; Strauss & Corbin, 1990). This final phase leads to theory construction.

Interviews were transcribed verbatim and transcripts were coded in NVivo 10, a widely recognized qualitative text management software package used for research. A codebook was developed based on the initial interview guide and updated throughout the interview and coding process (please see Appendix B). Transcripts were coded separately by this author and my research assistant. In order to ensure a high level of intercoder reliability or consistency,²⁶ we met regularly to compare our coding. Intercoder reliability is a critical component of qualitative data analysis, as it serves as a proxy for the validity of constructs that emerge from the data (Kurasaki, 2000). In the case of code disagreement, we discussed the code until consensus was reached.

Development of the Codebook

The first step to developing the coding framework involved a review of the goals of study and the specific questions included in the interview guide. Each question received at least one initial code. Additional codes were added as transcripts were read and analyzed and as important themes emerged through memo generation and discussion.

²⁶ For this study, the team sought perfect agreement ($K=1.0$). Cohen suggested the Kappa result be interpreted as follows: values ≤ 0 as indicating no agreement and 0.01–0.20 as none to slight, 0.21–0.40 as fair, 0.41–0.60 as moderate, 0.61–0.80 as substantial, and 0.81–1.00 as almost perfect agreement (McHugh, 2012).

The codebook is included in Appendix C. The following five key structural themes were added to the codebook during the process of coding and analyzing the data: Pre-Katrina, Katrina experience, Period of Displacement, Return to New Orleans, and Perceptions of self and city. The first four themes capture a time element, tracking the process of post-Katrina migration. As this is an iterative process, more codes were developed as coding continued.

Memos and Comments

Prior to the addition of new codes to the codebook, I typically first created a memo as new themes and important topics emerge through the initial reading and discussion of the interviews. These memos were added to the NVivo files as interviews were entered into the software. For example, “Katrina as a catalyst for change” was identified as a recurring theme, which was first documented in an analytic memo, leading eventually to its addition to the codebook as a formal code. “Katrina as a catalyst for change” reflects a common perspective among informants that returned. While Katrina was the single-most stressful and catastrophic event in their lives, the event also led to progressive changes in New Orleans’ political landscape and educational system.

Post-disaster QOL: Developing a Conceptual Model

Following the initial coding of interview transcripts, I organized each of the interviews into case narratives. I conducted a second level of coding to examine how people conceptualized post-disaster QOL or what I have labeled as the domain of the ‘New Normal.’ Using a grounded theory approach, I created three domains that impact post-disaster QOL: Common, Local, and Migration Control. Within each of these domains, I identified themes that act in these domains to enable or constrain post-disaster

QOL. Each of these domains and accompanying themes are described in detail within Chapter 4.

In my final step, I examined trends within domains of post-disaster QOL through intersections of race, class, gender, and age by using my original sampling categories as an organizational starting point. Through this process, I created a preliminary taxonomy of post-disaster QOL that allowed me to explore different patterns and trends that emerged from that data. This taxonomy of post-disaster QOL consisted of the following four outcomes: improved, stable, mixed, and poor. While these categories were not discrete, the objective of the taxonomy was to allow me to explore variations in post-disaster QOL in order to answer my research questions and inform the development of a new conceptual model.

Criteria for Assessing Quality of Interpretivist Research

Schwartz-Shea (2006) identified the following four criteria for assessing the quality of interpretivist research: *Thick Description*, *Trustworthiness*, *Reflexivity* and *Triangulation*. Thick description (Geertz, 1973; Schwartz-Shea, 2006: p. 101) refers to:

Sufficient detail of an event, setting, person, or interaction to capture context-specific nuances of meaning such that researcher's interpretation is supportive by "thickly descriptive" evidentiary data. The subtext of this wealth of detail is the provision of evidence that the researcher was, in the original case of ethnography, actually present on-site, an eyewitness to the events, settings, and interactions described.

For this study, I achieved thick description through the inclusion of multiple examples of data with detailed descriptions of individuals and events, as well as the systematic process that I engaged in during data collection and analysis. This employment of thick description around process also served to ensure a level of trustworthiness in the work. While an interpretivist study cannot be generalized in the

traditional positivist sense, if the work is trustworthy, theoretical generalizability is possible (Geertz, 1973; Yanow & Schwartz-Shea, 2006; Yin, 2009).

Theoretical sensitivity emphasizes the reflexive use of self in the processes of developing research questions and conducting analysis. Hall and Callery (2001) propose that incorporating reflexivity enhances the rigor associated with grounded theory studies. Having my own Katrina narrative, reflexivity or the 'role of self' (Lincoln & Guba, 1985) was important in driving my research process and informing my analytical approach.

Embedded within every aspect of this study is my Katrina experience. I evacuated the city along the counter flow route along with tens of thousands of cars packed with old and young, pets, luggage, and cleaning supplies. Displaced for two months, I returned to a city in ruin, my belongings destroyed, my plans in shambles. Like those around me, I moved through the surreal into a new normal. It was a slow, and at times painful, process of healing.

Finally, triangulation is broadly defined as the attempt to understand a phenomenon by using different analytical tools (Schwartz-Shea, 2006). This dissertation employed three triangulation strategies: data triangulation, methodological triangulation, and researcher triangulation. Data triangulation is defined as gathering data through several sampling strategies so that slices of data at different times and in different social situations, as well as on a variety of people, are gathered (Denzin, 1970). A quota sample based on geography, socioeconomic status, and level of damage was used to identify participants with a variety of disaster and post-disaster experiences. As soon as the quota of five per stratum was reached, we stopped recruiting in that stratum. Methodological triangulation was achieved through the use of interviews and archival documents. Finally,

more than one researcher engaged the field for data collection and participated in the initial stages of analysis. Inclusion of multiple sources of data and multiple methods of access provided me with an opportunity to examine the multidimensionality of a complex phenomenon.

Chapter Summary

This study uses a qualitative case study approach to explore post-disaster QOL and migration behavior of current and former New Orleans residents following Hurricane Katrina. Drawing from a subsample of a larger study, we interviewed 50 key informants across three states. A grounded theory approach was used to develop a conceptual framework of post-disaster QOL. Interviews were transcribed verbatim, and transcripts were entered into NVivo 10 to facilitate categorization and analysis. The process of data collection and analysis was iterative and ongoing. In my final step of analysis, I tested my conceptual model by examining the domains of post-disaster QOL through intersections of race, class, gender, and age by using my original sampling categories (*More Privilege/Less Damage*, *More Privilege/High Damage*, *Less Privilege/Less Damage*, and *Less Privilege/High Damage*) as a starting point. Through this process, a working taxonomy of post-disaster QOL outcomes (improved, stable, mixed, and poor) was developed that allowed me to explore different patterns and trends that emerged from that data.

CHAPTER 4

FINDINGS

“The water receded but the storm never went away. There have been problems ever since that have never ended. I don’t think it ever will end.”
(African American male, More Privilege/High Damage, relocated to Houston area)

“It took a major catastrophe, but I think it showed us how we really are. You know, how we rallied around the city, and that’s a love, that’s a strong love. Without that, you’re going to move to: fill in the blank.”
(White female, More Privilege/High Damage, returned to New Orleans)

Rethinking QOL in a Post-Disaster Context: A New Conceptual Framework

This study finds that Quality of Life (QOL) for individuals and families’ post-disaster is more than a set of discrete outcomes by which recovery may be measured. The previous chapters established how current disaster research is limited by its use of QOL research to evaluate independently useful but isolated outcomes for post-disaster factors such as health, security, well-being, and resilience. In contrast, this chapter presents a renewed conceptualization of post-disaster QOL that not only maintains the established QOL factors, but offers an innovative inclusion of the cross-cutting factor of *Migration Control*.

Drawing upon the in-depth interviews of participants, I find that the participants articulated their post-recovery experience in terms of a relationship between two major domains impacting QOL that I describe as the *Common* domain and the *Local* domain.

The *Common* domain includes common aspects of well-being that are impaired, diminished, or threatened as a result of disaster. These factors are similar to the concepts of universal health capabilities which include life, bodily health, and bodily integration of security (Nussbaum, 2000, 2007) that are delineated in this study as family, health, safety, and housing/financial stability. In short, every informant speaks to these *Common* or universal factors that comprise this domain. The second domain, *Local*, designates the social landscape that contextualizes how individuals experience their environment through factors such as social networks, degree of social capital, community resources, culture, governance, and inequity.

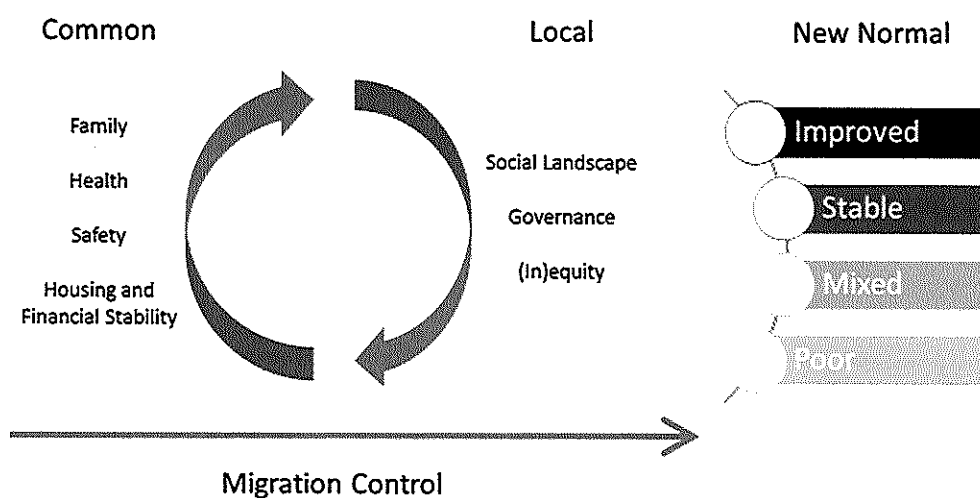
The dynamic interaction between *Common* and *Local* result in a core status for every individual in this study. That is, those with robust pre-disaster Common conditions concerning their family, health, safety, and housing/financial stability – along with a durable Local domain of social networks, high social capital, durable community conditions, and cultural contexts – are most likely to possess an increased positive post-disaster status. This instinctive idea includes the concession that any one of those variables within the domains may be weak; it is most significant that on the balance, both domains are generally strong. The domains of Common and Local, and their subsequent interaction with one another, satisfy the inclusion of QOL factors.

The inclusion of the cross-cutting notion of *Migration Control* offers a unique extension of the domain relationships in that this study describes how those individuals who possess the strongest relationships between their *Local* and *Common* domains are, in turn, able to best orchestrate, regulate, or otherwise direct their migration, and ultimately, are most likely to have high QOL as described by the categories of recovery status:

improved and stable. Those who have low control over their migration experience, predicated by the weak interactions of their *Local* and *Common* domains, are more likely to experience a post-disaster QOL status of poor or mixed.

In short, I argue that the extent to which an individual is able to control their migration during and after a disaster determines post-disaster QOL, and this amount of control is determined by the interplay of two major domains of *Local* and *Common* that culminate in the formation of a *New Normal*. With *Migration Control* treated as a cross-cutting domain that encompasses geographic and temporal components, I identify emergent themes that include agency and choice. I emphasize that there is a dynamic relationship between migration and the other domains. The *New Normal* is defined as the post-disaster QOL of an individual that moved through a dynamic period of disruption, or what Baker et al. (2013) calls the “surreal period” to a state of recovery. It should be emphasized that recovery will look different in different contexts as illustrated in Figure 1.

Figure 1: Conceptual framework of Post-disaster Quality of Life



This chapter will first present my model for re-conceptualized post-disaster QOL by focusing on the interactive domains of *Common* and *Local*, then describe the cross-cutting domain of *Migration Control*, and ultimately present the final domain of *New Normal*. Each of the major domains and relationships are supported by illustrative case narratives and evidence assembled from a grounded theoretical extraction of the data.

The Dynamic Relationship between Common and Local Elements of Well-being

Drawing from Giddens's theory of structuration, the re-conceptualized post-disaster QOL shows a relationship between the domains of *Common* and *Local* that is highly dynamic following a disaster. Elements of the *Local* domain are defined as social structures that individuals engage with through the disaster recovery process as they move toward a 'new normal.' Giddens (1984) argues that human agency and social structure are not two separate concepts or constructs, but these are together produced by social action and interaction through a generative and dynamic relationship (Jones & Karsten, 2008). Stated alternately, individuals are both acting and being acted upon by the social systems and structures of post-disaster recovery.

Family, Health, Safety and Financial/Housing Stability

The following four key themes emerged with the Common domain: *Family, Health, Safety, and Housing/Financial Stability*.

Family

Family was identified by most informants as a critical part of their QOL, and *Family well-being* and *role intensification* emerged as key sub-themes. The well-being of family members during a disaster event has a profound impact on individual post-disaster QOL. Informants whose family members experienced physical or mental trauma or death as result of Katrina also experienced a long lasting negative impact on their post-disaster

QOL regardless of other factors. For example, an African American woman from Gentilly recalled how she begged her family to evacuate, particularly her aunt in New Orleans East. They were caught in the flooding when the levees breached.

We found out the next day that the water had hit here, at the canal. The 17th Street Canal, straight up. My mom was in the St. Bernard and they say they heard a boom sound, and my mom said, they can see the water in waves coming in. My mom's house, actually a little bit further back before the St. Bernard, so they had a one story. My sister had like a two story. So they left to go by my sister. So the water was coming in from the canal, it was coming in like waves. And they went up to the second floor. So while they were up in there, my mom was upstairs but all the food and stuff was downstairs. So my mom would wade through the water, going downstairs in the water to cook. So they could get something to eat those three days they was there. Cause they didn't have nothing to do there, they was stuck. And we was in the shelters so we couldn't find her. I couldn't find nobody at the time. And we happened to be in a shelter, and I happened to see my mom on TV, at the Convention Center at Texas. They took some balloon swimming pools from the store and they blew them up with their mouth. They put the children and my mom in them, they walked through water and got them from there up to the bridge [at 610]. So they wound up getting helicoptered there, and transported to the buses and went to Texas. And we happened to watch TV, and saw my mom and them interviewed by the CNN guy. And I'm like 'ok, good, I see my mom, they're there.' (African American female, More Privileged/High damage)

Unfortunately, her aunt did not survive.

Then, another night we slept. We woke up, my aunt, her husband was on the news. He was on the news talking about her. She died in the East. She died in the attic. It was too hot, and her heart was – she had a bad heart. She died telling him to save himself. And he was sad because the helicopters wouldn't get her.

Five years after Katrina, this informant's life returned to normal, but she felt anxiety about the safety of her children and expressed depressive symptoms five years after the hurricane.

Several informants noted role intensification as caregivers following Hurricane Katrina. Role intensification tends to affect women more than men as they are generally

the caregivers in a family (Fothergill, 2004). In the case of Katrina, it disproportionately affected Black women who often experienced longer periods of separation from family members. One African American woman with a young child at the time recalled how her company put her and her family in a hotel in Baton Rouge. They had one bed that they shared with her mother for two months. Her husband's job required him to drive back and forth to New Orleans. She worked around the clock until she finally told her company that she could not manage anymore and took a leave of absence.

We had one hotel room, which I was grateful for. But it was my mom, the baby, me, and my husband for a few days. There was one bed, we were kind of like rotating who got a chance [to sleep]. It was just really stressful, and it was just a lot, you know? I was still breastfeeding. I was like, I'm trying to pump, at the same time I haven't gotten any sleep. So after a while going through all that, after 8 weeks or 6 weeks or so, I told my job that I just could not manage. At that point, after we were in Baton Rouge for almost like 2 weeks, [my husband] had to come back. And it was just kind of weird. Like I said, we had just married so it wasn't like we were in this established relationship for like 30 years, where it's just like, 'ok, you go do your thing.' So it was just, everything was just too much. And so I ended up taking a leave from my job. And part of that was pushed by the fact that my mom said, 'I've just got to get out of here.' Like I said, we were all getting a little bit you know cabin fever, stir crazy. And while I was working those 12 hours, she was there with the baby. (African American female, More Privileged/High damage)

She drove her mother to her sister's residence outside of Atlanta in October. She and her daughter stayed there until the first week of December, when they were finally able to move into an apartment with her husband in Harahan, Louisiana. Another African American woman lived apart from her husband for two years with their daughters until they were able to return to their house in the Gentilly neighborhood.

Caretaking spans the lifecycle. Many older adults also experienced role intensification as they were displaced and cared for elderly parents and relatives. For

example, a middle class African American couple originally from New Orleans East evacuated with their elderly parents. They resigned to settle in Texas to take care of their parents' health needs, even though they wanted to return to New Orleans.

I wanted to go home. He said he was tired of running with the old people, we just couldn't, there was nothing. When we looked at it from a practical view with the health issues they had to deal with, congestive heart failure, high blood pressure, cancer, there were just no medical facilities; we were between a rock and a hard place. I want to go home but I can't take care of the family if I go home. (African American female, More Privileged/High damage)

The added burden of care-taking following a disaster caused tremendous emotional stress and hardship to individuals and families struggling to recover.

Health

Disasters are high stress events that can lead to negative physical and mental health outcomes for those affected. Many informants noted negative health events following Katrina such as strokes, hypertension, memory loss, depression, anxiety, diabetes, and weight gain. In one case, an African American man in his mid-forties discussed how the stress of disruption took a toll on him and his wife. He suffered a heart attack in 2008, and then his wife, also in her forties, died of a heart attack in 2011.

That stressed out, it kind of stressed me out when we got down here to get everything set up and get the house in order. Kinda like depressed and I don't know nobody that do the things I like to do. I finally got this house and I was sick and kept having chest pains and I wound up having a heart attack. That kind of made me slow down a little more. After a while she started getting sick and after a while it is like, last year she passed. I can't say it was that or just adjustment... That hurt more than Katrina could ever do. She had a heart attack. She had first, she had like her legs was hurting. She had poor circulation in her leg. After that she started deteriorating. They said she had a heart attack and died. I said that I had just talked to her. That was kind of hurtful. (African American male, Less Privileged/Low damage, relocated to Monroe)

Poor health outcomes are further compounded by a limited or non-existent health infrastructure of an affected area. Disasters at the magnitude of Hurricane Katrina devastate health infrastructure and limit access to care. One informant shared her frustration about trying to find care for a sick relative after the storm.

Finally, it got to where it was so much stress and then [my in-law] got sick and she had hurt her back and it was just stress. She lost everything and she is my age. Her house was totally flooded and then the roof blew off too. She was in pain and we took her down to a MASH unit in the Convention Center. They had a MASH set up. They couldn't even take her temperature; they couldn't even give her aspirin, nothing. I don't know what it was but they couldn't do a thing for her and she was just miserable. So I went over on Jefferson and tried to find a couple of places to go. Nothing! Nobody could help her. I was just losing my mind. We just drove over to East Jefferson, rolled in to the emergency exit and said, "She needs a wheelchair. I'll go park my car somewhere else." She went in and they took care of her. (White female, More Privileged/Less Damaged)

Several informants who returned, especially African Americans, noted that they or family members lost their health provider and in many cases their health coverage. Many informants noted that they had to find new pediatricians and that their elderly family members experienced challenges finding new doctors. With the destruction of much of the city's healthcare infrastructure, informants with a health condition or with family members in need of healthcare were more likely to out-migrate.

Areas such as New Orleans East were deeply impacted by the loss of health infrastructure. The only hospital in New Orleans East was flooded, forcing residents to travel twenty-five minutes by car to obtain healthcare downtown or within Slidell across Lake Pontchartrain. For older residents and those with chronic health conditions, this was not an option. In addition, the health safety net for the poor was devastated with the closure of Charity Hospital. Community clinics sprang up, such as Common Ground

Clinic in Algiers, but demand far exceeded supply. Accessing mental healthcare proved even more challenging for affected individuals.

In some cases, out-migration did not improve access to healthcare, particularly for low income informants. For example, a low income African American woman who relocated to Lake Jackson, Texas was unable to access healthcare because she was uninsured and lived in an area without a health safety net. At one point, the local hospital turned her away because she could not pay.

Five years after Katrina, many informants continued to experience diminished mental well-being. Informants who remained behind for the storm or had family members that were trapped talked about the lingering effects of trauma. In extreme cases, this manifested as severe mental illness. In other cases, informants experienced post-traumatic stress symptoms. One young African American woman who remained in New Orleans during Katrina talked about how her husband pointed out an unconscious coping ritual that she had developed in response to the trauma.

I remember for the first three years [after Katrina] I would go and I would buy Saltines, Vienna sausage, Ramen noodles and cans of soup. And he said 'you do this every August.' I was stuck in it for the first three years. And he said 'you do this every August, you want to know why?' And I said 'well since you are a genius why don't you just enlighten me?' And he said 'because that was the things that were in our container when we had our food for Katrina.' And I said 'oh' and then I looked at the quantity. And he said 'you bought all this because the stores were closing.' And he said 'you want to know what you did with it?' And I said 'what did I do with it?' And he said 'by day 3, you were giving this food to the kids that were coming in to the courthouse by air mattress or by however they got there.' He said 'you would wait till late at night.' I will never forget this one family, for one reason or another, and you know people act differently when they are surviving. Well anyway, the mom would take food from the kid. Everybody was in survival mode and they would take food from the kid. So I would call those kids over and I would be like 'come here, you are not in trouble' and I would take out the Ramen noodles and they would go find

somewhere to sit and they were crunching the noodles up and putting on the seasoning and they were sitting down and eating. And he said 'that is why you do that.' So at that moment, I was like 'if I am going through this and I consider myself to be ok; what is someone else going through who is not ok?' (African American woman, Less Privileged/High Damage, relocated to Houston)

Even informants who were relatively insulated from the impacts of Katrina are still traumatized. One informant who experienced limited damage and out-migrated to Baton Rouge began to cry during our interview, much to his shock.

There were so many people! (He pauses to collect himself) For some reason, this is doing something to me. I guess at time, I didn't notice it. You didn't realize the devastation. Just...gone. And, how long it has taken to recover. There are still areas that are down. Where they couldn't come back. People are not coming back. It's funny to work here and witness that. (White Male, More Privileged/Less Damage, relocated to Baton Rouge)

Several informants talked about the importance of grieving and closure. One informant originally from Lakeview struggled with bringing his wife and daughter to see their destroyed house after they out-migrated to Houston.

My daughter kept asking me questions, how the house is and whatever. I didn't want to take them, but my brother said 'you better bring these guys and see the house, because they need a closure.' You know if somebody's dead, you know, the house is dead, they needed closure. So I brought them to see the house. And, they were ok, they were digging around trying to find this and that... and a nail poked my wife's feet, and believe it or not, that kind of exploded her. All these things inside her, she started crying and screaming and just... it was losing somebody. It wasn't that nail, and it was just. My daughter started crying and you know, it was just really emotional. And just, I'm glad I was there for them. (White male, More Privileged/High Damage, relocated to Houston)

One African American woman who out-migrated to Houston spoke at length about the sense of community she felt living in the Lower Ninth Ward. Then she mentioned that she had never been back to New Orleans since she was force evacuated. Implicit in her narrative was a lack of closure for the community she lost. Another

African American women whose house was destroyed in New Orleans East talked about how her mother lost her mind because she did not cry.

Grieving and creating rituals were just some of the coping strategies that were employed. One woman who returned to New Orleans shared how she coped through efficiency.

And then I just got a pad, actually I got a clipboard. And some chalk, and a paper, and I started writing down what it was, took a picture of it. Upstairs, I had receipts for everything. I laid all the receipts out over at Kinko's on a legal pad, and then I numbered them, one, two, three, four....it corresponded with the photograph. And it was like a dossier: what it was, how much I paid for it, what's the projected price now. And that was how I dealt with putting my whole universe out onto a sidewalk. I categorized it because, by gum, if I had to let it go, somebody was going to help me get some new stuff, and I think it's probably the people I've been paying all those years. So I just wanted to make it easy for the insurance company, plus it was a way for me to like – just see the thing one last time, reminisce, and then let it go. (White female, More Privileged/High Damage)

An African American man in his 30s who out-migrated with his mother to Lake Jackson noted that he fishes to cope by stating, 'I can cast that negativity in the water and try to bring something positive.'

Many low-income informants, particularly African American women, discussed the importance of religion and faith during the recovery process. Katrina was just one of a long series of shocks and disruptions to their lives. Lacking privilege and power, low-income African American women often coped by 'giving it up to God.' Informants who experienced a loss of agency particularly over their migration after Katrina and substituted faith tended to report a higher level of well-being compared to those who did not. Conversely, they also reported experiencing depression and anxiety, particularly if they out-migrated.

It's just that, I always had God to talk to. When I didn't have my mamma. When I didn't have nobody else to talk to. It's just having that kind of thing, for me, I always talk to God. When I didn't even know about a God. I even tried to kill myself when I was a kid. But God will always keep me through it. So that's how I grewed up, just believing that there is a God. (African American female, Less Privileged/High Damage)

As far as I can see, God is constantly looking out for me. I mean he is the one that got me out of my house that I was not going to leave. When he say get out, I just immediately grabbed and got my kids and we got out. So I thank God for sparing my life and taking care of me. (African American female, Less Privileged/Low Damage, relocated to Mississippi)

I try to stay focused through prayer and the church. I am a strong believer in the lord; I have been saved since I was 25 years old and I am 71 years old and I believe so strongly in my faith that I believe that God can pick up that sofa and sit it down very quietly. I believe that; that is the kind of faith that I have. My scripture is Phillippian 4, 12, and 13. I believe that Christ, through all things, strengthens me. So that keeps me going. I think that is what has helped me, before that I was really on a down spell. (African American female, Less Privileged/High Damage, relocated to Mississippi)

Another key coping strategy employed by informants was the juxtaposition of self to other people or self in time, such as *it was worse for other people than me*. A variation on this strategy is *look at where we are now*.

Safety

In a post-disaster context, the need to feel safe from both perceived and real threats is intensified by the impact of disruption. Many informants identified safety as a critical component of their post-disaster QOL. Two main safety narratives emerged. The first was *safety from crime and the threat of violence* and the second was *safety from future disasters*.

Informants in every category identified crime and violence as key constraints to post-disaster QOL. One affluent White couple who lived in the French Quarter described the impact of crime and violence their lives after Katrina.

After they [Katrina refugees] started coming back, and it was worse than it was before Katrina, you know. They were even in the quarter. You know, used to be the quarter was protected and they were even in the quarter. I didn't go out of the house for two years. About two years, wasn't it? I wouldn't go out by myself at all because it got so bad there in our neighborhood. And then, let's see our neighbor was like eight months pregnant and she was coming home from work, got out of her car, and some people came and just beat her up... And then, our neighbor on the other side of the street was, it was like 8 o'clock in the morning, we're sitting there reading our paper and we hear him screaming and we go out there and these Black guys have this girl, they have a gun to her head and they took her purse. And, we kept a shotgun by our front door all the time for protection, and [my husband] got the gun and chased them down the street, you know. Only in New Orleans. You know, people were coming out of their house going get him, you know. (White female, More Privileged/Low Damage, relocated to Austin)

Even though they had grown up in the West Texas oil fields, which they described as a violent place, it got to the point that they decided it was time to move out of New Orleans. They both felt that if they had stayed that he would have had a heart attack or a stroke from the stress.

He is the type of personality where he feels like he has to do something. He's always protecting people, taking care of others, you know. And things like that kept happening. And I said "you know what, we can't. We can't live like this. You're going to, he's going to have a heart attack or get killed by one of those people." You know. (White female, More Privileged/Low Damage, relocated to Austin)

The threat of violence was quite real for several African American informants. Many African American informants were fearful of the violence in New Orleans and were particularly worried about the safety of their children. Several young African American male informants noted that they had either lost friends to violence or had been victims of violence while living in New Orleans. Informants felt that trauma, lack of

mental health services and afterschool programs, and loss of public spaces for children were driving the violence.

Another big concern for me is, of course, the crime rate. Cause I am watching this second line in September, where I saw two people shot right next to me. One was dead, the other was severely wounded. And this was a 13 year old teenager that did that or fourteen at the most, I saw him. The people who jack up our murder rate is a very small percentage of the population. It's teenagers - 13, 14, 15 year old children who went through Katrina, had no counseling, no afterschool programs. Their parents are either on drugs or in jails, their grandparents work fulltime to make ends meet. They don't know what to do with themselves. That's what worries me. And especially since our afterschool programs and all the recreational programs at high schools have again been cut by the state. So that's where I see the biggest changes from before Katrina and after Katrina. And I don't see how, how a city government will be successful in controlling the crime rate until after they get good afterschool programs. Until they get better counseling for the children. Until they get better hospitals for mental health. (White female, Less Privileged/Low Damage)

Crime and violence served a push factor for many out-migrants, reinforcing their decision to not return. A former Uptown resident that out-migrated to Austin noted:

What I gained in moving to Austin was a sense of safety that I never had one day in New Orleans. I mean, we don't even have an alarm in our home. We don't even close our doors. When we first came there, I can't explain how letting that go from your shoulders, where walking the dog at night is such a pleasure, because you're going to see deer scampering around instead of worrying that someone in a car or someone on a bike is going to drive over and hurt you in some way. Not that I have ever been hurt, or even robbed or anything. But there's anyways this very heavy, heavy fear of that. Gone... I love that I don't have to settle for scariness as normal. (White female, More Privileged/Low Damage, relocated to Austin)

Several low income African Americans that out-migrated to Texas noted that they would not return to New Orleans because of safety concerns.

We listen to the news a lot and it is not a good place. I'm not saying that I didn't notice it. Maybe I was working too much. But, looking at it from the outside in now, that's all you hear is about the killing, all the young ones doing all the

killing. It's not a good place to live. (African American female, Less Privileged/High Damage, relocated to Houston)

And the last time I went to New Orleans and I went to see a friend of mine's who they just lost their husband, you had little kids, look like they were 8, 9, 10 years old threatening grownups, walking around talking about dropping grownups. I don't have to worry about that, cause we have good security, 24 hour security. And we got a curfew for the children and they are firm with it. The parents are being handled. You know, if they catch a child out here after nine, and they go to the parents, she'll give them a citation. The next time you go to jail. (African American female, Less Privileged/High Damage, relocated to Houston)

It's just as bad as before Katrina. I was on the phone talking to one of my friends. And all of the sudden it sounds like we were in Vietnam or the Persian Gulf somewhere. And I'm like 'What is going on!' and she's trying get in the door. I said, 'you better move'. (African American female, Less Privileged/High Damage, relocated to Houston)

There's too much killing down in New Orleans. I don't have to look over my shoulder when I walk the streets. I can go fishing and have fun with no problems so... (African American male, Less Privileged/High Damage, relocated to Lake Jackson, TX)

Many informants, especially those that out-migrated, noted that they did not feel safe in New Orleans from future disasters. They did not believe that the levee would hold up in a serious hurricane. As a result, informants engaged in risk mitigation through migration. For example, a former Lakeview resident noted that the New Orleans option was still on the table until he returned to survey the damage and realized close to the breach was to his house.

But after I saw how invasive this hurricane was, how our house was close to the breakout. Then I was thinking, if something like this happens in future, even [if] the city comes back and everything's back like it used to be and something like this could happen, you know, being a structural engineer, something like this can happen again, especially the flooding. The flooding part worried me a lot...and [if] it happens overnight, you are dead. (White male, More Privileged/High Damage, relocated to Houston)

Older informants were particularly concerned about having to start over in the event of another flooding event.

Housing/Financial Stability

Housing and financial stability were intrinsically linked in post-disaster narratives. Financial privileged individuals that experienced lower levels of damage tended to recover more quickly and reestablish their pre-Katrina level QOL. They had resources, such as savings, additional properties, and employment that they maintained through the evacuation period. Even in cases where they lost their employment, they were able to maintain financial stability. In addition, they were able to return to their residence relatively quickly or sell their homes at a profit and out-migrate.

The picture was more complicated for financial privileged individuals that experienced high damage. This group was comprised of Whites and African Americans. Although this group had savings, they did not tend to express the same level of financial stability during this period of displacement. White informants came back faster than African American informants (within months versus 2-3 years). Part of this delay was tied to delays in insurance payouts and disaster recovery assistance programs, such as Road Home.

For many homeowners, dealing with insurance was a stressful process as they navigated between homeowners and flood policies. One of the informants described how his insurance company gave him 'the bounce around' and another called the experience 'a living nightmare.' In some cases, insurance companies were slow and unresponsive. In other cases, they underpaid claims or simply refused to pay out at all.

Low income individuals that sustained high levels of damage experienced greater housing instability and lower financial wellbeing regardless of whether they returned or out-migrated. Many low income homeowners also found themselves trapped in an unsustainable cycle of paying rent and trying to maintain a mortgage. The African American woman who had lived in the Bywater talked about losing her home to foreclosure and the new uncertainty of living as a renter.

Now, we are pretty much living month to month. What if someone decides to say, "I want my house back." We have to move on. It's something that I didn't have to worry about as long as I paid my mortgage, I'm fine. At my age, who is going to give me a mortgage? So, I'm like living month to month. Before Katrina, I was stable, you know. But, now, I don't have anything now. All of the years that I invested into my home, stopped. When Katrina hit, they said that you didn't have to pay your mortgage for three months and they would add that to the end of the mortgage. But, that didn't work. They agreed to it and then that person that I spoke to rescinded. (African American female, Less Privileged/High Damage, relocated to Houston)

Low-income renters were particularly vulnerable to housing instability as rents skyrocketed following Katrina. A displaced couple in Alexandria noted that their daughter tried to return to New Orleans but was forced her out of her apartment.

I had my daughter who lived out in front of town, didn't have nearly much water as we had and she was able to go back to her place. It was a difficult transition for her because what happened was she went back to the apartment where she used to stay and because she was there her rent was what it was when she left. As a result of that, and with the increase in rent and other things she was forced out. What happened was, the excuse they used was they wanted to remodel the place but what the whole truth is they wanted her out. Well they wanted her out because they did a little remodeling and then the rent tripled. And then with having a binding lease with them, they couldn't do that. So what happened was she ended up leaving New Orleans and transitioning back to where she was during the hurricane which was Austin, Texas. That is where she is right now. (African American male, Less Privileged/High Damage, relocated to northern Louisiana)

Access to low income housing was further exacerbated by the closing of the public housing projects. Renters who were able to move to homeownership encountered greater stability, but this was not an option for many low income returnees.

Often, the cost of living acted as a barrier to returning. On the other hand, low income informants found that out-migration meant a lower cost of living. Several African American informants noted that leaving New Orleans meant that they had to work less to maintain their lifestyle.

I found out I didn't have to work-work, I could still get what I need. Instead at home you work-work and get a little bit but you are still tired. Over here I can work, get what I need, and still have time for myself. It seemed like at home I was always working and never enjoying it. It worked out where I got down here and I had bills paid and money in my pocket. I can relax for a little while. I couldn't understand why I couldn't do that at home. It took me a while, an adjustment. At home it was like money was coming in and it was like can you work, but all the overtime didn't make no difference. You still got a little ahead but you didn't enjoy your family. Where here, you pay your bills and there is nothing to do. That might be a good quality. At home, someone might have something going on, especially if you were raised there. Some activity was coming in town or it was just that fast life. Basically coming here everything is like slow. Basically what I can see is that I have a chance to enjoy and appreciate things more than I did at home. I took for granted spending time at home and I got a chance to stay home. It wasn't worth it. Money ain't going to be here when you are dead and gone. At least it got us closer and we find things that we like. (African American male, Less Privileged/Low Damage, relocated to northern Louisiana)

Fraud was another challenge that informants faced. Several low-income informants noted that they were victims of identity theft following the disaster. Others experienced contractor fraud. One informant recalled:

My brother had to sue his contractor because he ran off with his money, my oldest brother the cop. He had to sue this contractor. He was fortunate enough to do so. The older lady who was in her 90s, someone ran off with \$70,000 of her money and she told her children 'I am not going to go over until I get back in my house.' And she is almost 100 years old still holding on determined to get back into her

house. My childhood church, someone ran off with this money and they had to hire a new contractor who was gracious enough to reduce the cost for them but they still never got satisfaction from that. (African American female, Less Privileged/High Damage, relocated to Houston)

Seniors and low-income homeowners were particularly vulnerable to fraud and delay. A former director of the New Orleans Recovery Authority noted, “I think there is a lot of people that won’t be getting home. I think that older people will die. The stress will kill them. They’ll die wherever they are right now.”

Social Landscape, Governance and (In)equity

The theme of *Social Landscape* refers to the organization of social life that individuals are embedded in and act upon. Several elements of the social landscape emerged in disaster narratives that served to enable and constrain post-disaster QOL. These elements included *social networks*, *community* and *culture*.

Social networks during a time of disruption play a critical role in post-disaster QOL, providing social support and stability, as well as resources and information. There is a geographic dimension to social networks, as they can be locally or extra-locally embedded (Thiede & Brown, 2013). Catastrophes such as Katrina often overwhelm local support networks by eroding their ability to be responsive to the needs of individuals in recovery. In some cases, disasters undermine and erode existing social support networks as time goes on. Many informants have tried to stay in touch with their close friends but ‘everyone is so scattered. It’s like living in another world.’

African American social networks tended to be locally embedded. Before Katrina, multigenerational African American families lived in close proximity, in some cases in the same households.

We had our struggles, but I would say now, we were a tight knit family. We stayed on both sides, sisters on one side and the guys on one side, and my mom. So we were really close knit. And we put our monies together so we struggled some, but it wasn't as much as it is now. Pre-Katrina, it was nice. It was real nice. (African American man, Less Privileged/High Damage)

My grandparents, they were deceased at the time, but their house was located between St. Claude and Claiborne. She had a sister across the street and then my grandfather had a sister around the corner. And my mother, we lived on the other side of St. Claude and that would just be an easy walk. That was our exercise and everything. And then my uncle, one of my grandparent's children, he lived on the other side of Claiborne so we were all very close. (African American woman, Less Privileged/High Damage, relocated to Houston)

A common subtheme that emerged from disaster narrative of African Americans was *families blown apart*. Many informants talked about family members spread throughout the country as a result of Katrina.

Everybody is scattered all over. My daughter is in Austin. Two of my sisters are in Baton Rouge. One of my brothers is in Virginia. My younger brother, he is here with us, he stays with us. He is still here with us. I have a friend, he is from New Orleans also, he is still here; we all came together. My mom passed while we was here. I still have a nephew and he is in Texas. So we are pretty much scattered all over the place. I do have one cousin that is back in New Orleans. He lives in the 9th ward. He is back. He is probably the only one. (African American couple, Less Privileged/High Damage, relocated to northern Louisiana)

In many cases, White informants tended to have extra-locally embedded networks either because they were in-migrates or their children out-migrating for school or work. As would be expected, higher income informants had more resilient local networks following Katrina and extensive extra-locally embedded networks beyond New Orleans. In addition, these networks tended to be well resourced.

Low income informants that were able to access existing extra-locally embedded networks found that they were able to marshal resources compared to those with more

locally embedded social networks. For example, an African American informant shared that he did not want to evacuate but because of his wife's health issues, they left the day before for northern Louisiana where some of his family lived.

We picked Texas, but what happened was, I had a cousin that had moved here some years ago and through conversation with him, he suggested that we come here because he said well if nothing happens you will be closer to home, and if something do happen you will still be closer to home than say living in Houston or other places. I actually came with my whole family; my brother, my mother, my sister, my whole family. We traveled in a group. Our daughter, our children, the whole family. (African American male, Less Privileged/High Damage, relocated to northern Louisiana)

Their apartment in New Orleans East was badly flooded, so they decided to stay in Alexandria with the help of relatives. It was through their network that they were able to find the low-income apartment that they still live in today.

Informants with high social capital also tended to recovery more quickly regardless of level of damage or socio-economic status. Several informants that returned to New Orleans noted that they worked collectively within their social networks to recover.

Well, we had people who lived in other parts of the city who lost everything. They were all insured, they didn't have to wait for the Road Home program or anything like that. We all pitched in, we have a household group, we get together, we have a very large family, we would get together on the weekends when we could actually get to their property, and just help them replace, rebuild. They rebuilt and then got out of the city. (White female, More privileged/Low damage)

I had the adaptation that the house being rebuilt was on my shoulder, and that I had the information. Felt to believe that it was up to me to maybe do the ripping and the running. But actually putting the house together was the contractors. Once you screen the contractors, it was out of your hands anyway. So I felt it was up to me to get the house jump-started, get something started. Didn't turn out to be that way, I had help from my brothers, they pitched in, too. (African American Male, Less Privileged/High Damage)

Others were able to tap into social networks that provided critical information. For example, displaced higher-income African American informants experienced challenges accessing social assistance programs because they had never had to before. One woman who had worked for a non-profit in New Orleans linking low-income parents to community resources found herself in the position of receiving food stamps. Realizing she didn't know what to do with them, she had to reach out to some of the parents to find out what to do.

For many African American informants, it was not just about separation from their social networks, but also their communities and culture. Community is both physical place and collective social action that individuals engage each other in, imbuing it with dynamic geographic and temporal dimensions. A major subtheme that emerged for African American informants around community was the *loss of place*. This sentiment was shared by both returnees and out-migrants. One resident who returned to Gentilly talked about the community as her neighbors out-migrated.

They started off somewhere else, and they don't worry about it. Cause we have like a house across the street, they gone, they put the house up for auction, nobody bought that one. Two houses down, the elderly people that live there, they can't afford to fix it so it just sits there. And, there –they moved out to Mississippi. So there's a lot people came back, but it's quiet. You don't see them sitting on the porch, sitting out waving, hey, neighbor! You don't see that anymore. So everybody's kind of like indoors, we're like worn out. Everybody's so tired, you get so tired from trying to fight and get everything back, it's just not the way it used to be. (African American female, More Privileged/High Damage)

Many African American and low income informants talked about the destruction of public spaces, such as neighborhood schools, Charity Hospital, and the housing projects. Others talked about the loss of place as a temporal space that will never exist again, regardless of whether the physical infrastructure is restored. For example, a young

African American woman who out-migrated to Houston talked about the loss of her neighborhood school.

I often think of how things would be for us if we decided to remain in Louisiana. Mainly New Orleans. Just because here in Houston the school districts, they take pride in seeing teachers come, products of their system come back to teach. I am wondering how great it would be if I went back to [neighborhood school] and taught or anyone of my other former schools. How cool would that be? But I am not as eager to move back now because my elementary school has been torn down and that was a big part of the community. I am not certain if my junior high is still standing and there is like a new wave of teachers here in Houston. So many changes. (African American female, Less Privileged/High Damage)

Neighborhood schools, although an important part of pre-Katrina identity, do not exist in the 'new' New Orleans. It is clear from her conversation that this served as an anchor in her life, and she is having a challenging time with the loss of her community.

Culture also served as an anchor for many African American informants whether they returned or out-migrated. For those that returned, culture was a way to reestablish community in the face of disruption. One woman who returned to New Orleans recalled how second lines²⁷ were the vehicle through which she learned the fates of many of her friends.

I guess just the stress to not know who was alive, and who wasn't. And then the second lines started, and once the second lines started, you could see your friends again at the second lines. That was the only way I could because nobody had a cell phone before. It was very few people. Everybody was used to land lines. So I didn't know where people were, and I didn't know how to reach them. (White female, Less Privileged/Low Damage)

²⁷ Second lines parades can be traced back to the 19th century where social aid and pleasure societies collectively provided insurance and burial services (Jazz Funerals) for their members, particularly in the African American communities. These traditional Jazz Funerals involved a brass band that lead the casket and the family, 'the first line', followed by mourners, 'the second line'. Second lines continue today, though not necessarily tied to a particular event. (Source: www.frenchquarter.com/secondline/)

Displaced residents also engaged culture as a coping strategy. A young African American man who out-migrated to Lake Jackson recalled how after the Saints won the Super Bowl, he jumped out of his car and did an impromptu second line in the parking lot of his apartment complex. For many African Americans informants, family, community, and culture blend together to form a social landscape that had been drastically altered in the *new normal*. Culture serves as a vehicle for maintaining sameness in a shifting landscape.

Engaging a New Social Landscape

Younger informants reported that their social networks tended to have changed dramatically after Katrina, but they were also more likely to have engaged new networks. Many informants who out-migrated were able to tap into new social support networks in their communities; however building new networks takes time. When asked about their new community, a couple in Texas (African American, More Privileged/High Damage) admit that they are making friends but ‘it is not the same. I have really good neighbors and we get along great but you can’t build a forty year relationship in three years. You can’t do that.’

Male informants, regardless of race, were less likely not engage new support networks. Asked about his social support network, a white informant (More Privileged/Low Damage) was divided; ‘It’s about half and half. It’s harder to make friends here and some of my old friends are still in the City, some are in Texas and some of them aren’t. Some are in Tennessee.’ The West Texan who had lived in the French Quarter relocated to a remote area outside of Austin. He recalled that New Orleans was too friendly and he preferred his privacy.

We had more friends there than I wanted. I don't like having a lot of friends. And there wasn't a day that went by where someone didn't call us wanting to do something. Ever! And we did a lot of it. We tried to engage. Yeah, we definitely got engaged and never in my life - I don't want to know my neighbors. I don't want them over here and I don't want to go over there. (White male, More Privileged/Low Damage, relocated to Austin)

An African American man who relocated to Monroe found the same issue in his new community.

The people are friendly. It just ain't me. I am not used to people talking too much. 'Hey how you doing?' 'Do I know you?' Since she [my wife] is from a country town, I am like 'nah, New Orleans you just don't walk up and start a conversation with nobody.' (African American male, Less Privileged/Low Damage, relocated to northern Louisiana)

He talked about the lack of privacy he experienced when they first relocated to Monroe.

That drove me crazy. I said, 'nah, we got to get a house.' I am not used to it. 'Can I have some sugar?' 'No, go away.' 'What you cookin'?' 'None of your business!' ... I finally got two people that I feel comfortable with, that I can hang out with. It's like children, have to go out into the community and make new friends and I am 38 years old. Go make new friends? The people I grew up with, I know they are my friends.

Older informants, particularly African American women separated from their families, were more reliant on 'new networks' of neighbors. One woman in Mississippi talked about having to rely on other to get around.

Everybody has a car. Everything is so far out so I don't go to church. But here they have a church that comes here every other Sunday or so and they have bible study on Tuesday. I always say once I get a car I will be going to church but like I tell my kids, you definitely need transportation. My good neighbor, if I have to go anywhere he will take me every month, since I have been here he take me every month to make my groceries and pay my bills. But I don't bother him for his time. You know, you feel like you want to go shopping but I don't like to worry people too much cause the time that you need them... The main thing, by me being my age, you definitely need transportation unless you are the type who don't mind staying in. I tell my daughter, if you are ready to settle down and a nice place

comes, but if you don't mind staying in, especially if you don't have transportation. That is why my older sister went back. Because she didn't, she would get up in the morning and either catch a bus or catch a cab home and she said she had to go back to New Orleans because they don't have cabs up here. They do have a van, when you do have to go to the store you can make an appointment and then they will go and pick you up. And you do have transportation back and forth to the doctor. You can call them 5 days ahead for your appointment...If they wasn't in service, I couldn't stay up here because I would have no way to the doctor. (African American female, Less Privileged/Low Damage, relocated to Mississippi)

Another older woman, also in Mississippi, talked about how her neighbors had become her support system.

I got a good support system here with my neighbors. They take out my trash, but see the whole time I live here, you leave your door open and go about your business. I leave my doors open. I stayed in New Orleans a whole week. Nobody bothers nothing. My neighbors will come over here and they check the door. Sometimes I leave my window up, there is a storm, and they will put my window down and close the door. They do that right now, at night I am by myself. The two neighbors I have will come here and they will say, 'now don't get scared.' They check on the door, make sure it's locked and they will say, 'we are checking the door because you have left the door unlocked.' So they push the button and lock the door. They take out the garbage, I have nothing to worry about. They do everything for me. It helped me a lot but I am so used to helping other people, it took me a while to get used to other people reciprocating. (African American female, Less Privileged/High Damage, relocated to Mississippi)

On the other hand, African American informants who out-migrated were more likely to report encountering stigma in their new communities. As a result, they were less likely to engage in building new networks. In many cases, they reported that they were seen as having an advantage over locals in accessing resources, which in turn created resentment. For example, five years after arriving in Alexandria, an older African American couple still does not have a lot of friends. Their support network is mainly their family.

There is still that resentment after all this time. Still some resentment. Not as much as there was in the beginning because we have kind of been here for a while and some of the residents here have kind of gotten to know us, but it isn't like New Orleans. In New Orleans you might get up in the morning and all these people conversating. It is not like that. (African American male, Less Privileged/High Damage, relocated to northern Louisiana)

The social capital that they experienced when they first arrived diminished over time.

Husband: We all came here and in the beginning it was fine, they extended their hands and everybody wanted [to help] and that was good. I respect them for that and I always appreciated them doing that. We really needed their help at the time. What happens is, after over a period of time that open hand becomes a little regret because they start to feel they are getting all of this and we are not getting anything and they are coming here now and they are taking our jobs, they take our apartments. After a period of time, there gets to be a point where a little resentment sets in.

Wife: Well it did and they showed it. But we can't help it if they didn't process and prepare themselves because we didn't die. We didn't all sink. And we didn't all drown. Some of us really survived. You got to live. Just like the bucket of crabs they be talking about. Some of them are going to pull you down when you need something to eat because they are not pulling for anything to eat, they might be as hungry right now. But when they get hungry and they want what you have, they want to take it out your mouth.

In other cases, intensive stereotyping constrained out-migrants from building new networks. When asked whether her network in Houston was comprised of new friends, one African American woman noted that it has been challenging to make new friends.

There is this stigma attached to people from New Orleans. They think we are confrontational, argumentative, that we are not as productive as other people. I hear it all the time, a lot of times at my job, I have to bite my tongue because people tend to think the north side of Houston is not as affluent as it used to be because residents of New Orleans came into it. And that hurts to be blamed for stuff like that because I am like you all had your own problems before we even came here. I can understand them being upset about the healthcare system and all of that because Houston did open their doors and there is this theory that the federal government didn't pump as much money into Houston as promised and

money went elsewhere like Arkansas and other places but it is not our fault and I tell people ‘you do not know how I feel until you have lost 99% of the things you own’... They only know what they saw in the media so they are thinking that everybody is stupid. (African American female, Less Privileged/High Damage, relocated to Houston)

Governance

Governance comprises the mechanisms, processes, and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences (UNDP, n.d.). The scale and scope of the destruction from Katrina and the subsequent flooding clearly overwhelmed state and local government. Displaced residents struggled to get credible information from government officials as they grappled with what to do next. One informant expressed her frustration with the lack of clear messaging from state and local officials.

This couldn’t be the place where we had stayed all these years. It was almost like a movie, to me, and they were talking about how people were looting, just terrible things, you know. But that was in the beginning, and I could not get, for the first month we were gone, I could not get any I shouldn’t say good words, but words of comfort from the city or the state, in terms of, I know we’re all going through some shocking things, but as a citizen of Orleans Parish and a citizen of the state of Louisiana, can you give us something that will help us to feel that even though we’re going through what we’re going through, tell us some plans that you have now, that as citizens, we can say, “Well at least the state is doing this or the parish is doing whatever, and we will know better what to do by what they’re saying, but I didn’t get that kind of information. In fact, many of the people I talked to said “I don’t know,” “We don’t – We don’t know,” and all that kind of stuff. (African American female, More Privileged/High Damage, relocated to Houston)

Informants voiced their frustrated by the lack of government response to QOL issues, such as blight. One African American woman in the Midcity neighborhood noted, “I don’t know, we try to make as best as possible. It’s just that the officials, they’re not

doing the things they should do.” Coupled with this lack of responsiveness was the perception of widespread corruption.

Just how much money come into the city but it don't trickle down into the neighborhoods and it don't trickle down to the people. The people are working and working and the money, they are not giving the money to the people who are doing the work, who are carrying New Orleans. The people that is working. It is pathetic. They need to get somebody in there who know what it is like to be poor and give the money to the people. We should not have people sleeping under bridges. They should build all them houses, people didn't come back to those houses, renovate those houses, and put them people in those houses. (Black female, Less Privileged/High Damage; relocated to Mississippi)

Corruption undermines post-disaster QOL as it draws necessary resources away from recovery at the individual and community levels.

In addition, post-disaster community redevelopment is a slow process of complex social learning (Chamlee-Wright, 2010). This slow pace, coupled with complex layers of bureaucracy, acted as a barrier for individuals forced to engage the disaster apparatus. Informants talked about attending ‘meetings, meetings, meetings’ without any clear resolutions. One African American couple described how they held out hope but found the recovery process in New Orleans East very frustrating and slow.

In the New Orleans East area, every time a group got together out there, they scheduled a meeting. We would drive down and go to the meeting. It was just spinning your wheels. Every time there was a meeting scheduled, there was announcements in the newspaper, things like this. We would make arrangements. My brother was staying with my parents. My daughter would stay so my brother could go to the meetings with us. We would make arrangements, go to these meetings, sit through all of these meetings and go through all this stuff, only to find out ‘hey, you don't qualify for diddley, nothing is being done, sorry Charlie you paid your dues your whole life, saved your money.’ My house was paid, you don't have nothing but flood insurance and they tell you, ‘you can elevate your house and you can have an SBA loan’ but FEMA said ‘this is all you can do.’ (African American male, More Privileged/High Damage, relocated to Houston)

Dealing with FEMA, Road Home, and the Small Business Association were challenging experiences for many informants. One informant shared how she had received money from FEMA then got a letter stating that she needed to return it.

I think that I filled out the papers saying why I couldn't go back. Then they said it was denied. I sent back a check and said, "Okay, here it is." But, I wrote a letter, maybe I wrote several letters, I don't know, asking why I had been singled out. Anyway, something like a week later, here came a check and then here came another check or a replacement check. I don't know if I ever got an adequate explanation of what was going on, why they decided that I could go back and then I said, "Here's your money back." They made you feel dirty. They made me feel like I had accepted money under false pretenses or something and I wasn't going to put up with that. So we paid the money. It wasn't pleasant and really, my house was intact but I had lost a lot of money. In order to put a down payment on this house, I had to cash in a lot of stock that I would never have touched, and lost money over it. Then they said, "We have decided that you are entitled to this money" so I kept it. (White female, More Privileged/Less Damaged, relocated to Baton Rouge)

Several informants reported being confused by the three Road Home options.²⁸ One woman in Texas noted that she had heard a lot of rumors about the program.

If you don't come back to Louisiana, you don't get nothing. It was almost like you're penalized for being in a foreign country because moving like one state, you almost feel like you don't belong here, but where do you belong? And you can't go back home. (African American female, More Privileged/High Damage, relocated to Houston)

Of the four informants that applied for Road Home, only one, a retired African American couple from Gentilly, was approved. In the case of this couple, their house was severely damaged by the storm. Their insurance paid out but the delay in Road Home money meant that they remained in Baton Rouge for three years. During their period of

²⁸ The Road Home program, a State run program that focused on helping homeowners, offered three options: (1) stay in their home and rebuild, (2) sell their home to the State and relocate to a new home within Louisiana, or (3) sell their home to the State and move outside Louisiana.

displacement, the wife suffered from depression at times due to ‘being away from home and not having the convenience and privacy of the home.’

(In)equity

One informant (White male, More Privileged/Less Damage, relocated to Austin) noted that Katrina ‘was a great leveler and there was no respect for economic status. It was people who were very well to do and people who were extremely poor and were living in wretched states both of whom didn’t have anything to come back to.’ But this was not an accurate representation of the social unfolding of this disaster. In the case of Katrina, inequity can be traced from the onset of the disaster through the recovery process intersecting issues of race, class, age, and gender.

The almost immediate ‘othering’ of African American New Orleanians carried out into the larger community and was exacerbated by news outlets and social media. The evacuation story shared by an older African American informant highlights the impact of this othering. After wading from the Iberville projects to the Basin St. overpass, she and her 78 year old sister, her two daughters and grandchildren waited all day in the hot sun while emergency vehicles drove by. Finally, a Budweiser truck driven by ‘some gay guys’ stopped for them. When they arrived at the exit to the Super Dome, they realized they could not get off so they headed for Baton Rouge. They never made it to Baton Rouge, instead they were arrested and held in the St. Charles Parish Prison for riding in a stolen beer truck. They stayed there for two weeks because they could not post the \$30,000 bond and the parish could not locate a judge. At one point, her nephew came to the jail but the Sheriff would not let them have visitors – these dangerous, elderly criminals. Ultimately, the judge threw the case out and everyone was released.

Post-disaster narratives reflected the racialization of the ‘affected’. One informant who epitomized White privilege talked about navigating a conflicted post-Katrina racialized identity as ‘evacuee.’

Even if you went out to dinner with your friends, they were calling you ‘the evacuees’. That went on for years. ‘These are New Orleans evacuees.’ My daughter, in school, we met with friends, some friends of ours had kids who were at Austin High. So we were trying to put together a little meeting for them to meet, so that [my daughter] could at least meet someone. And when she met them, they all thought she was going to be African American. Because everyone truly thought, oh, New Orleans, only had Black people. They did not know that [my daughter] was White. It’s bizarre. And that went on for a good bit of time. (White female, More Privileged/Less Damage, relocated to Austin)

Many African American informants encountered racism and stigma in their new communities. While Whites informant found it bizarre, African Americans informants found it painful. Several informants in Houston who had experienced high Katrina-related damage appear to be more isolated and depressed than informants that returned to New Orleans who also suffered high damage, regardless of their income. The loss of social and professional networks was especially difficult for these informants, as well as the fact that their new communities lacked the unique culture of New Orleans. Informants that experienced stigma reported a lower sense of well-being compared to those that they felt were part of their new community.

In inequitable social landscapes, the notion of ‘equal’ in post-disaster recovery becomes a contested issue. Many African American informants, particularly those in Houston felt they were being pushed out New Orleans. Several noted said that they receiving threatening letters for the Mayor’s Office. In November 2005, a recommendation by the Bring Back New Orleans Commission called for the reduction of the city’s “footprint” and transformation low-lying neighborhoods into green space through forced

buyout (Chamlee-Wright & Storr, 2010). To be considered viable, 50% of the residents had to return or demonstrate commitment to return. As one Uptown informant articulated the 'abandonist' position (Campanella, 2005; 2014):

New Orleans has to adjust to being a considerably smaller city. People who have not come back are not going to come back at this point. And the reason they aren't going to come back is there aren't any jobs. The job market of New Orleans is smaller and the population is smaller and for the foreseeable future that is going to be the way things are. I think it would be more desirable of the city were more compactly organized as a result but allowed to persist in a ragged distribution of restoration and rebuilding, as is often the case. But adjustments like this have to be made in the life of the city and it needn't mean that life is generally going to be worse for people in New Orleans. It is just going to be life as a smaller city then was the case before the storm. (White male, More Privileged/Low Damage)

The 'footprint' became a socially divisive flashpoint that underscore racial and class tensions around recovery. For example, residents in the Lower Ninth Ward, a predominately African American, working-class enclave, were not even allowed into their neighborhood until December, 2005. In addition, the City did not issue building permits for the Lower Ninth Ward and New Orleans East until 2006. Although the 'footprint' was abandon, one African American informant in Houston noted that 'there is that prevailing opinion that "they" is trying to take the city away from "us."'

On the other hand, Mayor Nagin's 'chocolate city' speech enraged high privilege White informants.²⁹ Several informants referred to him as a 'rabble rouser' and an 'idiot.' They felt threatened by what they perceived to be racially divisive politics, and they were angry that African Americans had re-elected him. As one woman (White female, More

²⁹ In January of 2006, Ray Nagin gave his infamous chocolate city speech on Martin Luther King, Jr. Day in which he said: "We ask black people: it's time. It's time for us to come together. It's time for us to rebuild a New Orleans, the one that should be a chocolate New Orleans. And I don't care what people are saying Uptown or wherever they are. This city will be chocolate at the end of the day. This city will be a majority African-American city. It's the way God wants it to be. You can't have New Orleans no other way; it wouldn't be New Orleans" (Source: Time Picayune, http://www.nola.com/news/t-p/stories/011706_nagin_transcript.html)

Privileged/Low Damage) in Austin put it, “they didn't want to whip up on him in front of the White people and be picayune. That's why they re-elected him, just to spite us. Oh yeah, definitely.”

One informant pointed out what she perceived as a culture of entitlement at both ends of the socio-economic spectrum that undermined the stability of New Orleans.

I brought [my daughter] to the drug store to buy some school supplies. Well, the cashier was stealing from me. The cashier was taking candy bars and putting them on my receipt. Now, if I hadn't been standing there and watching her, it's that kind of thing. Maybe that's why I said, when we first starting talking, that even the drug store clerks are different. That was such a shocking thing, I had to call the manager; that permeates every inch. It's education. The expected entitlement at every level. The wealthy think that they're entitled to a certain respect of royalty, and the poor feel entitled to be taken care of. And until that can be somehow shifted, that we're all responsible for ourselves, and we're all equal, and until there's not that judgment, then I don't think it has much of a future. (White female, More Privileged/High Damage, relocated to Austin)

Several informants who were financially more privileged could not understand why people, five years after the storm, were still seeking assistance. As one informant, a self-acknowledged Tea Party member, opined:

All the black people, they just play it out, just act like all this, get more money from the system, that's it. Cause really I don't think it was that big of a [deal] – a lot of people died, but still, the bulk of the population is just milking it. And it's disgusting. (White male, More Privileged/Less Damage)

Many post-disaster policies and programs served to reproduce the same inequities as they sought to assist affected populations. A local disaster recovery specialist shared the following example to highlight the inequity embedded in the disaster recovery process.

We set up what we call the Round Table and we had various nonprofit groups, primarily middle class white people who were representing organizations and money and we had case managers bringing in cases of clients with needs, in

essence, trying to sell their client to the funders to help their client through recovery. And we had a couple who were looking for money to buy a trailer to replace the trailer they lost. So the question was asked, did they get any insurance from their previous trailer? The answer was “yes.” So why do they need money to replace a trailer when they had insurance coverage? The response came back that in essence the mother of the client had lost her trailer and did not have insurance. So they used their money to get her in a trailer. So the middle class white people at the table said, “That was stupid, they had money and now they want help from us?” But, if you understand the process of middle class, Black, multi-generational society, they were taking care of mother which is a cultural value of the highest order and they behaved properly. It has been so frustrating that people don't understand these cultural values.

Disaster recovery programs created serious structural barriers for minorities and the elderly, with the most glaring example being the Road Home Program (Finger, 2008).

Housing, in particular, became an area of intense scrutiny with regard the issue of (in)equity. A local housing advocate explained:

What a lot of people feared was the thought of a racial cleansing in the City. It wasn't about housing, it was about equity and that was the equity that was lost so the idea was to replace it. It was about putting people back in equity situations, family to family.

Many African Americans informants, particularly those who were less financially privileged, encountered road blocks to escape, road blocks to return, and road blocks to recovery as a result of an (in)equitable social landscape.

Migration Control

Migration control during and after Katrina was an important domain of post-disaster QOL. Woven within the domain of migration control were the themes of *agency* and *choice*. The amount of control an individual experienced was determined by the interplay of the two major domains of *Local* and *Common* culminating in the formation of a *New Normal*. Migration control was significant, as those individuals who were able to best

orchestrate, regulate, or otherwise direct their migration were ultimately the most likely to have higher post-disaster QOL.

The Initial Exodus

The following disaster narratives connote very different evacuation experiences. The first evacuation experience is from a retired physician and his wife. It serves as an example of someone with resources able to leave in advance of the storm with a strong extra-locally embedded network to assist during the period of displacement.

I went out to dinner on Friday night with some friends and [my wife] was home with a migraine and when I got home later that evening around 10:30 or 11 it was pretty clear that the storm had changed its course and it had looked pretty threatening for the city at that moment. I said [my wife], 'we have got my mom to deal with and we can't take a chance at leaving last minute so as soon as we can clean out the freezer and pack up the Igloos and get the refrigerators cleaned out, we are getting in the car, picking up my mom' and I had already called my cousin who lives in Shreveport. He and his family said 'for sure come up' and I said 'we don't know what is going to happen but we need to camp out with you guys for a few days'...No problem getting there; scenic highways and byways. We had loaded my mom in the car and we were out well ahead of the traffic and arrived in Shreveport in plenty of time to watch the disaster unfold and it was absolutely terrible. (White male, More Privileged/Low Damage, relocated to Austin)

The second evacuation experience was a forced evacuation. An informant that worked in the service industry remained in the city because she was worried that she would lose her job if she left. She had no way to evacuate when the flooding started as she did not own a car.³⁰

I finally left on Thursday, so it would have been a week and 4 days, I guess. And, they weren't rude but getting to the point of wanting to know where everybody was and wanting everybody out... We'll put you on the bus to the airport'... And finally it was evening before they took us all on the plane but they took all our stuff away. This was weird. I only had one small, kind of a small overnight duffel

³⁰ Approximately 27% of the population did not own a car at the time of Katrina (U.S. Census, 2000).

bag, because I didn't know where I was going. I said, 'it's a carry on', but no, they took everything from everybody... They took away my bottle of Chanel No. 5, which is what I wanted to evacuate. A whole bottle. And I was like, 'what do you think, I'm going to drink it on the plane?' They said, 'its glass, we're taking it'... And didn't tell us where we were going. The stewardesses were wearing big gloves, I mean the attendants, and they didn't seem to think that was odd. Because they didn't want to touch anybody. And then they told us we were landing in South Carolina... I understand that they told people what they had to make them go, but I was stupid to believe that you could go wherever you wanted to. So we get to the airport, get to the metal detectors to get into the airport, again, even though we went through all that to get out, of course, still in America, and it was like customs, like we were coming from overseas, coming into the country, but here we were in South Carolina. We were in the freight department of the airport; we weren't in the regular airport. And so they were getting buses and stuff, and we said 'we're getting a cab, where's our stuff?' They said, 'your stuff's at the shelter.' I said, 'we're not going to the shelter. We'll get a cab. We'll go to a hotel. Where's our stuff?' They said, 'no, you're going to the shelter.' There was only one way out of there, on the bus to the shelter. They backed up to the shelter into these barbed wire enclosed back entrance, it was like a concentration camp. So, there had been one guy who had been really angry throughout the whole thing, he had been screaming, 'let us out of here, we don't know where we're going, this is crazy, we don't know where we are.' He didn't have the rest of his family with him. It was crazy, it was like you hear about the rest of the evacuees from the Dome where people were split up and didn't know where they were going. And I started screaming too, and everybody else on the bus, and the driver got off, and somebody else got on and drove up to the front entrance where there's all of these ladies hugging and clapping and taking pictures like we're celebrities or something. I was like, 'no photo op right now, I haven't washed my hair in 2 weeks'. And then they told us that we had to take showers before we went into the shelter and they had these outdoor showers. And I said, 'No, I'm not doing it! Get my stuff, I'm not going in there! I'm not sick, I wasn't in the flood, I have a credit card, I'm going to a hotel. This is nonsense, you cannot hold me here!' I don't know if we got out of there because we made the biggest fuss or because we were White. The fact that they didn't give us a choice really bothered me. And they made us go out the back door and through the woods and just as we were going out the door, they came up with our luggage. So they had it, but we took it, and we ran through the woods to the highway. (White female, Less Privileged/Low Damage)

The experience of forced evacuation was stressful and at times, as illustrated above, degrading. Informants who were force migrated talked about the lingering effects of trauma.

While most informants voluntarily evacuated, there were variations in voluntarily evacuation outcomes along economic, racial, and age lines. Older adults were more resistant to evacuating voluntarily. Many respondents talked about delaying their evacuation to convince older family members to leave. White families tended to leave en masse, while many Black respondents reported that extended family members remained behind. One African American woman recalled begging her aunt to leave.

I called my aunt, I said, 'I want you all to leave.' She said 'oh no, we're gonna stay, we're gonna weather the storm. Go, we're gonna just stay here.' She say, she was laughing, 'if anything gets any water, we're just gonna put on our life jackets.' She said, 'we're just gonna go up in our attic.' I said, 'oh, you should have come with us, we going out to Texas.' She said, 'oh, we gonna be ok!'
(African American female, More Privileged/High Damage)

Several informants reported staying in the city for work. Many of the more privileged informants were able to drive out when the levees breeched. This was not the case for several low-income informants.

I highlight these evacuation experiences, because the variation in this initial migration, coupled with other QOL domains outlined at the beginning of this chapter, served to set the stage for divergent post-disaster recovery trajectories. Informants who were force evacuated tended to have lower post-disaster QOL regardless of all other factors. Among the three lower SES women that were forced evacuated, only one above reported an improved post-disaster QOL.

After the storm: To return or not

When I interviewed respondents about why they had returned to New Orleans, many of them offered up a simple explanation, “It is my home,” as if there was no other choice to be made. However, the decision to return or out-migrate was a complicated process for many. Family was the important driver of migration, acting as both a push and pull factor. Several informants returned because family members want to go back. Other residents out-migrated because they had family member that could not return. As one woman from New Orleans East shared:

For me, it was almost a no brainer. My husband’s doctor and surgeon did not know, nobody knew if New Orleans was going to be safe. They didn’t know if he could survive if he returned to New Orleans. For me it was like, that settles that!’ (African American female, More Privileged/High Damage, relocated to Houston)

Family also acted as a pull factor. Several respondents relocated to areas where there were existing family networks.

The main drivers of return identified by more privileged informants were family, community, and culture. One woman who lived in the Fontainebleau/Maryville neighborhood explained that her choice to return was closely tied to her sense of community; she likened it to not abandoning a loved one in their time of need.

If I would leave, that would be so mean spirited, that would be so weak. In my mind, for me. For anybody else, they make their own decisions. But I started thinking, man, I gave this city some of the best years of my life, and this city gave back to me. It made me the person that I am...And so, yeah, it needed me to come back, and I really was totally – I see New Orleans like a grand dame, she’s just this amazing woman, and probably like – maybe like an 80 year old woman who’s just lived an amazing life, you know – and, or even like your grandmother. If you’re walking down the street with your grandmother and she falls down, do you step on her back to keep on walking? No, you pick her up, you dust her off, you make sure that she’s ok, and then you keep walking together. And then maybe later you might take a left, and your grandmother goes to her house, but I don’t know. You just – you don’t do that? (White female, More Privileged/High Damage)

For low income informants, the drivers of return were family, financial [work], and housing [concerns about looting]. One income informant from Midcity called her choice to return as an act of defiance, again highlighting these underlying issues of privilege and power surrounding migration.

But I was determined, A. because my partner cannot leave. His job is connected to the city. And B. because I felt I wanted to make a point that they cannot displace us. And we cannot just be chased all over the world so that we can't live where we want to live. (White female, Less Privileged/High Damage)

As expected, informants who did not sustain damage to their residences were able to return quickly. However, White respondents, regardless of level of damage, were able to return to New Orleans much faster than African American respondents. The difference was months versus several years.

For those informants that out-migrated, factors identified in the domain of Common were primary influencers of their decision to out-migrate. The main driver of out-migration identified by informants regardless of level of income or damage was safety. Drivers of out-migration varied by age. For younger informants, the primary driver was financial, seeking a career change that acted as push factors. For middle-aged informants with children, it was family and safety [risk reduction through migration] that acted as push factors. For older adults, family (specifically caretaking) and health were drivers of migration.

Many out-migrants engaged migration as a risk reduction strategy, particularly more privileged and older informants. Several saw their relocation as a way to provide stability to their families during hurricane season. One White informant who bought a duplex in Baton Rouge keeps one side vacant for friends and family.

The year after, she [my daughter] had arranged for 16 people in case there was a hurricane in New Orleans. She won't let me rent the apartment next door, well I have for a short term because people need it. She has booked a number of people in so it's to sit there waiting for the next hurricane. (White female, More Privileged/High Damage, relocated to Baton Rouge)

Migration and QOL

Clear differences in post-disaster QOL at intersections of race, level of damage, and migration emerged. Regardless of race, those who returned tended to do better than those who out-migrated. There were also marked differences between the clusters of individuals that I interviewed in Austin versus those that I interviewed in Houston. The Austin individuals were predominately White, more privileged, and experienced low damage. They expressed high migration control.

We were thinking about moving someplace else anyway, eventually, in a very few years. Not when we were seventy but in a few years but we had a few years to wait. But, then the Hurricane hit and I went right back to work. The [company he worked for] were generous and I got some support from him, I really didn't need it, but he paid us extra, which was nice and you know, we fixed up a lot of the properties. I managed properties from Pensacola to Lake Charles. So we got an awful lot done and we just decided to pack it up. Both kids had come to Austin, my sister and brother-in-law were here, so we said, "Good-bye, New Orleans!" (White male, More Privileged/Low Damage, relocated to Austin)

Many of them moved to be closer to their children or because they chose Austin as their new community. A woman that out-migrated to Austin explained her reason for not returning to New Orleans.

The thing that I was the most amazed about, and part of what really shifted me to want to stay in Austin, was the incredibly progressive, well-educated beings that live there. Even in the drug store, you have adorable, well-spoken students working. Everyone was happy. Everyone had such a sense of hope, and a real handle on a future. New Orleanians have not known that long before the hurricane. New Orleans was such a dark place. I truly was feeling this, I didn't know that I was feeling it, but I was. Having been so entrenched in the community, my ancestors were such a part of the building of the economic

structure of the city... And I was so impressed by the quality of life. The citizens were taken care of. There were no pot holes. The bike trails and walking paths were maintained like someone's back yard. It was just phenomenal. I couldn't believe it. It was like -- I couldn't turn back. (White female, More Privileged/Low Damage, relocated to Austin)

The combination of safety and governance were drivers of migration in this group. A retired informant in Austin explained that he and his wife were afraid to jeopardize their financial stability by remaining in the city.

We did return and we lived back in New Orleans for a month and a half or so and we joined the group of people pushing for one assessor, trying to simplify things. Levee board reform and all kinds of stuff and we tried to become active in that way and everything we tried to do was just thwarted by the state, couldn't care less. And the mayor was pathetic and the election was coming up and it looked like Nagin was going to get re-elected and we just said, 'we aren't going to live here if this is the way it's going to be' because it was depressing. (White male, More Privileged/Low Damage, relocated to Austin)

In contrast, many individuals in Houston were African American, low and middle income, and experienced high damage. They experienced low migration control, often limited by the extent of damage to their homes, financial constraints, family obligation, and the slow pace of recovery. An African American couple (More Privilege/High Damage) who had owned a house in the Pine Village neighborhood of New Orleans East shared their pain of having to stay in Texas.

Wife: I am not giving up my job, my life, and my family to go live in funky Texas! And I damn sure didn't want to live in glorious Katy! But you had to face reality and after crying and going through all kind of traumas I said 'what are you going to do?' I even considered divorce. Because I said 'I am going home, one way or the other, if I have to go in a box, my ashes are going home.' I want them dumped home. There is no way I want anything to do with Texas living or dead, no more than I already have to.

Husband: I feel like a gypsy and I don't have a home anymore. I would leave in a New York second if the situation changed but right now you can't settle because

you can't get anything for it. In our lifetime I don't see anything getting much better.

African American informants that out-migrated experienced higher levels of housing and financial instability compared to White informants. Several older African American informants noted that they had exhausted their savings because of the enormous cost of a prolonged displacement and eventual relocation. Some were forced to take on a new mortgage even though their house in New Orleans had been paid off. Others experienced foreclosure. These older informants stated feeling that they had been robbed of their retirement "golden years" by Katrina.

We had a nice home, savings, plan for retirement, insurance, everything was mapped out. We had just finished completely, we were renovating our home room by room because he figured to retire by January of '03. So we spent all of '04 and '05 getting things the way we wanted it, making sure we had the ability to stay home and be able to start enjoying life. Oh the golden years, they are not even tin, honey! (African American female, More Privileged/High Damage, relocated to Houston)

Many of the African American informants in Houston indicated a lower level of well-being five years after Katrina. Their ability to exercise agency and choice when returning or out-migrating is an important factor of post-disaster QOL.

Examining the New Normal

At the beginning of this dissertation, I talked about disasters providing a lens of disruption to explore the dynamic nature of post-disaster QOL that culminates into a 'new normal.' Even those individuals who failed to recognize a 'new normal' in their post-disaster QOL implicitly acknowledged it through their post-disaster narrative. In this section, I will examine the new normal of returnees and out-migrants through the lens of race, class, age, and gender.

More privileged informants who experienced less damage tended to be White, middle to upper middle class homeowners. Most informants reached a state of 'new normal' within a year of the storm regardless of whether they returned or out-migrated. In general, their 'new normal' was either classified as stable or improved. In two cases, more privileged/low damage informants indicated an improved post-disaster quality of life as a result of out-migrating. In each case, the informants were able to exercise choice and possessed the agency to out-migrate. In one case, a woman from an affluent New Orleans family out-migrated to Austin to pursue 'creativity and happiness.' Her new normal traded status and comfort for independence and anonymity.

We were comfortable. I'm a humble person. I have no need to be suddenly proving that I was something else. I love being incognito. I love being able to go into somewhere without one person knowing who I was. And not even talking to anyone else. At home, you can't get away without a party every day, every minute. So, I loved it. (White female, More Privileged/Low Damage, relocated to Austin)

In the other case, a man, originally from Mississippi, felt that Katrina provided him with an opportunity to live somewhere with a higher QOL than he had in New Orleans. His employer sent him to Houston after the storm. After six months, he refused to return to New Orleans so they agreed to let him stay.

We are used to a neighborhood, being from New Orleans, where you have to always having to look over your shoulder. Once we got out here, all that went away. You didn't feel that you had to be as conscious of it. We still are but it's just not right out there as it was in New Orleans. The kind of place you live in was important to us. What you could get for your money in New Orleans, we were kind of disappointed. Some of that stock was just awful. Every time we went to look for a place to buy, it was depressing as to what you could get. Once we got out here, we were like "wow," you mean that you can get that for just that much money? After being here a year, I bought a town home and completely had it renovated on the inside... I've noticed that as far as work goes, New Orleans is a smaller society and there is less of an opportunity to grow there. In Houston, it is

so large that there is a continual demand for different things. It is easier to climb the ladder here. Ever since I came here, it just seems to be getting better. (White male, More Privileged/Low Damage, relocated to Houston)

Only one informant in this category indicated a mixed post-disaster QOL. He moved to New Orleans after his divorce in 2001. When the roof came off his apartment during the storm, he took a place in Plaquemines near his work. Eventually he moved to Baton Rouge for work but found the social landscape to be too conservative and too segregated. His lack of migration control served to diminish his post-disaster QOL. Implicit in his narrative was a loss of place.

In New Orleans, they really don't care what you do as long as you don't bother them. You can do what you want. Here it's like, why are you doing that? I love the City but I don't know if the City is the same. When I go to visit now, sometimes I go down to spend the weekend, it feels different. The people, they just feel different to me. I don't know, it just a feeling. Whenever I was in New Orleans, I always felt free. Maybe it's because I live here. I feel guarded here but, yes, this is more bible belt conservative. I really don't like it here. (White male, More Privileged/Low Damage, relocated to Baton Rouge)

More privileged informants who experienced high damage were both African American and White. They tended to be homeowners. Most of those who returned to New Orleans indicated that they reached a state of 'new normal' within a year of the storm. One retired African American couple did not achieved a state of 'new normal' until 2008 when they were finally able to move back into home in Gentilly. This delay was caused by waiting for Road Home funds.

The woman whose aunt died in the East during the flood displayed a mixed post-disaster QOL. On one level, she and her family had housing and financial stability and were able to return to their community. On the other hand, the death of a close family

member negatively impacted her mental wellbeing and eroded her perception of the social landscape.

It's changed a lot. At first, it was more, it was family oriented with me, cause it's like my family is my base of everything, because I'm the type of person that likes to have fun, I like to give like family gatherings, do cookouts, and just invite everyone and have fun. That's how it was before. But now, since things have changed, it's more I'm working, then I'm home, then I'm making sure the girls are ok, I'm more of a paranoia, cause if they're going somewhere, it's like, how long you going? How long you going be? Call me. What time are you coming back? And it's like, if you want to do a BBQ or something, I want to do it, but it's just not- it's not there. So that's why when they do family things, I don't want to be there, because it's not, like I don't feel it anymore like I used to. Cause it's like, looking at everything around it's just not the same. It's just not. It's not.
(African American female, More Privileged/High Damage)

Among those who out-migrated, African Americans did not do well. Governance and [in]equity were major influencers. African American informants were outspoken about the direct impact of governance and racism on their post-disaster QOL. They talked about a city divided and were frustrated by what many saw as a slow and unequal disaster recovery process. Lack of transparency and corruption were key themes. One woman in Houston equated New Orleans to having a cancer. In two cases, informants that had stable pre-Katrina QOL experienced poor post-disaster QOL. The first case was the African American couple from New Orleans East that relocated to greater Houston with their elderly parents. The second is the African American woman from New Orleans East who relocated to Houston with her husband.

Katrina marked the beginning of just, you ever wish something didn't happen? It is not that I regret living in Houston as the case may be, but there have been so many upsetments in my life since then. As if Katrina wasn't bad enough, I lived in the East not far from the levee so we weren't even able to go back to our property until October. My husband never got to go see it since his doctors didn't want him to go. But we lost everything. Just like everybody else, we lost

everything... My whole life changed from my job, to losing everything. I kept going back trying to find my husband's old love letters. I used to tease him that I was going to sell them to Hallmark because they were so good. I never did find them. (African American female, More Privileged/High Damage, relocated to Houston)

In 2008, she lost her husband. In 2009, she lost her job as a result of Hurricane Ike. In 2010, she was in pre-foreclosure. Thus, her 'new normal' is a state of instability.

When examining post-disaster QOL of more privileged informants that experienced high damage, two very divergent narratives emerged. The first narrative is closely aligned with the notion of 'rebuilding back better.' This tends to be an optimistic but also privileged narrative.

And, at this point, it's being reinvented, which is very pleasing to me. It took a major catastrophe, but I think it showed us how we really are. You know, how we rallied around the city, and that's a love, that's a strong love. Without that, you're going to move to: fill in the blank. (White female, More Privileged/High Damage)

The second narrative is one filled with struggling and loss tempered with the occasional promise of new opportunity.

The way I always say is the water receded, but the storm never went away. There have been problems ever since that have never ended. I don't think it ever will end. (African American male, More Privileged/High Damage, relocated to Houston)

Level of damage impacted the recovery trajectory of low income informants. Low income informants who experienced low damage were comprised of African Americans and Whites. The majority of this group were renters. Among those who returned, owning a house was an enabler of post-disaster QOL, as rents increased dramatically after Katrina. In fact, everyone that out-migrated was a renter. Overall, White informants indicated higher post-disaster QOL, regardless of whether they returned or out-migrated.

Among those who returned, this is attributed to violence experienced within the families and social networks of several African American informants. Low income informants who experienced lower levels of damage reached a new normal much faster than those that experienced higher levels of damage.

Low-income informants who experienced high levels of damage were comprised of mainly African American renters and homeowners. In several cases, they co-owned the properties with other family members. Of all informants, these individuals consistently took the longest amount of time to achieve a state of 'new normal.' Overall, these informants did not do as well in their recovery, regardless of migration behavior. For example, an African American single father of two teenage sons, whose apartment had been destroyed by flooding, discovered that he was not eligible for public housing when the Housing Authority of New Orleans informed him that someone had taken out a mortgage in his name right after Katrina.

I went to apply for a 2 bedroom. The lady told me, she says you got a – I don't want to lie – an \$84,000 mortgage. I said, 'I don't even own a house, let alone a mortgage!' So I went to City Hall, and was investigating, and she said, 'well we don't have nothing on you, but with HANO, \$84,000, \$85,000 mortgage.' She gave me an address, too, I think she said Desire Street. So I went to [the address], and you know what that is? An old torn down liquor store. I don't own, I never owned a house in my life. (African American male, Less Privileged/High Damage)

He and his teenage sons lived out of motels until he was able to find a low-income senior apartment building in New Orleans East. In addition, he was also forced to take early retirement because of the downturn in construction work. He says he has up and down days which he did not have before Katrina.

Summary of Findings

This chapter presented the results of this study in three sections. The first section presented a conceptual framework of post-disaster QOL that identified four post-disaster QOL domains: *Core*, *Local*, *Migration Control*, and *New Normal*. The domain of Core comprises fundamental elements of an individual's QOL that are impacted to some degree in most, if not all disasters. The domain of Local captures contextual aspects of the social systems and structures that individuals engage in a disaster. Drawing on elements of Giddens's theory of structuration, I explored the themes within these domains by examining the key differences in post-disaster QOL among returnees and non-returnees. I also examined the dynamic relationship between *Migration Control* and the other domains by exploring variations in identified drivers of migrations. Finally, I examined narratives of a *New Normal* of returnees and out-migrants through the lens of race, class, age, and gender.

CHAPTER 5

DISCUSSION

This dissertation presents a new conceptual model for examining post-disaster Quality of Life (QOL). Rather than treating post-disaster QOL as a static state, the conceptual framework presented in the previous chapter illustrates a dynamic relationship between *Common* (core) and *Local* (mediating) domains as individuals move toward a *New Normal*. This framework is important for advancing our understanding of post-disaster QOL. The previous chapters established the following major points:

1. Current disaster research is limited by its use of QOL research to evaluate independently useful but isolated outcomes for post-disaster factors. In general, post-disaster studies rely on proxy measures such as health-related QOL to capture post-disaster QOL factors.
2. *Common* domains of post-disaster QOL include those factors that are impaired, diminished, or threatened as a result of disaster. Every informant speaks to these *Common* or universal factors that comprise this domain. *Common* factors are similar to the concepts of universal health capabilities that include life, bodily health, and bodily integration of security (Nussbaum, 2000, 2007).
3. *Local* factors interact with the domain of *Common* in a dynamic way that results in a core status for every individual in this study. The domains of *Common* and *Local*, and their subsequent interaction with one another, satisfy the inclusion of QOL factors.
4. The cross-cutting domain of *Migration Control*, and the control over migration ultimately results in a unique extension of the domain relationships of *Local* and *Common*. Those individuals who possess the strongest relationships between their domains are in turn able to best orchestrate, regulate, or otherwise direct their migration.

5. A new normal results from the interplay of two major domains of *Local* and *Common* and their influence on *Migration Control*. The ability of an individual to control their migration during and after a disaster, which is influenced by their core status, culminates in the formation of a *New Normal*.
6. A (re)conceptualized model that addresses the above five features derived from a grounded theoretical analysis of evacuees offers a more nuanced assessment of post-disaster QOL.

This chapter will discuss the utility of the model by first establishing its context with previous studies that illuminate the major issues surrounding QOL. Then, I argue that Giddens's work on structuration theory is particularly salient for understanding the nexus of the social landscape and agency in the production of social life, which provides a fitting theoretical allegory to my reconceptualization of my QOL post-disaster model. Finally, I offer a discussion on how vulnerability is the overarching theme that undergirds the domain overall of *Local*, *Common*, *New Normal*, and most importantly, *Migration Control*. In short, individuals who have high control over their migration experience ultimately fare better in a post-disaster environment and experience higher QOL compared to those who do not; it is the management of vulnerability within the framework that illuminates migration control.

Reconceptualization of QOL in Context

Few disaster studies have focused on QOL in a post-disaster context at a conceptual level. One notable exception is Faici, Bonciana & Guerra's (2012) study examining individual perceptions of change in QOL following the 2004 Indian Ocean earthquake and tsunami. They present a conceptual framework of post-disaster QOL as a pendulum through which they identified perceived changes in the three domains of QOL (being, belonging, becoming), which are influenced on one side by the impact of the disaster and on the other side by the recovery process. Similar to my conceptual model,

Faici et al. (2012) recognize the dynamic process of post-disaster recovery, as their pendulum oscillates with a temporal axis. Within this Pendulum of the Quality of Life, QOL domains are affected by interactions between the two opposite forces: the vulnerability factors (which increased people's susceptibility to the impact of hazards and disasters) and the resilience factors (which increased people's ability to cope).

Most disaster research examines disaster-affected QOL outcomes using health-related quality of life (HRQOL) measures as a proxy. Although several HRQOL scales have been applied to examine QOL in a post-disaster context, the main HRQOL measures used are SF-36, WHOQOL-100 and WHOQOL-BREF (Ardalan et al., 2010; Ceyhan & Ceyhan, 2007; Heo et al., 2008; Liang, Chu & Wang, 2011; Wang et al., 2000).³¹ There are limitations to applying HRQOL measures as a proxy for post-disaster QOL as demonstrated by my findings. First, HRQOL measures do not necessarily capture the breadth of post-disaster QOL domains that fully impact individual outcomes. For example, none of these measure captures issues of governance or inequity. As a result, they are unable to provide a clear understanding of why some individuals fare better than others. In addition, most HRQOL measure fail to consider temporal aspects of post-disaster recovery.

As evidenced from this dissertation, the disruptive effect of disasters on individuals can be quite long-lasting (Zakour, 2010). Researchers are beginning to focus more attention on the medium and long-term health outcomes of disaster affected

³¹ The Short Form (SF)-36 measures eight domains: physical functioning; social functioning; role limitation due to physical conditions; role limitation due to emotional problems; mental health; vitality; bodily pain; and general health. The World Health Organization developed the WHOQOL-100 as a broad assessment of QOL that is divided into six domains: physical health, psychological, social relationships, environment, level of independence and spiritual/religion/personal belief. The WHOQOL-BREF is a short version that covers four domains: physical health, psychological health social relationships and environment.

individuals (Bland, O’Leary, Farinaro, Jossa & Trevisan, 1996; Chen et al., 2007; DiGrande, Neria, Brackbill, Pulliam & Galea, 2011; Kessler, McLaughlin, Koenen, Petukhova & Hill, 2012; Paxson, Fussell, Rhodes & Waters, 2012). Khachadourian, Armenian, Demirchyan & Goenjian (2015) found long-term QOL and mental health impacts on disaster survivors two decades after the 1988 Spitak earthquake in Armenia. Further study on long-term impacts of disaster on post-disaster QOL is needed.

The Significance of Social Landscape: Giddens Structuration Theory

Disaster researchers have long recognized the link between individual outcomes and the social landscape. For example, Klinenberg’s (2002) study of the 1995 heat wave in Chicago that resulted in the death of 793 people, primarily elderly African American males, was a critical attempt to examine how social forces shape disaster. His analysis sought to place “individual-level factors that affect death rates within a broader context of neighborhoods, social-service systems and government programs” in order to provide a ‘multilayered analysis’ of what happened (p. 21). In contrast, Erikson’s (1976) seminal work on the Buffalo Creek disaster in West Virginia examined how disaster shaped the social landscape. Erikson documented the ‘loss of communality’ that extended beyond the loss of community to encompass the network of relationships that made up the fabric of their social landscape.

Zakour and Gillespie (2013) note that disaster vulnerability is not a function of bad decision making at the individual level; rather, individuals or households are constrained by liabilities such as unsafe social or economic conditions (Wisner et al., 2004). Smith (2006) and others have cogently argued that Katrina was neither natural nor inevitable. Rooted in historical inequality, the political economy and social ecology of the

city shaped the social unfolding of a disaster that was a long time in the making. One salient finding from my study is how the relationship between governance and inequity served to shape dramatically different healing trajectories among social fault lines. In the early unfolding of the Katrina, vulnerable populations in New Orleans were left to languish for days. One informant told me how her relatives trapped in the flood waters near the St. Bernard Projects in Gentilly swear they saw U.S. President George Bush flying overhead pointing at them while they sat trapped on their rooftops. In an early press conference, then Governor Blanco talked about storming the city with the Arkansas National Guard to restore order from ‘the hoodlum’ (Times Picayune, 2005). She added “They have M-16s and they are locked and loaded. These troops know how to shoot to kill . . . and I expect they will.” Images of ‘looters’ filled the TV for weeks with unscripted racialized editorials gave way to a narrative about Katrina refugees. Burton (2013) pointed out the failure of government to provide messages of hope and support (a sentiment echoed by informants who relocated to the Houston area). Gardner, Irwin & Peterson (2009) argue that instead of redressing patterns of injustice exposed by the storm, through discriminatory public policies, New Orleans’ post Katrina “recovery” has reinforced them.

Recovery as a Divided Phenomenon

Post-disaster community redevelopment is a process of complex social learning – a phenomenon whereby society achieves a level of coordination and cooperation that far exceeds our ability to intentionally design it (Chamlee-Wright & Storr, 2010). In the case of Katrina, recovery became a highly contested process along racial and socio-economic lines. Several studies have highlighted the disparate suffering and recovery of vulnerable

population along these lines (Brunsma et al., 2007; Chia-Chen Chen et al., 2007; Elliot & Pais, 2006; Finch et al., 2010; Fussell, Sastry & VanLandingham, 2010; Hartman & Squires, 2006; Sharkey, 2007), as well as gender (Forthergill & Peek, 2006) and age (Gullette, 2006) due to structural inequities. Ten years after Katrina, the ‘new’ New Orleans remains a highly inequitable place.³² Fifty-one percent of renters pay 35% or more of their pre-tax income on housing (Plyer, Shrinath & Mack, 2015). In spite of economic resurgence, many jobs remain low paying. Working poverty is not just an economic issue, it is an issue of resilience (Nelson, Wolf-Powers, & Fisch, 2015). Low-income and African American informants perceived the inequity of recovery as it played out in their post-disaster QOL. This sense of inequity was captured in a survey of New Orleanians, as approximately half of African Americans (47%) and those with incomes below 200% of the federal poverty level (46%) reported that the recovery efforts have not done much, if anything at all, to help “people like you” (Hamel, Firth, & Brodie, 2015). Here, my analysis examines the complex relationship between Common and Local domains by drawing on aspects of Giddens’s theory of structuration.

Giddens Structuration Theory and the Illumination of Disaster Relationships

Giddens argues that social life is more than random individual acts (micro-level activities); it is also determined by social forces (macro-level explanations) (Gauntlett, 2002). According to structuration theory, human agency and social structures are in a generative and dynamic relationship together, and it is the repetition of the acts of

³² New Orleans is ranked the second most inequitable city United States with a GINI coefficient of 0.5744, on par with Zambia. The GINI coefficient is a descriptive measure of the difference between the ideal distribution of income (perfect equality) and the actual distribution in a given population. It is measured on a scale of 0-1, with 0 indicating complete equality and 1 indicating the maximum level of inequality (Cutter et al., 2003). The GINI coefficient for New Orleans is 0.5744.

individual agents that reproduces structure (Giddens 1984; Jones 1999). Social structure is regarded as rules and resources recursively implicated in social reproduction; institutionalized features of social systems have structural properties in the sense that relationships are stabilized across time and space (Giddens, 1984). Structuration theory attempts to recast structure and agency as a mutually dependent duality or a duality of structure (Rose, 1999).

Findings from this dissertation demonstrate that White informants regardless of all other factors tended to recover faster and do better than their African American counterparts. The *New Normal* of higher-income Whites tended to return to a QOL that was at pre-disaster level or improved. Informants with poor post-disaster QOL tended to be African American, middle age to older adults in a caretaking role. Many of these informants encountered serious barriers to recovery in some cases from the disaster assistance programs that were supposed to help them, such as FEMA and Road Home. Several researchers have examined the contradictory relationship between disaster assistance and QOL (Aldrich & Crook, 2013; Finger, 2008; Forgette, Dettrey, Van Boening & Swanson, 2009).

Poor leadership, inept administration and financial opaqueness translated into major obstacles for individual recovery. Embedded within this complex relationship was the role of social capital. Research on the role of social capital in disasters posits that the presence of social capital can increase the ability of communities to recover after disasters through collective action (Aghabakhshi & Gregor, 2007; Aldrich, 2012; Chamlee-Wright, 2006; Dynes, 2006; Ganapati, 2012; Nakagawa & Shaw, 2004; Rahill, Ganapati, Clérismé & Mukherji, 2014). Poor governance served to erode social capital.

Corruption was also identified by informants as a major problem with the city. In 2011, Mayor Landrieu hired a consultant to assess the state of the city government. His conclusion was that the Mayor "inherited the least competent city government" and "the most corrupt" he had seen in his twenty-five years (Krupa, 2011). Chamlee-Wright (2010) argues that "regime uncertainty," in which the state increasingly undermines public trust in the basic rules of private property and the rule of law, results in entrepreneurs and investors who remain on the sidelines, thereby stalling economic recovery.

Safety was another serious obstacle identified by informants. The notion of safety was expressed several ways, including safety from crime and safety from other disasters. Crime and violence were QOL issues before Katrina, peaking in 1990 (Plyer, Shrinath & Mack, 2015). In a 2012 University of New Orleans QOL survey, 62% identified crime as the dominant issues in Orleans Parish (Chervenak, Dai & Juhasz, 2013). One in four respondents said that they or someone in their family had been a victim of crime in the past three years, and 38% reported hearing gunfire around their homes at night. Almost two-thirds of New Orleans residents feel that there has been little to no progress in controlling crime (Hamel, Firth, & Brodie, 2015). Several informants in this study reported having family and friends that were victims of violent crime. African Americans are disproportionally impacted by violent crime. A Black person in Louisiana was five times more likely to be killed in a homicide than a person of any race in any state in the country (Violence Policy Center, 2015). African Americans were more likely than Whites to report they are very worried about being a victim of violent crime (36% versus 17%) and less likely to report that they felt safe in their neighborhood (65% versus

79%) (Hamel, Firth, & Brodie, 2015). The erosion of social capital served as a driver of migration for several White informants and a reinforcement of out-migration of African American informants even if they lacked agency in decision making. For example, one low African American who had been force evacuated to Houston explained that she felt safer in Houston because she felt that she could trust her neighbors.

The second contribution this study makes to the extant literature is its examination of the relationship between post-disaster QOL and migration behavior. Migration is just one of a broader set of potential adaptive responses that individuals and households engage in when dealing with stresses such as a disaster event (Adamo, 2010; Black et al., 2011; McLeman & Hunter, 2009; McLeman & Smit, 2006). Findings from this study demonstrate that the ability to exercise choice or agency in migration decision making influenced post-disaster recovery trajectories. Agency was often constrained by other factors beyond the individual's control, alluding to the role of power and privilege in post-disaster contexts.

Sastry & Gregory (2014) outline two general types of migration following a disaster: forced migration (evacuation) and voluntary migration resulting from an increase in "push factors" (Hunter, 2005). I argue that within this typology, the forced migration that occurred during Katrina could be further distilled into voluntary evacuation and involuntary evacuation. Voluntary evacuation, in which people were able to leave of their own accord, required transportation, financial resources, and a place to go. Involuntary evacuation was experienced those who stayed behind because they did not have a way to leave, felt they had some place safe to shelter, or did not think that they were in grave danger from the storm. This form of evacuation involved stripped away

agency as individuals moving through time and space. Evacuees felt abandoned. They were not given a choice of where they were going. Evacuees were transformed into ‘Katrina refugees,’ which was something dangerous, dirty and helpless (Masquelier, 2006). The interaction of migration with the dynamic relationship of *Common* and *Local* domains acts to enable or constrain post-disaster QOL. I argue this dynamic relationship coupled with *Migration Control* shaped the outcomes of the *New Normal*. The process of intense othering further traumatized already highly vulnerable individuals who experienced limited control over their migration and loss of family networks.

Following Hurricane Katrina, a third of the city’s residents did not return. They tended to be older, racial or ethnic minorities, socio-economically disadvantaged and from female-headed households (Morrow-Jones & Morrow-Jones, 1991; Sastry & Gregory, 2014). Sastry & Gregory (2014) argue that permanent migrants in response to natural disaster in the United States have typically been negatively selected, especially those who move longer distances. As demonstrated in this study, drivers of migration varied greatly across race, class, age, and level of damage. White informants (higher income with low levels of damage) tended to out-migrate to be closer to family and because of perceptions of safety. Many of them engaged in migration as a risk mitigation strategy. Although African American informants (higher income with higher levels of damage) also engaged in migration as a risk mitigation strategy, they encountered barriers to return that negated the level of agency enjoyed by their White counterparts.

For low income informants, returning was an act of defiance. Further examination of vulnerability and resiliency factors within a post-disaster QOL models is needed. Norris et al. (2004) argue that if different populations in a community have different

levels of vulnerability, then the community cannot expect to rapidly or fully recover from disasters. Adams, Van Hattam & English (2009) coined the term ‘chronic disaster syndrome’ to capture what my findings identify as the ‘new normal’ of instability.

Being displaced from one’s home means that an individual is away from a familiar place, social structure, and culture, which can in turn hinder recovery from disaster (Grier, 2005; Levine et al., 2007; Merdanoff, 2013). My research shows that African American informants, particularly those who out-migrated, expressed lower levels of mental well-being compared to their White counterparts. This finding resonates with several studies that documented large disparities in the prevalence of mental illness between Blacks and Whites (Galea et al., 2007; Kessler, Galea, Jones, & Parker, 2006; Sastry & VanLandingham, 2009). Minorities are more susceptible to disaster-related emotional distress (Anderson 1991; Perilla et al., 2002) in part due to racism and prejudicial attitudes (Fothergill et al., 1999). Chen, Keith, Airries, Li, & Leong (2006) investigated the relationship among economic vulnerability, perceived discrimination, and health outcomes among sixty-nine Black Katrina survivors in Eastern New Orleans. They found that high levels of perceived racial discrimination and financial strain were associated with greater levels of post-traumatic stress. This was consistent with findings from this study. Several informants encountered stigma in their new communities. Recovery in isolation was much more common among African American informants who out-migrated compared to those who returned.

Research has also shown that minorities are more susceptible to the disruption of important social networks (LaJoie et al., 2010). Evident in African American disaster narratives was the themes *families blown apart*. The dissolution of social networks and

loss of place identified in this study serve to underscore disparities in post-disaster QOL of returnees and out-migrants along racial lines. Death and/or separation from family was closely tied to mental well-being, as evidenced by several informants who expressed feelings of isolation and depression.

Sastry & Gregory (2012) found a significant decline in health among adults from New Orleans in the year after the storm. These increases were concentrated among young and middle age African American women. This may be due to stress proliferation (Pearlin, 1999; Pearlin et al., 2005) which reflects the tendency for early and chronic stressors to spread outward into other domains, causing secondary stressors (Turner & Avison 2003). Research has shown that quality of life and post-traumatic stress are highly negatively related in the aftermath of a disaster (Chou et al., 2004; Nygaard & Heir, 2012; Tsai et al., 2007; Wang et al., 2000). This observation is important, because poor mental health often translates into lower levels of resilience.

High social vulnerability following a disaster does not necessarily correspond with a low sense of well-being. For example, several African American informants engaged in 'Leaning on God' as a coping strategy. Chan and Rhodes (2013) note that a range of protective factors and coping strategies may help to attenuate the psychological impacts of disasters. This finding supports Norris et al. (2002) argument that impacts of disasters on psychosocial functioning are neither consistent nor inevitable.

As disasters are not experienced uniformly across individuals, an intersectionality framework may provide a more robust examination of the variations across vulnerable populations. Grounded in feminist theory, intersectional analysis (Crenshaw, 2000) aims to reveal multiple identifies by exposing different types of discrimination and

disadvantage that occur as a consequence of the combination of those identities (Symington, 2004). Perry, Harp & Oser (2013) call for an inclusion-centered approach that promotes an in-depth understanding of the domains of risk that pose the greatest threat for individuals in unique positions of disadvantage at the intersection of gender, race, and low socioeconomic status. Throughout this analysis, I examined disparities in these domains of risk in relation to post-disaster QOL domains. Advancing an intersectionality framework around post-disaster QOL would serve to further illuminate variations in vulnerabilities and resiliencies among individuals and communities.

In conclusion, this research provides a unique contribution to the understanding of post-disaster QOL and migration behavior. Situated within this discussion is a critique of the current conceptualization and measurement of QOL that often substitutes HRQOL as a proxy. There are clear disparities along racial, socio-economic, gender, and age in the data that support the findings of other disaster studies. However, this study pushes the boundaries of QOL by drawing upon aspects of structuration theory to examine the dynamic relationship between the domains of Common, Local, and Migration Control. Further, advancing an intersectionality framework to post-disaster QOL may provide a more robust examination of the variations across vulnerable populations.

CHAPTER 6

CONCLUSION

“If you’re walking down the street with your grandmother and she falls down, do you step on her back to keep on walking? No, you pick her up, you dust her off, you make sure that she’s ok, and then you keep walking together.”
(White female, More Privileged, High Damage, returned to New Orleans)

This dissertation adds to the extant literature by pushing the boundaries of QOL in order to understand how affected individuals conceptualize post-disaster QOL. It was conducted to provide a more in-depth understanding of how affected populations reframe QOL following a disaster. This study also sought to examine the dynamic relationship between post-disaster QOL and migration behavior.

The analysis of data undertaken for this study aimed to address research questions concerned with 1) how people conceptualize QOL in a post-disaster context and 2) the interaction of the relationship between post-disaster QOL and migration behavior. To my knowledge, this is the first study to explore these questions by using a grounded theory approach; these areas of research are receiving increased attention from disaster researchers, development stakeholders and policy makers. This chapter summarizes the conclusions and study strengths and limitations. Finally, it offers recommendations for policies, programs, and future research.

Major findings from this study are summarized in this chapter with the goal of deepening our understanding of how affected individuals conceptualize their QOL and how this conceptualization influences migration behavior in order to inform post-disaster recovery policy and programming, particularly with regard to medium and long-term recovery. Findings from this study add to the growing disaster studies literature on how individuals fare after a disaster.

Main Findings and Conclusions

- *More privilege/Less Damage* informants tended to be middle and upper-middle class White homeowners. They ranged from middle age to retirement age. They identified their QOL before Katrina as stable. Overall, this group identified their post-disaster QOL as stable or improved. One exception was a middle aged divorced white male out-migrated to Baton Rouge for work reported feeling isolated in his new community because it lacked the culture and diversity of New Orleans.
- *More privilege/high damage* informants were comprised of African Americans and Whites. They ranged from middle age to retirement age, with one informant in her early thirties. The majority were homeowners. All of them inferred stability in their pre-Katrina QOL. As a whole, this group did not experience an improved 'new normal.' There is a clear division in post-disaster QOL between those who returned versus those who out-migrated. Those who returned indicated a stable post-disaster QOL, while those who out-migrated appeared to have lower levels of post-disaster QOL, particularly if they were older African Americans.

- *Less Privilege/Less Damage* informants were comprised of African Americans and Whites. They were much more heterogeneous in age. The majority of this group were renters. Most of them inferred a relative stability in their pre-Katrina QOL. Even with limited income, older informants tended to recover through assistance from their families which served as their primary support network. Overall, Whites indicated higher post-disaster QOL compared to African Americans, regardless of whether they returned or out-migrated.
- *Less privilege/high damage* informants tended to be Black with equal parts renters and homeowners. Two young African American men were teenagers at the time of Katrina and lived with their mothers. Some co-owned property with other family members. Most of them inferred a relative stability in their pre-Katrina QOL. Overall, this group did not do well when compared with other groups, regardless of migration patterns.
- Family plays a pivotal role on post-disaster QOL. Death or illness of a family member, separation from family, and caretaker intensification were often coupled with financial instability and loss or disruption of social support/networks. Informants talked about lost savings, jeopardized retirement, and pre-foreclosure. Older African Americans were particularly vulnerable.
- There were very divergent narratives around (in)equity. Privileged perceptions of race and class in post-disaster recovery viewed African Americans gaming the systems and the need for poor people to stop asking for handouts. A White couple in Austin noted that they preferred living there because there was limited class mixing but lots of diversity. The other narrative was that African American and

the poor were ‘throw away people.’ Encountering stigma in a new community was a theme that emerged among African American out-migrants, particularly if they were younger or less privileged. For vulnerable populations, (in)equity constrained post-disaster recovery and impacted the ‘new normal’ in adverse ways.

- Informants felt that poor leadership and corruption coupled with race constrained post-disaster QOL. Several White informants brought up race and made negative references to the Chocolate City. One woman from Algiers said that there should be equity for all and not whining about what you do not have. On the other hand, many African American informants noted the unequal recovery, as “they” are trying to take the city away from “us.” African American out-migrants in particular reported feeling pushed out.
- For more privileged older informants who experienced low damage, perceptions of safety acted as a push factor while family and community acted as pull factors. Several informants noted that they choose their new communities based on their perception of a higher QOL. For less privileged older informants who experienced low damage, perceptions of safety and housing and financial stability acted as push factors with family acting as pull factor. These informants tended to choose their new community because they had social networks there and in many cases financial and housing barriers prevented them from returning.
- Informants, regardless of level of privilege, were likely to engage in migration as a risk mitigation strategy. In many cases, the slow and complicated disaster recovery process acted as a push factor.

- Among those who out-migrated, African Americans regardless of socio-economic status did not do well. Major constraints that were impacted their post-disaster QOL were family, financial stability, (in)equity and separation from social network, community, and culture.

These findings suggest a complex and dynamic relationship between domains of post-disaster QOL. Further, post-disaster QOL must be conceptualized as movement through time and space rather than a static state. Prior research suggests that disasters can have long-term impacts on QOL outcomes. How an individual achieves recovery is one month, one year, five years and even ten years post-disruption is subject to significant change. Disasters magnify vulnerabilities and resiliencies that serve to enhance and diminish post-disaster QOL, so that recovery is not experienced in a uniform way. Drawing from Giddens's Theory of Structuration, Katrina highlights that post-disaster recovery often reproduces familiar systems and structures based on inequities and counters the narrative of building back better, which further underscores the importance of examining issues surrounding agency and power relations that impact post-disaster QOL.

Recommendations

The following policy and programming recommendations are offered as a result of findings from this study:

1. Findings from this study illustrate the complex relationship between post-disaster QOL domains that shape the 'new normal' for the disaster affected individuals. Individuals that experienced high damage regardless of socio-economic status encountered significant barriers to recovery that constrained their post-disaster

QOL. Recovery programs need to take into account the needs of vulnerable populations such as the elderly, minorities, the working poor and the unbankable. Housing programs should be coupled with programs that address financial stability, such as credit remediation.

2. Disaster case management should be embedded in all post-disaster recovery assistance programs with particular attention to vulnerable population, such as the elderly. The Office of Human Services Emergency Preparedness and Response defines disaster case management as a time-limited process that involves a partnership between a case manager and a disaster survivor to develop and carry out a Disaster Recovery Plan.
3. Development practitioners must develop a better understanding of the impact of (in)equity on post-disaster QOL on two levels. The first is disaster recovery programs and policies. Findings from this study show that recovery programs and policies served to erode social capital and reinforce inequitable social arrangement. Equity-for-all coupled a high level of cultural competency needs to be embedded at all levels of disaster recovery. Disaster recovery programs should include the voices of the affected and utilize local community groups to reach vulnerable populations. They should ensure that frontline staff and decision makes reflect the populations that they serve. Cultural competency will help reduce power differential and biases. Clearly, there needs to be better monitoring and evaluation of disaster assistance programs and policies with attention to issues of inequity. Second, disaster recovery specialists and development practitioners need to do more with host communities to reduce stigma for

displaced persons. This will be increasingly important as more people engage in environmental migration as a result of climate change.

4. Disaster recovery policies should be structured to reduce the burden caused by forced migration, thereby improving the post-disaster QOL of affected individual. Policies and programs should work to eliminate structural barriers that prevent people from returning home. Findings from this study highlight the importance of agency and choice in post-disaster migration decision-making and the critical role that disaster recovery programs and policies play in enabling or constraining migration control. Greater resources should be directed at assisting vulnerable populations with migration control to either remain in their communities or migrating to new communities of their choice. Recovery programs need to be clearly articulated, easily accessible and have a quick turnaround.

Study Strengths and Limitations

This dissertation serves to address the knowledge gap around disaster-related migration decision making and the dynamic reframing of post-disaster QOL among individuals who return and those who do not. A key contribution of this dissertation is that it contributes to a framework to further explore this phenomenon. An addition strength of this dissertation is that it complements many large, population based studies that focused on New Orleans post-Katrina but were limited in their ability to provide a deeper, more contextualized understanding of individual-level experiences as well as interpretations of QOL following Katrina. As post-disaster recovery is a complex and dynamic process, the theory produced through this study provides a detail-rich understanding of the perceptions and processes of recovery. This is important as we begin

to see more individuals and communities engaging and reengaging in the post-disaster recovery process due to climate change.

There are several limitations to this study. The main limitation is that it used a cross-sectional design. The dynamic reframing of post-disaster QOL, a central feature of this study, is assessed using data collected at one point in time. However, because this study examined participant's reflections on the past, present, and future, which is a multi-dimensional representation of time, a cross-sectional design was acceptable for this type of study. Second, respondents were asked to recount events as far back as five years or more. However, because this study was looking at meaning and not specific details, recall bias is less of a concern. Although all attempts were made to interview respondents face-to-face, this was not always possible. This is problematic, as face-to-face interviews provide a context that phone interviews lack. Accessibility of the subsample is also a potential source of bias. There is no way to know if these individuals are different from individuals who relocated to other parts of the country. However, generalizability was not the goal of this analysis. Additionally, bias is an acceptable part of interpretivist research.

Recommendations for Future Research

There is much more to be understood about post-disaster QOL. The conceptual framework proposed in this study should be examined against the backdrop of other disasters in other communities around the world. Findings from this study demonstrate the need for better measurement of post-disaster QOL. A possible next step toward operationalizing a post-disaster QOL model would be to conduct a confirmatory factor analysis, similar to process used in Abrahamson's Socio-Ecological Model of Recovery, by testing the model on returnees and non-returnees.

Moving beyond HRQOL as a proxy for post-disaster QOL, the capabilities approach may provide a way forward. The capabilities approach is an evaluation framework for well-being and development that is concerned with people's freedom to do and be what they value (Sen 1980). Capabilities do not reflect the preferences of individuals, but rather their genuine opportunities (Gardoni & Murphy, 2010; Sen 1999a; 1999b). Gardoni & Murphy (2010) applied the capability approach to their development of a Disaster Impact Index, a composite index to gauge societal impact of disasters on the basis of the changes in individuals' capabilities. They argue that "a capability approach provides a stronger theoretical foundation for identifying and quantifying the societal impact of natural disasters on the basis of overall changes in individuals' capabilities" (p. 622).

More research is clearly needed on the impact of migration on post-disaster QOL, particularly for those that out-migrate. There is an opportunity cost to individuals and communities when people out-migrate that requires further investigation. Further longitudinal studies on post-disaster outcomes of returnees and out-migrants are recommended. Disaster studies should also examine the impacts of additional shocks and events during the disaster recovery period that are either place-based or person-centered. In the case of the Gulf South, vulnerable communities have experienced several hurricanes since Katrina and the Deep Water Horizon oil spill in 2010.

Just as Faici, Bonciana & Guerra (2012) examined the role of disaster recovery process, findings for this study show the role of disaster recovery policies and programs that act to stabilize or destabilize individual recovery. Programs, such as Road Home, that should have acted to pull individuals back to a community in fact served to push them

out. This study illuminates the need for greater understanding of the impact of the disaster recovery process on migration behavior and post-disaster QOL.

BIBLIOGRAPHY

- Abramson, D., Stehling-Ariza, T., Garfield, R., & Redlener, I. (2008). Prevalence and predictors of mental health distress post-Katrina: findings from the Gulf Coast Child and Family Health Study. *Disaster Medicine and Public Health Preparedness*, 2(2), 77-86.
- Abramson, D. M., Stehling-Ariza, T., Park, Y. S., Walsh, L., Culp, D. (2010). Measuring individual disaster recovery: a socioecological framework. *Disaster Medicine and Public Health Preparedness*, 4(1), S46-S54.
- Adams, V., Van Hattum, T., & English, D. (2009). Chronic disaster syndrome: Displacement, disaster capitalism, and the eviction of the poor from New Orleans. *American Ethnologist*, 36(4), 615-636.
- Adamo, S. B. (2010). Environmental migration and cities in the context of global environmental change. *Current Opinion in Environmental Sustainability*, 2(3), 161-165.
- Adger, W. N., Hughes, T. P., Folke, C., Carpenter, S. R., and Rockström, J. (2005). Social-ecological resilience to coastal disasters. *Science*. 309(5737), 1036-1039.
- Adger, W. N. (2006) Vulnerability. *Global Environmental Change*. 16(3), 268-281.
- Aghabakhshi, H., & Gregor, C. (2007). Learning the lessons of Bam: The role of social capital. *International Social Work*, 50(3), 347-356.
- Airriess, C. A., Li, W., Leong, K. J., Chia-Chen Chen, A. & Keith, V. M. (2007). Church-based social capital, networks and geographical scale: Katrina evacuation, relocation, and recovery in a New Orleans Vietnamese American community. *Geoforum*, 39, 1333-1346.
- Aldrich, D. P. (2012). *Building resilience: Social capital in post-disaster recovery*. Chicago: University of Chicago Press.
- Aldrich, D. P., & Crook, K. (2013). Taking the high ground: FEMA trailer siting after

- Hurricane Katrina. *Public Administration Review*, 73(4), 613-622.
- Almedom, A. M. (2004). Factors that mitigate war-induced anxiety and mental distress. *Journal of Biosocial Science*, 36, 445-461.
- Amnesty International Facts And Figures Document AI Index: AMR 36/003/2014 09 January 2014. Retrieved from <http://reliefweb.int/report/haiti/facts-and-figures-document-displaced-people-still-leave-despair-four-years-after>
- Anastario, M., Shehab, N., & Lawry, L. (2009). Increased gender-based violence among women internally displaced in Mississippi 2 years post-Hurricane Katrina. *Disaster Medicine and Public Health Preparedness*, 3(1), 18-26.
- Anderson, L. (1991). Acculturated stress: A theory of relevance to Black American. *Clinical Psychology Review*, 11, 685-702.
- Ardalan, A., Mazaheri, M., Vanrooyen, M., Mowafi, H., Nedjat, S., Naieni, K. H., & Russel, M. (2011). Post-disaster quality of life among older survivors five years after the Bam earthquake: implications for recovery policy. *Ageing and Society*, 31(2), 179-196.
- Arend, O. (2010). *Showdown in Desire: The Black Panthers take a stand in New Orleans*. Little Rock, University of Arkansas Press.
- Associated Press, Staff Writer. "Katrina heads for New Orleans". August 29, 2005. Retrieved from <http://www.foxnews.com/story/2005/08/29/katrina-heads-for-new-orleans/>.
- Baker, N. D., Feldman, M. S., & Lowerson, V. (2013). Working through disaster: Re-establishing mental health care after Hurricane Katrina. *Disaster Medicine and Public Health Preparedness*, 7(3), 222-231.
- Bankoff, G., Frerks, G., & Hilhorst, D. (2004). *Mapping vulnerability: Disasters, development, and people*. New York: Routledge.
- Bayram, N., Thorburn, D., Demirhan, H., & Bilgel, N. (2007). Quality of life among Turkish immigrants in Sweden. *Quality of Life Research*, 16(8), 1319-1333.
- Berger, R. (2015). *Stress, trauma, and posttraumatic growth*. New York: Routledge.
- Berkes, F., & Ross, H. (2013). Community resilience: toward an integrated approach. *Society & Natural Resources*, 26(1), 5-20.
- Blaikie, P., Cannon, T., Davis, I. & Wisner, B. (1994). *At risk: Natural hazards, people's vulnerability, and disasters*. London: Routledge.

- Bland, S. H., O'Leary, E. S., Farinaro, E., Jossa, F., & Trevisan, M. (1996). Long-term psychological effects of natural disasters. *Psychosomatic Medicine*, 58(1), 18-24.
- Boadway, R. W., & Bruce, N. (1984). *Welfare economics*. Oxford: Basil Blackwell.
- Bogardi, J., & Warner, K. (2008). Here comes the flood. *Nature Reports Climate Change*, 3, 9-11. Retrieved from <http://www.nature.com/climate/2009/0901/pdf/climate.2008.138.pdf>.
- Bohle, H. G., Downing, T. E., & Watts M. J. (1984) Climate change and vulnerability: toward a sociology and geography of food security. *Global Environmental Change*, 4(1), 37-48.
- Bolin, R. C. & Bolton, P. A. (1986). Race, religion, and ethnicity in disaster recovery. FMHI Publications. Paper 88. Retrieved from http://scholarcommons.usf.edu/fmhi_pub/88.
- Bolin, B. (2007). Race, class, ethnicity, and disaster vulnerability. In *Handbook of disaster research* (pp. 113-129). New York: Springer.
- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, 59(1), 20-28.
- Bowling, A. (1995). What things are important in people's lives? A survey of the public's judgments to inform scales of health related quality of life. *Social Science & Medicine*, 41(10), 1447-1462.
- Bowling, A. (1997). *Measuring health. A review of quality of life measurement scales* (2nd. Ed.) Buckingham: Open University Press.
- Boychuk J. E., & Morgan, D. (2004). Grounded theory: reflections on the emergence vs. forcing debate. *Journal of Advanced Nursing*, 48(6), 605-612.
- Bradley, M. (2014) Four years after the Haiti earthquake, the search for solutions to displacement continues. Washington: Brookings Institute. Retrieved from <http://www.brookings.edu/blogs/up-front/posts/2014/01/13-haiti-earthquake-anniversary-bradley>.
- Breed, W. (1965). The emergence of pluralistic public opinion in a community crisis. *Applied Sociology*, ed. Alvin Gouldner and SM Miller (New York: The Free Press, 1965), 130.
- Brinkley, D. (2006). *The great deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast*. New York: Morrow.

- Brown, K., & Westaway, E. (2011). Agency, capacity, and resilience to environmental change: lessons from human development, well-being, and disasters. *Annual Review of Environment and Resources*, 36(1), 321-342
- Brunsmma, D. L., Overfelt, D., & Picou, J. S. (Eds.) (2007). *The sociology of Katrina: Perspectives on a modern catastrophe*. Lanham: Rowman & Littlefield Publishers, Inc.
- Buikstra, E., Ross, H., King, C. A., Baker, P. G., Hegney, D., McLachlan, K., & Rogers-Clark, C. (2010). The components of resilience-perceptions of an Australian rural community. *Journal of Community Psychology*, 38(8), 975-991.
- Bullard, M. (2014, February 28) Political horizons: Levee board lawsuit still under fire. The Advocate. Retrieved from <http://theadvocate.com/columnists/8381211-55/political-horizons-levee-board-lawsuit>.
- Calhoun, L. G. & Tedeschi, R. G. (2004). The foundations of post-traumatic growth: An expanded framework. In Calhoun, L. G. & Tedeschi, R. G. (Eds.). *Handbook of posttraumatic growth: Research and practice*. (pp. 3-23) Mahwah, NJ: Lawrence Erlbaum Associates.
- Camfield, L., & Ruta, D. (2007). 'Translation is not enough': Using the Global Person Generated Index (GPGI) to assess individual quality of life in Bangladesh, Thailand, and Ethiopia. *Quality of Life Research*, 16(6), 1039-1051.
- Campanella, R. (2002). *Time and place in New Orleans: Past geographies in the present day*. Gretna: Pelican Publishing.
- Campanella, R. (2010). *Delta urbanism*. Chicago: American Planning Association.
- Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of american life: Perceptions, evaluations, and satisfactions*. New York: Russell Sage Foundation.
- Carrico, R. (2013). On thieves, spiritless bodies, and creole soul: Dancing through the streets of New Orleans. *TDR: The Drama Review*, 57(1), 70-87.
- Cella, D. F., & Tulsky, D. S. (1990). Measuring quality of life today: methodological aspects. *Oncology*, 4(5), 29-38.
- Cerdá, M. (2014). Posttraumatic growth in the aftermath of a disaster: Looking for the role of gender. *Soc Psychiatry Psychiatr Epidemiol*, 49:1859-1860
- Ceyhan, E. & Ceyhan, A. A. (2007). Earthquake survivors' quality of life and academic achievement six years after the earthquakes in Marmara, Turkey. *Disasters*, 31(4), 516-529.

- Chamlee-Wright, E. (2006). *After the storm: Social capital regrouping in the wake of Hurricane Katrina*. George Mason University Mercatus Center. Retrieved from <http://mercatus.org/sites/default/files/After-the-Storm-Finding-Success-in-the-Wake-of-Hurricane-Katrina-.pdf>.
- Chamlee-Wright, E., & Storr, V. H. (2011). Social capital as collective narratives and post-disaster community recovery. *The Sociological Review*, 59(2), 266-282.
- Chan, C. S., & Rhodes, J. E. (2013). Religious coping, posttraumatic stress, psychological distress, and posttraumatic growth among female survivors four years after Hurricane Katrina. *Journal of traumatic stress*, 26(2), 257-265.
- Chapin, F. S., Carpenter, S. R., Kofinas, G. P., Folke, C., Abel, N., Clark, W. C., ... & Swanson, F. J. (2010). Ecosystem stewardship: sustainability strategies for a rapidly changing planet. *Trends in Ecology & Evolution*, 25(4), 241-249.
- Chatterji, S., Ustün, B. L., Sadana, R., Salomon, J. A., Mathers, C. D., & Murray, C. J. (2002). The conceptual basis for measuring and reporting on health. *Global Programme on Evidence for Health Policy Discussion Paper*, 45.
- Chen, J., Zhou, X., Zeng, M., & Wu, X. (2015). Post-traumatic stress symptoms and post-growth: evidence from a longitudinal study following an earthquake disaster. *PloS one*, 10(6), e0127241.
- Chen, A. C., Keith, V. M., Airriess, C., Li, W., & Leong, K. J. (2007). Economic vulnerability, discrimination, and Hurricane Katrina: Health among black Katrina survivors in eastern New Orleans. *Journal of the American Psychiatric Nurses Association*, 13(5), 257-266.
- Chen, C.H., Tan, H.K., Liao, L.R., Chen, H.H., Chan, C.C., Chen, C.Y., ... & Lu, M.L. (2007). Long-term psychological outcome of 1999 Taiwan earthquake survivors: a survey of a high-risk sample with property damage. *Comprehensive Psychiatry*, 48(3), 269-275.
- Chevernak, E. E., Dai, S. C., & Jahasz, E. (2013). 2013 Quality of Life Survey-Orleans and Jefferson Parishes. Retrieved from http://scholarworks.uno.edu/cgi/viewcontent.cgi?article=1034&context=src_pubs.
- Chhotray, V., & Few, R. (2012). Post-disaster recovery and ongoing vulnerability: Ten years after the Super-Cyclone of 1999 in Orissa, India. *Global Environmental Change*, 22(3), 695-702.
- Chou, Y. J., Huang, N., Lee, C. H., Tsai, S. L., Chen, L. S., & Chang, H. J. (2004). Who is at risk of death in an earthquake? *American Journal of Epidemiology*, 160(7), 688-695.

- Costanza, R., Fisher, B., Ali, S., Beer, C., Bond, L., Boumans, R., & Snapp, R. (2007). Quality of life: An approach integrating opportunities, human needs, and subjective well-being. *Ecological Economics*, 61(2), 267-276.
- Costanza, R., Fisher, B., Ali, S., Beer, C., Bond, L., Boumans, R., Danigelis, N., et al. (2007). Quality of life: An approach integrating opportunities, human needs, and subjective well-being. *Ecological Economics*, 61(2-3), 267-276.
- Colten, C. E. (2002). Basin Street blues: drainage and environmental equity in New Orleans, 1890–1930. *Journal of Historical Geography*, 28(2), 237–257.
- Colten, C., Kates, R., & Laska, S. (2008). *Community resilience: Lessons from New Orleans and Hurricane Katrina. Community and Regional Resilience Initiative (CARRI) Research Report, 3*. Retrieved from <http://biotech.law.lsu.edu/climate/docs/a2008.03.pdf>
- Corbin, J., & Strauss, A. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (3rd ed.). Thousand Oaks: Sage.
- Cottam, H. R. (1941). Methods of Measuring Level of Living, Social Participation and Adjustment of Ohio Farm People. Methodological Supplement to the Agricultural Experiment Station Bulletin No. 624, Columbus, Ohio: Ohio State University and Ohio Agricultural Experiment Station, July (Mineo).
- Cottam, H. R. & Mangus, A.R. (1942). Standard of living: an empirical test of a definition. *Rural Sociology* 7(4), 395–403.
- Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *U. Chi. Legal F.*, 139. Retrieved from <http://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1052&context=uclf>.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks: Sage.
- Cutter, S. L. (1996). Vulnerability to Environmental Hazards. *Progress in Human Geography*, 20(4), 529-539.
- Cutter, S. L. (2011). *Migration and Global Environmental Change CS1: The Katrina exodus: internal displacements and unequal outcomes*. UK Government's Foresight Project, Migration and Global Environmental Change. Retrieved from <http://webarchive.nationalarchives.gov.uk/20130402184443/http://www.bis.gov.uk/assets/foresight/docs/migration/case-studies/11-1156-cs1-katrina-exodus-internal-displacements.pdf>.

- Cutter, S. L., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E., & Webb, J. (2008). Community and regional resilience: Perspectives from hazards, disasters, and emergency management. *Community and Regional Resilience Initiative (CARRI) Research Report, 1*. Retrieved from http://www.resilientus.org/wp-content/uploads/2013/03/FINAL_CUTTER_9-25-08_1223482309.pdf.
- Cutter, S. L., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E., & Webb, J. (2008). A place-based model for understanding community resilience to natural disasters. *Global environmental change, 18*(4), 598-606.
- Cutter, S. L., Boruff, B. J., & Shirley, W. L. (2003). Social vulnerability to environmental hazards*. *Social science quarterly, 84*(2), 242-261.
- Cutter, S. L., & Emrich, C. T. (2006). Moral hazard, social catastrophe: The changing face of vulnerability along the hurricane coasts. *The Annals of the American Academy of Political and Social Science, 604*(1), 102-112.
- Daphne, S. (1979). Race relations and residential segregation in New Orleans: Two centuries of paradox. *Annals of the American Academy of Political and Social Science, 441*, 82-96.
- Davidson, D. J. (2010). The applicability of the concept of resilience to social systems: some sources of optimism and nagging doubts. *Society and Natural Resources, 23*(12), 1135-1149.
- DiGrande, L., Neria, Y., Brackbill, R. M., Pulliam, P., & Galea, S. (2011). Long-term posttraumatic stress symptoms among 3,271 civilian survivors of the September 11, 2001, terrorist attacks on the World Trade Center. *American journal of epidemiology, 173*(3), 271-281.
- Donner, W., & Rodríguez, H. (2008). Population composition, migration and inequality: The influence of demographic changes on disaster risk and vulnerability. *Social forces, 87*(2), 1089-1114.
- Drabek, T. E. (1986). Warning. In *Human System Responses to Disaster*(pp. 70-99). Springer New York.
- Durkheim, E. (1947). *The Division of Labour in Society* (tr. Simpson, C.)
- Durkheim, E. (1951). *Suicide: A study in sociology* (JA Spaulding & G. Simpson, trans.). Glencoe, IL: Free Press. (Original work published 1897).
- Dynes, R. (2006). Social capital: Dealing with community emergencies. *Homeland Security Affairs, 2*(2).
- Easterlin, R. A. (1974). Does economic growth improve the human lot? Some empirical

- evidence. *Nations and households in economic growth*, 89, 89-125.
- Easterly, W. (1999). Life during growth. *Journal of economic growth*, 4(3), 239-276.
- Elliott, J. R., & Pais, J. (2006). Race, class, and Hurricane Katrina: Social differences in human responses to disaster. *Social Science Research*, 35(2), 295-321.
- Eriksen, S. H., Brown, K., & Kelly, P. M. (2005). The dynamics of vulnerability: locating coping strategies in Kenya and Tanzania. *The geographical journal*, 171(4), 287-305.
- Erikson, K. (1976). *Everything in Its Path: Destruction of Community in the Buffalo Creek Flood*. New York: Simon and Schuster.
- Eyre, A. (2006). *Literature and best practice review and assessment: Identifying people's needs in major emergencies and best practice in humanitarian response*. Report commissioned by the Department for Culture, Media and Sport Contact Number: D3/621. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/61224/ha_literature_review.pdf.
- Fauci, A. J., Bonciani, M., & Guerra, R. (2012). Quality of life, vulnerability and resilience: a qualitative study of the tsunami impact on the affected population of Sri Lanka. *Annali dell'Istituto superiore di sanità*, 48(2), 177-188.
- Fairclough, A. (2002). *Better Day Coming: Blacks and Equality, 1890-2000*. New York: Penguin Books.
- Faris, R. E. L., & Dunham, H. W. (1939). Mental disorders in urban areas: an ecological study of schizophrenia and other psychoses.
- FEMA (2011). *The National Disaster Framework*. Retrieved from <http://www.fema.gov/national-disaster-recovery-framework>.
- Finch, C., Emrich, C. T., & Cutter, S. L. (2010). Disaster disparities and differential recovery in New Orleans. *Population and Environment*, 31(4), 179-202.
- Finger, D. (2008). Stranded and squandered: Lost on the road home. *Seattle Journal for Social Justice*, 7(1), 59-100.
- Fischetti, M. (2001). Drowning New Orleans. *Scientific American*, 285(4), 76-85.
- Folke, C., Carpenter, S., Walker, B., Scheffer, M., Elmqvist, T., Gunderson, L., & Holling, C. S. (2004). Regime shifts, resilience, and biodiversity in ecosystem management. *Annual Review of Ecology, Evolution, and Systematics*, 35:557-581.

- Ford, L. K. (1999). Making the 'white man's country' white: Race, slavery, and state-building in the Jacksonian South. *Journal of the Early Republic*, 19(4), 713-737.
- Forgette, R., Dettrey, B., Van Boening, M., & Swanson, D. A. (2009). Before, now, and after: Assessing Hurricane Katrina relief. *Population Research and Policy Review*, 28(1), 31-44.
- Fothergill, A., (2004). *Heads above water: Gender, class and family in the Grand Forks flood*. Albany: State University of New York Press.
- Fothergill, A., Maestas, E. G., & Darlington, J. D. (1999). Race, Ethnicity and disasters in the United States: A Review of the Literature. *Disasters*, 23(2), 156-173.
- Fothergill, A., & Peek, L. A. (2004). Poverty and disasters in the United States: A review of recent sociological findings. *Natural Hazards*, 32(1):89-110.
- Fuchs, V. (1983). *How We Live*. Cambridge, MA: Harvard University Press.
- Fussell, E. (2007). Constructing New Orleans, constructing race: A population history of New Orleans. *The Journal of American History*, 94(3), 846-855.
- Fussell, E., Sastry, N., & Vanlandingham, M. J. (2010). Race, socioeconomic status, and return migration to New Orleans after Hurricane Katrina. *Population & Environment*, 31(1), 20-42.
- Galea, S., Brewin, C. R., Gruber, M., Jones, R. T., King, D. W., King, L. A., ... & Kessler, R. C. (2007). Exposure to Hurricane-Related Stressors and Mental Illness after Hurricane Katrina. *Archives of General Psychiatry*, 64(12), 1427-1434.
- Ganapati, N. E., & Ganapati, S. (2008). Enabling Participatory Planning after Disasters: A Case Study of the World Bank's Housing Reconstruction in Turkey. *Journal of the American Planning Association*, 75(1), 41-59.
- Ganapati, N., Cheng, S., & Ganapati, S. (2012, March). Resilient rural communities? Housing recovery patterns following hurricane katrina. In *USDA Disaster Resiliency Conference, University of Central Florida, Orlando, FL*. Accessed March (19(2014), 73-85).
- Gardner, T. M., Irwin, A., & Peterson, C. W. (2009). No shelter from the storm: reclaiming the right to housing and protecting the health of vulnerable communities in post-Katrina New Orleans. *Health and Human Rights*, 101-114.
- Gardoni, P. & Murphy, P. (2010). Gauging the societal impacts of natural disaster using a capability approach. *Disasters*, 34(3), 619-636.
- Gauntlett, D. (2002). *Media, gender and identity: An introduction*. London: Routledge.

- Gelman, M. (1994). *The Free People of Color of New Orleans: An Introduction*. New Orleans: Margaret Media, Inc.
- Gemenne, F., Pattie, D., & Boulharouf, R. (2006). Understanding migration choices: the UNCCD as a mechanism for developing coping strategies. *2nd International Symposium on desertification and Migrations, Almeria* (pp. 25–27). Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.116.6511&rep=rep1&type=pdf>.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Cambridge: Polity Press.
- Granitz, P. (2014, January 12) *Four Years after Earthquake, Many in Haiti Remain Displaced*. NPR. Retrieved from <http://www.npr.org/2014/01/12/261723409/four-years-after-earthquake-many-in-haiti-remain-displaced>.
- Glaser, B. (2002). Conceptualization: On theory and theorizing using grounded theory. *International Journal of Qualitative Methods*, 1(2), 23-38. Retrieved from <https://ejournals.library.ualberta.ca/index.php/IJQM/article/view/4605/3757>.
- Glaser, B. G., Strauss, A. L. (2006). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New Brunswick: Aldine Transaction.
- Grewal, I., Lewis, J., Flynn, T., Brown, J., Bond, J., & Coast, J. (2006). Developing attributes for a generic quality of life measure for older people: Preferences or capabilities?. *Social science & medicine*, 62(8), 1891-1901
- Grier, P. (2005, September 12). *The Great Katrina Migration*. The Christian Science Monitor. Retrieved from: <http://www.csmonitor.com/2005/0912/p01s01-ussc.html>
- Groen, J. A., & Polivka, A. E. (2010). Going Home after Hurricane Katrina: Determinants of Return Migration and Changes in Affected Areas. *Demography*, 47(4):821-44.
- Gullette, M. M. (2006). Katrina and the Politics of Later Life. In Hartman, C. & Squires, G.D. (Eds.). *There is No Such Thing as a Natural Disaster: Race, Class, and Hurricane Katrina*. New York: Routledge. pp. 103-119.
- Gunderson, L. (2009). Comparing Ecological and Human Community Resilience. *Community and Regional Resilience Initiative (CARRI) Research Report*, 5. http://www.resilientus.org/library/Final_Gunderson_1-12-09_1231774754.pdf.

- Hall, G. M. (1992). *Africans in Colonial Louisiana: The Development of Afro-Creole Culture in the Eighteenth Century*. Baton Rouge: Louisiana State University Press.
- Hall, W. A. & Callery, P. (2001). Enhancing the rigor of grounded theory: Incorporating reflexivity and relationality. *Qualitative Health Research*, 11(2), 257-272.
- Hamel, L., Firth, J., & Brodie, M. (2015). New Orleans ten years after the storm: The Kaiser Family Foundation survey project. Retrieved from <http://files.kff.org/attachment/report-new-orleans-ten-years-after-the-storm-the-kaiser-family-foundation-katrina-survey-project>.
- Hangar, K. S. (1997). *Bounded lives, bounded places: Free black society in colonial New Orleans, 1769–1803*. Durham: Duke University Press.
- Hartman, C. W., & Squires, G. D. (Eds.). (2006). *There is no such thing as a natural disaster: Race, class, and hurricane katrina*. New York: Routledge.
- Hasanah, C. I., Zaliha, A.R., & Mahiran, M. (2011). Factors influencing the quality of life in patients with HIV in Malaysia. *Quality of Life Research*, 20(1), 91-100.
- Hearn, C. G. (1995). *The capture of New Orleans, 1862*. Baton Rouge: Louisiana State University Press.
- Heo, J., Kim, M. H., Koh, S.-B., Noh, S., Park, J. H., Ahn, J. S., ... Min, S. (2008). A prospective study on changes in health status following flood disaster. *Psychiatry Investigation*, 5(3), 186–192.
- Higgins I. J. & Carr A. J. (2003) The clinical utility of quality of life measures. In: Higgins I. J., Carr A. J., Robbins P. G., eds , editors. *Quality of life*. London: BMJ Books. pp. 63–78.
- Hobfoll, S. E., Watson, P., Bell, C. C., Bryant, R. A., Brymer, M. J., Friedman, M. J., ... & Maguen, S. (2007). Five essential elements of immediate and mid-term mass trauma intervention: empirical evidence. *Psychiatry*, 70(4), 283-315.
- Holton, J. A. The Coding Process and Its Challenges. *The Grounded Theory Review: An international journal*, 21.
- Hopkins, D. J. (2008). Politicized places: How local reactions to the post-katrina migrants were shaped by the media.
- Houck, O. A. (2006). Retaking the exam: How environmental law failed New Orleans and the Gulf Coast South and how it might yet succeed. *Tulane Law Review*, 81, 1059-1084.

- Hunter, L. M. (2005). Migration and environmental hazards. *Population and environment*, 26(4), 273-302.
- Illingsworth, J. (2013). Erroneous and incongruous notions of liberty: urban unrest and the origins of radical reconstruction in New Orleans, 1865-1868. In Baker, B.B. & Kelly, B. (Eds.). *After slavery: Race, labor, and citizenship in the reconstruction south*. Gainesville: University Press of Florida.
- Inter-university Consortium for Political and Social Research. (2001). Historical demographic, economic and social data: The United States, 1790-1960. Ann Arbor: ICPSR. Retrieved from <http://fisher.lib.virginia.edu/census/>.
- Jenkins, P., & Phillips, B. (2008). Battered women, catastrophe, and the context of safety after Hurricane Katrina. *NWSA Journal*, 20(3), 49-68.
- Jin, Y., Xu, J., & Liu, D. (2014). The relationship between post traumatic stress disorder and post traumatic growth: gender differences in PTG and PTSD subgroups. *Social Psychiatry and Psychiatric Epidemiology*, 49(12), 1903-1910.
- Johnson, J. H., & Sarason, I. G. (1979). *Moderator variables in life stress research* (No. SCS-LS-007). Washington Univ Seattle Dept Of Psychology.
- Jones, M. (1999). Structuration theory. *Rethinking management information systems*, 103-134.
- Jones, M.R. & Karsten, H. (2008). Giddens's structuration theory and information systems research. *MIS Quarterly*, 32(1):127-157.
- Kahneman, D., Diener, E., & Schwarz, N. (Eds.). (1999). *Well-being: Foundations of Hedonic Psychology*. Russell Sage Foundation.
- Karnofsky, D. A., Abelmann, W. H., Craver, L. F., & Burchenal, J. H. (1948). The use of the nitrogen mustards in the palliative treatment of carcinoma. With particular reference to bronchogenic carcinoma. *Cancer*, 1(4), 634-656.
- Kasapoğlu, A., & Ecevit, M. (2003). Impact of the 1999 East Marmara earthquake in Turkey. *Population and Environment*, 24(4), 339-358.
- Kates, R. W., Colten, C. E., Laska, S., & Leatherman, S. P. (2006). Reconstruction of New Orleans after Hurricane Katrina: a research perspective. *Proceedings of the National Academy of Sciences of the United States of America*, 103(40), 14653-60.
- Ke, X., Liu, C., & Li, N. (2010). Social support and Quality of Life: a cross-sectional study on survivors eight months after the 2008 Wenchuan earthquake. *BMC Public Health*, 10, 573. Retrieved from

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2955008/pdf/1471-2458-10-573.pdf>.

- Kelle, U. (2005). "Emergence" vs. "Forcing" of Empirical Data? A Crucial Problem of "Grounded Theory" Reconsidered. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 6(2), Art. 27, Retrieved from <http://nbn-resolving.de/urn:nbn:de:0114-fqs0502275>.
- Kelley, S. E. (2010). Qualitative Research Review and Synthesis. In I. Bourgeault, R. Dingwall, & R. de Vries (Eds.), *The SAGE Handbook of Qualitative Methods in Health Research* (pp. 307-326). London: Sage Publications Ltd.
- Kessler, R. C., Galea, S., Jones, R. T., & Parker, H. A. (2006). Mental illness and suicidality after Hurricane Katrina. *Bulletin of the World Health Organization*, 84(12), 930-939.
- Kessler, R. C., McLaughlin, K. A., Koenen, K. C., Petukhova, M., & Hill, E. D. (2012). The importance of secondary trauma exposure for post-disaster mental disorder. *Epidemiology and psychiatric sciences*, 21(1), 35-45.
- Khachadourian, V., Armenian, H. K., Demirchyan, A., & Goenjian, A. (2015). Loss and psychosocial factors as determinants of quality of life in a cohort of earthquake survivors. *Health and quality of life outcomes*, 13(1), 13.
- Kirsch-Wood, J., Korreborg, J., & Linde, A. (2008). What humanitarians need to do. *Forced Migration Review*, 31, 40-43.
- Klein, R. J., Smit, M. J., Goosen H., & Hulsbergen, C. H. (1998). Resilience and vulnerability: coastal dynamics or Dutch dikes? *The Geographical Journal*, 164(3), 259-268.
- Klein, R. J., Nicholls, R. J., & Thomalla, F. (2003). Resilience to natural hazards: How useful is this concept? *Global Environmental Change Part B: Environmental Hazards*, 5(1), 35-45.
- Klinenberg, E. (2002). *Heat wave: A social autopsy of disaster in Chicago*. Chicago: University of Chicago Press.
- Krupa, M. (2011, March 3). New Orleans City Hall dysfunction leaves specialist 'shocked'. Time Picayune. Retrieved from http://blog.nola.com/politics/print.html?entry=/2011/03/new_orleans_city_hall_dysfunct.html.
- Kuhlicke, C., Steinführer, A., Begg, C., Bianchizza, C., Bründl, M., Buchecker, M., ... &

- Lemkow, L. (2011). Perspectives on social capacity building for natural hazards: outlining an emerging field of research and practice in Europe. *Environmental Science & Policy*, 14(7), 804-814
- Kurasaki, K. S. (2000). Intercoder reliability for validating conclusions drawn from open-ended interview data. *Field Methods*, 12(3), 179-194.
- LaJoie, A. S., Sprang, G., & McKinney, W.P. (2010). Long-term effects of Hurricane Katrina on the psychological well-being of evacuees. *Disasters*, 34(4), 1031-1044.
- Landry, C. E., Bin, O., Hindsley, P., Whitehead, J. C., & Wilson, K. (2007). Going home: Evacuation-migration decisions of Hurricane Katrina survivors. *Southern Economic Journal*, 74(2), 326-343.
- Landy, M. (2008). A Failure of Initiative: Final Report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina (House of Representatives, February 15, 2006 www.gpoaccess.gov/katrinareport/mainreport.pdf) The Federal Response to Hurricane Katrina Lessons Learned (White House staff, February 2006 www.whitehouse.gov/reports/katrina-lessons-learned/). *Publius: The Journal of Federalism*, 38(1), 152-165. Retrieved from <http://www.c-span.org/pdf/katrinareport.pdf>.
- Laska, S., & Morrow, B. H. (2006). Social vulnerabilities and Hurricane Katrina: An unnatural disaster in New Orleans. *Marine Technology Society Journal*, 40(4), 16-26.
- Leben, R., Born, G., & Scott, J. (2005). CU-Boulder Researchers Chart Katrina's Growth in Gulf of Mexico. *University of Colorado at Boulder*, 06-05.
- Leong, K. J., Airriess, C. A., Li, W., Chen, A. C. C., & Keith, V. M. (2007). Resilient history and the rebuilding of a community: The Vietnamese American community in New Orleans East. *The Journal of American History*, 94(3), 770-779.
- Lepore S. J. & Revenson, T. A. (2006). Resilience and posttraumatic growth: Recovery, resistance and reconfiguration. In Calhoun, L. G. & Tedeschi, R. G. (Eds.). *Handbook of posttraumatic growth: Research and practice*. (pp. 24-46) Mahwah, NJ: Lawrence Erlbaum Associates.
- Levine, J. N., Esnard, A. M., & Sapat, A. (2007). Population displacement and housing dilemmas due to catastrophic disasters. *Journal of Planning Literature*, 22(1), 3-15.
- Lewis, P. F. (1976). *New Orleans: The Making of an Urban Landscape*. Cambridge: Ballinger Publishing Company.

- Liang, Y., Chu, P., & Wang, X. (2014). Health-related quality of life of Chinese earthquake survivors: a case study of five hard-hit disaster counties in Sichuan. *Social Indicators Research*, 119(2), 943-966.
- Lincoln, Y.S. (1995). Emerging Criteria for Quality in Qualitative and Interpretative Research. *Qualitative Inquiry*, 1(3), 275-289.
- Lom, C. (2008) *Thailand Grapples with Rights, Obligations of Burmese Migrant Workers*. Asia and Oceania: International Organization for Migration. Retrieved from <http://www.iom.int/jahia/Jahia/home/featureArticleAS/cache/offonce?entryId=16365>.
- Lora, E., Powell, A., van Praag, B., & Sanguinetti, P. eds. (2010). *The Quality of Life in Latin American Cities: Markets and Perception*. Washington: Inter-Agency Development Bank/World Bank. Retrieved from <https://openknowledge.worldbank.org/bitstream/handle/10986/2452/544310PUB0EPI01OX0349415B01Public10.pdf?sequence=1>.
- Lowe, S. R., Manove, E. E., & Rhodes, J. E. (2013). Posttraumatic stress and posttraumatic growth among low-income mothers who survived Hurricane Katrina. *Journal of consulting and clinical psychology*, 81(5), 877.
- Liu, B. C. (1976). *Quality of Life Indicators in U. S. Metropolitan Areas*. New York: Praeger.
- Marans, R. W. (2003). Understanding environmental quality through quality of life studies: the 2001 DAS and its use of subjective and objective indicators. *Landscape and Urban Planning*, 65(1), 73-83.
- Maercker, A., & Zoellner, T. (2004). The Janus face of self-perceived growth: Toward a two-component model of posttraumatic growth. *Psychological Inquiry*, 15, 41-48.
- Marsella, A. J., Johnson, J. L., Watson, P., & Gryczynski, J. (2008). Essential concepts and foundations. In Marsella, A. J., Johnson, J. L., Watson, P., & Gryczynski, J. (Eds.). *Ethnocultural perspectives on disaster and trauma* (pp. 3-13). Springer New York.
- Maslow A.H. (1954). *Motivation and Personality*. New York: Harper.
- Masquelier, A. (2006). Why Katrina's Victims Aren't Refugees: Musings on a 'Dirty' Word. *American Anthropologist*, 108(4), 735-743.
- Max-Neef, M. A. (1992). *From the outside looking in: experiences in 'barefoot economics'*. Zed Books Ltd.

- McMillen, C., Zuravin, S., & Rideout, G. (1995). Perceived benefit from child sexual abuse. *Journal of consulting and clinical psychology*, 63(6), 1037.
- McKain Jr, W. C. (1939). The concept of plane of living and the construction of Plane of Living Index. *Rural Sociology*, 4:337-343.
- McLeman, R.A., & Hunter, L.M. (2010). Migration in the context of vulnerability and adaptation to climate change: insights from analogues. *Wiley Interdisciplinary Reviews: Climate Change*, 1(3):450-461.
- Merdjanoff, A.A. (2013). There's no place like home: Examining the emotional consequences of Hurricane Katrina on the displaced residents of New Orleans. *Social science research*, 42(5):1222-1235.
- Mechanic, D., & Tanner, J. (2007). Vulnerable people, groups, and populations: societal view. *Health Affairs (Project Hope)*, 26(5), 1220-30
- Mileti, D. S., Drabek, T. E., & Haas, J. E. (1975). *Human systems in extreme environments: A sociological perspective* (Vol. 21). Institute of Behavioral Science, University of Colorado.
- Mitchell, R. C., & Carson, R. T. (1989). *Using surveys to value public goods: the contingent valuation method*. Resources for the Future.
- Morris, D., & McAlpin, M. (1979). *Measuring the Condition of the World's Poor*. New York: Pergamons Press.
- Morrow, B. (2008). Community Resilience: A Social Justice Perspective. *Community and Regional Resilience Initiative (CARRI) Research Report*. Retrieved from http://www.resilientus.org/wp-content/uploads/2013/03/FINAL_MORROW_9-25-08_1223482348.pdf.
- Murphy, B. L. (2007). Locating social capital in resilient community-level emergency management. *Natural Hazards*, 41(2), 297-315.
- Mustafa, D. (1998). Structural causes of vulnerability to flood hazard in Pakistan*. *Economic Geography*, 74(3), 289-305.
- Myers, C. A., Slack, T., & Singelmann, J. (2008). Social vulnerability and migration in the wake of disaster: the case of Hurricanes Katrina and Rita. *Population and Environment*, 29(6), 271-291.
- Nakagawa, Y., & Shaw, R. (2004). Social capital: A missing link to disaster recovery. *International Journal of Mass Emergencies and Disasters*, 22(1), 5-34.

- Nicholls, R.J. (1995). Coastal megacities and climate change. *GeoJournal*, 37(3), 369-79.
- Nelson, M., Wolf-Powers, L., & Fisch, J. (2015). Persistent low wages in New Orleans' economic resurgence: Policies for the improving earnings for the working poor. New Orleans Index at Ten Series. GNOCDC. Retrieved from http://www.datacenterresearch.org/reports_analysis/low-wages/.
- Nicholls, R. J., & Branson, J. (1998). Coastal resilience and planning for an uncertain future: an introduction. *Geographical Journal*, 255-258.
- Norberg, J., & Cumming, G. (2008). *Information processing. Complexity theory for a sustainable future*. New York: Columbia University Press.
- Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002). 60,000 disaster victims speak: Part I. An empirical review of the empirical literature, 1981—2001. *Psychiatry*, 65(3), 207-239.
- Norris, F. N., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., Pfefferbaum, R. L. (2008). Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness, *American Journal of Community Psychology*, 41, 127–150.
- Nussbaum, M. (2000). *Women and Human Development: A Study in Human Capabilities*. Cambridge University Press, Cambridge.
- Nussbaum, M. (2007). Human rights and human capabilities. *Human Rights Journal*, 20, 21-24.
- Nussbaum, M. C., & Glover, J. (Eds.). (1995). *Women, Culture, and Development: A Study of Human Capabilities: A Study of Human Capabilities*. Oxford University Press.
- Nygaard, E., & Heir, T. (2012). World assumptions, posttraumatic stress and quality of life after a natural disaster: A longitudinal study. *Health Quality Life Outcomes*, 10(76), 1-8.
- Nystrom, J.A. (2010). *New Orleans after the Civil War: race, politics, and a new birth of freedom*. Baltimore: The Johns Hopkins University Press.
- O'Brien, K., Sygna, L., Leichenko, R., Adger, W. N., Barnett, J., Mitchell, T... & Mortreux, C. (2008). Disaster risk reduction, climate change adaptation and human security. *Report prepared for the Royal Norwegian Ministry of Foreign Affairs by the Global Environmental Change and Human Security Project, GECHS Report*, 3.
- Oliver-Smith, A., & Hoffman, S. M. (1999). *The Angry Earth: Disaster in Anthropological Perspective*. New York: Routledge.

- Oliver-Smith, A. (2002). Theorizing disasters: Nature, power and culture. *Catastrophe & Culture. School of American Research Press, Santa Fe*, 23-47.
- Oliver-Smith, A. (2004). Theorizing Vulnerability in a Globalized world: A Political Ecological Perspective. In Bankoff, Frerk and Hilhorst (Eds.), *Mapping Vulnerability: Disasters. Development and People* (pp. 10-24), London: Earthscan,
- Pacione, M. (2003). Urban environmental quality and human wellbeing—a social geographical perspective. *Landscape and Urban Planning*, 65(1-2), 19-30.
- Park, C. H., Cohen, L. H., & Murch, R. L. (1996). Assessment and prediction of stress-related growth. *Journal of Personality*, 64, 71-105.
- Parry, M. L. (Ed.). (2007). *Climate change 2007-impacts, adaptation and vulnerability: Working group II contribution to the fourth assessment report of the IPCC* (Vol. 4). Cambridge University Press. Retrieved from http://www.ipcc.ch/publications_and_data/ar4/wg2/en/contents.html.
- Parsons, T. (1958). Definitions of health and illness in the light of American values and social structure. *Patients, physicians and illness*, 165-187.
- Patel, R. B., & Burke, T. F. (2009). Urbanization—an emerging humanitarian disaster. *New England Journal of Medicine*, 361(8), 741-743.
- Paxson, C., Fussell, E., Rhodes, J., & Waters, M. (2012). Five years later: Recovery from post-traumatic stress and psychological distress among low-income mothers affected by Hurricane Katrina. *Social Science & Medicine*, 74(2), 150-157.
- Peacock, W.G., Girard, C., Morrow, B.H., Gladwin, H., Ragsdale, K.A., 1997. Social systems, ecological networks and disasters: toward a socio-political ecology of disasters. In: Peacock, et al. (Ed.), *Hurricane Andrew: Ethnicity, Gender, and the Sociology of Disasters*. Routledge, New York.
- Pearlin, L. I. (1999). The stress process revisited. In *Handbook of the sociology of mental health* (pp. 395-415). Springer US.
- Pearlin, L.I., Schieman, S., Fazio, E.M., & Meersman, S.C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior*, 46(2), 205-219.
- Pelling, M. (2003). *Natural disaster and development in a globalizing world*. New York: Routledge.

- Perilla, J. L., Norris, F. H., & Lavizzo, E. A. (2002). Ethnicity, culture, and disaster response: Identifying and explaining ethnic differences in PTSD six months after Hurricane Andrew. *Journal of Social and Clinical Psychology, 21*(1), 20-45.
- Perrow, C. (2007). Disasters ever more? Reducing US vulnerabilities. In *Handbook of disaster research* (pp. 521-533). Springer New York.
- Perry, B. L., Harp, K. L., & Oser, C. B. (2013). Racial and gender discrimination in the stress process: implications for African American women's health and well-being. *Sociological Perspectives, 56*(1), 25-48.
- Phillips, B.D. & Fordham, M. (2010). Introduction. In B.D. Phillips, D.S.K. Thomas, A. Fothergill, & L. Blinn-Pike (Eds.), *Social vulnerability to disaster* (pp. 155-186). Boca Raton, FL: CRC Press.
- Phillips, D. (2006). *Quality of life: Concept, policy and practice*. Routledge.
- Pittaway, E., Bartolomei, L., & Rees, S. (2007). Gendered dimensions of the 2004 tsunami and a potential social work response in post-disaster situations. *International Social Work, 50*(3), 307-319.
- Plyer, A. (2011). *What Census 2010 Reveals about population and housing in New Orleans and the metro area children* (pp. 1-6). GNOCDC: New Orleans. Retrieved from https://gnocdc.s3.amazonaws.com/reports/GNOCDC_Census2010PopulationAndHousing.pdf.
- Plyer, A. & Mack, V. (2015). *Neighborhood recovery rates: Growth continues through 2015 in New Orleans neighborhood*. GNOCDC: New Orleans. Retrieved from http://www.datacenterresearch.org/reports_analysis/neighborhood-recovery-rates-growth-continues-through-2015-in-new-orleans-neighborhoods/.
- Plyer, A., Shrinath, N., & Mack, V. (2015). *The New Orleans index at 10: Measuring greater New Orleans progress toward prosperity*. GNOCDC: New Orleans. Retrieved from https://s3.amazonaws.com/gnocdc/reports/TheDataCenter_TheNewOrleansIndexatTen.pdf.
- Powell, S., Rosner, R., Butollo, W., Tedeschi, R. G., & Calhoun, L. G. (2003). Posttraumatic growth after war: A study with former refugees and displaced people in Sarajevo. *Journal of clinical psychology, 59*(1), 71-83
- Priebe, S., Marchi, F., Bini, L., Flego, M., Costa, A., & Galeazzi, G. (2011). Mental disorders, psychological symptoms and quality of life 8 years after an earthquake: findings from a community sample in Italy. *Social Psychiatry and Psychiatric Epidemiology, 46*(7), 615-21.

- Putnam, R.D. (2000) *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.
- Quarantelli, E. L. (1989). *What is a Disaster? Perspectives in the question*. London: Routledge.
- Raleigh, C., Jordan, L., & Salehyan, I. (2008). *Assessing the impact of climate change on migration and conflict. World Bank seminar on exploring the social dimensions of climate change*. The World Bank Group. Retrieved from http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/SDCCWorkingPaper_MigrationandConflict.pdf
- Raphael, D., Renwick, R., Brown, I., Steinmetz, B., Sehdev, H., & Phillips, S. (2001). Making the links between community structure and individual well-being: community quality of life in Riverdale, Toronto, Canada. *Health & Place*, 7(3), 179-196.
- Rahill, G. J., Ganapati, N. E., Clérismé, J. C., & Mukherji, A. (2014). Shelter recovery in urban Haiti after the earthquake: the dual role of social capital. *Disasters*, 38(s1), S73-S93.
- Renaud, F. G., Dun, O., Warner, K., & Bogardi, J. (2011). A Decision Framework for Environmentally Induced Migration. *International Migration*, 49, e5-e29.
- Roediger, D. R. (1991). *The wages of whiteness: Race and the making of the American working class*. New York: Verso.
- Rogerson, R. J. (1995). Environmental and health-related quality of life: conceptual and methodological similarities. *Social Science & Medicine*, 41(10), 1373-1382.
- Rose, A., (2009). Economic resilience to disasters. *Community and Regional Resilience Initiative (CARRI) Research Report*, 8. Retrieved from http://www.resilientus.org/wp-content/uploads/2013/03/Research_Report_8_Rose_1258138606.pdf.
- Rose, J. (1999). Towards a structural theory of IS, theory development and case study illustrations. In: Pries-Heje et al. (Eds.) *Proceedings of the 7th European Conference on Information Systems*. Copenhagen: Copenhagen Business School.
- Rousey, D. C. (1996). *Policing the Southern City: New Orleans, 1805-1889*. Baton Rouge: Louisiana State University Press.
- Rubin, C. B. (2009). Long Term Recovery from Disasters--The Neglected Component of Emergency Management. *Journal of Homeland Security and Emergency Management*, 6(1).

- Ruta, D., Camfield, L., & Donaldson, C. (2007). Sen and the art of quality of life maintenance: Towards a general theory of quality of life and its causation. *The Journal of Socio-Economics*, 36(3), 397-423.
- Ruta, D. A., Camfield, L., & Martin, F. (2004). Assessing individual quality of life in developing countries: Piloting a GPGI in Ethiopia and Bangladesh. *Quality of Life Research*, 13(9), 1545-1545.
- Ryan, M. P. (1997). *Civic wars: Democracy and public life in the American city during the Nineteenth Century*. Berkeley: University of California Press.
- Saldaña, J. (2015). *The coding manual for qualitative researchers*. Thousand Oaks, CA: Sage.
- Sastry, N., & Gregory, J. (2014). The location of displaced New Orleans residents in the year after Hurricane Katrina. *Demography*, 51(3), 753-775.
- Sastry, N., & VanLandingham, M. J. (2009). One year later: mental illness prevalence and disparities among New Orleans residents displaced by Hurricane Katrina. *American Journal of Public Health*, 99(S3), S725-31.
- Schuessler, K. F., & Fisher, G. A. (1985). Quality of life research and sociology. *Annual Review of Sociology*, 129-149.
- Schwarz, N., & Strack, F. (1999). Reports of subjective well-being: Judgmental processes and their methodological implications. In Kahneman, D., Diener, E., Schwarz, N. (Eds.). *Well-Being: The Foundations of Hedonic Psychology*. New York: Russell Sage Foundation, p. 61.
- Scudder, T., & Colson, E. (1982). From welfare to development: a conceptual framework for the analysis of dislocated people. In: Hansen, A., Oliver-Smith, A. (Eds.). *Involuntary migration and resettlement: the problems and responses of dislocated people*. Boulder: Westview Press, pp. 267-287.
- Sen, A. (1981). *Poverty and famines: An essay on entitlement and deprivation*. Oxford: Oxford University Press.
- Sen, A. (1985). Well-Being, Agency and Freedom: The Dewey Lectures 1984. *The Journal of Philosophy*, 169-221.
- Sewell, W. H. (1940). The Construction and Standardization of a Scale for the Measurement of the Socio-economic Status of Oklahoma Farm Families. Technical Bulletin No. 9, Stillwater, Oklahoma: Oklahoma Agricultural Experiment Station, April.
- Sharkey, P. (2007). Survival and death in New Orleans: An empirical look at the human impact of Katrina. *Journal of Black Studies*, 37, 482-501.

- Sinclair, H. (1942). *The Port of New Orleans*. New York: Doubleday, Doran & Company.
- Sirgy, M.J., Michalos, A.C., Ferriss, A.L., Easterlin, R.A., Patrick, D., & Pavot, W. (2006). The Quality-Of-Life (QOL) Research Movement: Past, present, and future. *Social Indicators Research*, 76(3), 343-466.
- Silverman, D. (1998). The quality of qualitative health research: The open-ended interview and its alternatives. *Social Sciences in Health*, 4(2), 104-118.
- Smith, G. (2011). *Planning for post-disaster recovery: A review of the United States Disaster Assistance Framework* (2nd ed.). Washington: Island Press
- Smith, S. K., & McCarty, C. (1996). Demographic effects of natural disasters: a case study of hurricane andrew*. *Demography*, 33(2), 265-275.
- Somers, D. A. (1974). Black and White in New Orleans: A study in urban race relations, 1865-1900. *The Journal of Southern History*, 19-42.
- Strauss A., & Corbin J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.
- Stiglitz, J. E., Sen, A., & Fitoussi, J. P. (2008). Issues paper. Commission on the Measurement of Economic Performance and Social Progress, Paris. *France. March*. Retrieved from http://www.insee.fr/fr/publications-et-services/dossiers_web/stiglitz/doc-commission/RAPPORT_anglais.pdf.
- Sumpter, A. (2008). Segregation of the Free People of Color and the construction of race in antebellum New Orleans. *southeastern geographer*, 48(1), 19-37.
- Symington, A. (2004). Intersectionality: A Tool for Gender and Economic Justice. Women's Rights and Economic Change. *Association for Women's Rights in Development (AWID) No, 9, 4*. Retrieved from https://lgbtq.unc.edu/sites/lgbtq.unc.edu/files/documents/intersectionality_en.pdf.
- Taylor, S. J., Bogdan, R., & DeVault, M. (2015). *Introduction to qualitative research methods: A guidebook and resource*. New York: John Wiley & Sons.
- Tedeschi, R. G., & Calhoun, L. G. (1995). *Trauma and transformation: Growing in the aftermath of suffering*. Sage Publications.
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological inquiry*, 15(1), 1-18.
- Tedeschi, R. G., Park, C. L., & Calhoun, L. G. (Eds.). (1998). *Posttraumatic growth: Positive changes in the aftermath of crisis*. Routledge.

- Tierney, K. J. (1989). The social and community contexts of disaster. Psychosocial aspects of disaster. In R. Gist & B. Lubin (Eds.), *Psychosocial Aspects of Disaster* (pp. 11-39). Oxford: John Wiley & Sons.
- Tierney, K. J., Lindell, M. K., & Perry, R. W. (2001). *Facing the unexpected: disaster preparedness and response in the United States*. Washington: John Henry Press.
- Tierney, K. (2006). Social inequality, hazards, and disasters. in R. J. Daniels, D. F. Kettl, and H. Kunreuther, (Eds.). *On risk and disaster: Lessons from Hurricane Katrina*, Philadelphia: University of Pennsylvania Press, 109-128.
- Tierney, K. (2009). Disaster response: Research findings and their implications for resilience measures. *Community and Regional Resilience Initiative (CARRI) Research Report, 6*. Retrieved from <http://www.resilientus.org/wp-content/uploads/2013/06/Tierney-20092.pdf>.
- Times Picayune. (2005). Blanco Demands Apology. September 1, 2005. Retrieved from http://www.nola.com/katrina/index.ssf/2005/09/blanco_demands_apology.html
- Tregle, Jr., J. G. (1992). Creoles and Americans. In Hirsch, A. R. & Logsdon, J. (Eds.). *Creole New Orleans: Race and Americanization*. Baton Rouge: Louisiana State University Press.
- Tsai, K. Y., Chou, P., Chou, F. H. C., Su, T. T. P., Lin, S. C., Lu, M. K., ... & Wu, H. C. (2007). Three-year follow-up study of the relationship between posttraumatic stress symptoms and quality of life among earthquake survivors in Yu-Chi, Taiwan. *Journal of psychiatric research, 41*(1), 90-96.
- Turner, B. L., Kasperson, R. E., Matson, P. A., McCarthy, J. J., Corell, R. W., Christensen, L., ... & Polsky, C. (2003). A framework for vulnerability analysis in sustainability science. *Proceedings of the national academy of sciences, 100*(14), 8074-8079.
- Turner, R. J., & Avison, W. R. (2003). Status variations in stress exposure: Implications for the interpretation of research on race, socioeconomic status, and gender. *Journal of Health and Social Behavior, 488-505*.
- Uitto, J. I. (1998). The geography of disaster vulnerability in megacities: a theoretical framework. *Applied geography, 18*(1), 7-16.
- Underhill, M. (2009). The invisible toll of Katrina: How social and economic resources are altering the recovery experience among Katrina evacuees in Colorado. In Jones, E. C. & Murphy, A. D. (Eds.). *The political economy of hazards and disasters*, Lanham: AltaMira Press, 59-82.

- USAID (2012). Building Resilience to Recurrent Crisis: USAID Policy and Program Guidance.
- U.S. Census Bureau (2000). *American Factfinder*. Accessed at www.factfinder.census.gov.
- U.S Census Bureau. (2007). *American Factfinder*. Accessed at www.factfinder.census.gov.
- U.S. Census Bureau. (2010). *American Factfinder*. Accessed at www.factfinder.census.gov.
- Van Heerden, I. L I., & Bryan, M. (2006). *The storm: What went wrong and why during Hurricane Katrina: The inside story from one Louisiana scientist*. New York: Viking.
- van Kamp, I. V., Leidelmeijer, K., Marsman, G., & de Hollander, A. (2003). Urban environmental quality and human well-being: Towards a conceptual framework and demarcation of concepts; a literature study. *Landscape and Urban Planning*, 65, 5-18.
- Vu, L., VanLandingham, M. J., Do, M., & Bankston, C. L. (2009). Evacuation and return of Vietnamese New Orleanians affected by Hurricane Katrina. *Organization & Environment*, 22(4), 422-436.
- Wade, V. A., Elliott, J. A., & Hiller, J. E. (2014). Clinician acceptance is the key factor for sustainable telehealth services. *Qualitative Health Research*, 24(5), 682-694.
- Walker, K. L., & Chestnut, D. (2003). The role of ethnocultural variables in response to terrorism. *Cultural Diversity and Ethnic Minority Psychology*, 9(3), 251- 262.
- Walker, D., & Myrick, F. (2006). Grounded theory: An exploration of process and \ procedure. *Qualitative Health Research*, 16(4), 547-559.
- Wang, X., Gao, L., Zhang, H., Zhao, C., Shen, Y., & Shinfuku, N. (2000). Post-earthquake quality of life and psychological well-being: Longitudinal evaluation in a rural community sample in northern China. *Psychiatry and Clinical Neurosciences*, 54(4), 427-433.
- Warner, K. (2010). Global Environmental Change and Migration: Governance Challenges. *Global Environmental Change*, 20(3), 402-413
- Whitman, S., Good, G., Donoghue, E.R., Benbow, N., Shou, W., & Mou, S. (1997). Mortality in Chicago attributed to the July 1995 heat wave. *American Journal of Public Health*, 87(9), 1515-1518.

- WHOQoL Group. (1993). Study protocol for the World Health Organization project to develop a Quality of Life assessment instrument (WHOQOL). *Quality of Life Research*, 2(2), 153-159.
- Wilbanks, T.J. (2008). Enhancing the resilience of communities to natural and other hazards: what we know and what we can do. *Natural Hazards Observer*, 32, 10-11.
- Wisner, B. (2003). Sustainable Suffering? Reflections on Development and Disaster Vulnerability in the Post-Johannesburg World. *Regional Development Dialogue*, 24(1), 135-148.
- Wisner, B., Blaikie, P., Cannon, T., & Davis, I. (2004). *At risk: Natural hazards, people's vulnerability and disasters*. (2nd ed.). New York: Routledge. Retrieved from http://www.preventionweb.net/files/670_72351.pdf.
- Wisner, B., & Uitto, J. (2009). Life on the edge: urban social vulnerability and decentralized, citizen-based disaster risk reduction in four large cities of the Pacific Rim. In Brauch, H.G., Behera, N.C., Kameri-Mbote, P., Grin, J., Oswald Spring, Ú., Chourou, B., Mesjasz, C., Krummenacher, H. (Eds.). *Facing Global Environmental Change*. Berlin: Springer, pp. 215-231. Retrieved from <http://www.springerlink.com/index/W333127816V23P07.pdf>
- Woolcock, M., & Narayan, D. (2000). Social capital: Implications for development theory, research, and policy. *The World Bank Research Observer*, 15(2), 225-249. Retrieved from <http://www.csae.ox.ac.uk/conferences/2000-oia/pdfpapers/woolcock.pdf>.
- Yin, R. K. (2003). *Applications of Case Study Research*. Thousand Oaks: Sage Publications.
- Yonk, R. M., & Reilly, S. (2011). Citizen Involvement & Quality of Life: Exit, Voice and Loyalty in a Time of Direct Democracy. *Applied Research in Quality of Life*, 7(1), 1-16.
- Zakour, M. J. (2010). Vulnerability and risk assessment: Building community resilience. In Gillespie, D.F. & Danso, K. (Eds.). *Disaster Concepts and Issues: A Guide for Social Work Education and Practice*. Alexandria: Council on Social Work Education, pp. 15-60.
- Zakour, M. J., Gillespie, D. F. (2013). *Community Disaster Vulnerability*. New York: Springer.
- Zhang, Y., & Peacock, W. G. (2009). Planning for housing recovery? Lessons learned from Hurricane Andrew. *Journal of the American Planning Association*, 76(1), 5-24.

APPENDIX A

Characteristics of Informants by Category

New Orleans Interviews 4/28/11 – 7/27/11		
Interview ID	Category	Characteristics of Informant
I1	MP/LD	White male, 46, resides in Uptown, married with child, owns multiple residences, main residence did not flood, second property in Bay St. Louis, MS severely flooded, wife business severely flooded, social conservative, does not have health care insurance, did not evacuate
I2	MP/LD	White female, 62, resides in Algiers, married, grown children, owns house, residence did not flood, evacuated
I3	LP/LD	White male, 78, resides in Algiers, married, retired tugboat captain, grown children, owns house, residence did not flood, evacuated to AR
I4	LP/HD	African American female, 64, divorced, resides in Lower Ninth ward, grown daughter, raising adopted child, owns house, residence severely flood, very spiritual, evacuated
I5	MP/HD	African American male, 75, married, retired, Gentilly, owns house, residence flooded, evacuated with mother
I6	MP/LD	White male, 60, married, grown children, retired professor, resides in Uptown, owns house, residence did not flood, second property in FL, was in FL during Katrina
I7	LP/HD	African American male, 32, renter, property severely flooded, originally from FL, was college student during Katrina, developed diabetes during evacuation, has recovered since, evacuated to TX
I8	LP/HD	White female, 53, resides in Midcity, renter, property did flood but apartment did not, unmarried by cohabitating with longtime partner, has doctorate in African Studies, was out of town, had to sneak back in to rescue cat
I9	MP/HD	African American female, 41, resides in Gentilly, married, teaches communication at local college, two young children, owns house, residence flooded, evacuated with mother
I10	LP/LD	African American male, 21, resides in Algiers with mother, residence did not flood, currently student at SUNO, father police officer, has had several friends murdered since Katrina, evacuated to MS
I11	MP/HD	White male, 59, interview with wife, resides in French Quarter, residence did not flood, second property in St. Bernard parish destroyed, retired, resides part time in Mexico, did not evacuate until 10 days after storm to TX where he had two strokes as a result of Katrina,

I12	LP/HD	African American female, 60, lives in Midcity, residence flooded, adult daughter, evacuated
I13	MP/LD	Chinese American, 38, renter, resides on Westbank, originally from San Francisco, came to NO for college and stayed, property damaged, evacuated
I14	LP/LD	White female, 53, not married, no children, owns house, was renter in Lower Garden District during Katrina, residence did not flood, was evacuated 10 days after storm to SC
I15	MP/HD	White female, 60, divorced, no children, resides in Broadmoor with long-term partner, owns business in Midcity, both properties flooded, evacuated
I16	MP/HD	African American female, 41, resides in Gentilly, owns house, residence flooded, married, has teenage daughters, aunt died in Katrina [have Youtube video clip of uncle during interview at Superdome], sidewalk still not repaired, possibly suffering from depression, evacuated to OK
I17	LP/HD	African American male, 43, resides in Midcity, unmarried, mother owns house, photographer, very religious, recovered addict, evacuated to Atlanta
I18	LP/LD	African American female, 47, resides in Central City, widow, son murdered this year, 5 living children, 22 grandchildren, extremely depressed, no health insurance, lives in home of elderly extended family member, was evacuated after storm to NM
I19	LP/HD	African American male, 62, resides in New Orleans East, divorced/separated, 2 adult sons, retired, sons are unemployed, victim of identity theft, renter, lived on Elysian Field during Katrina, apartment destroyed, evacuated with sons to MS
I20	LP/LD	African American male, 76, resides in Tremé, married, grown children, grandchildren and (1) great grandchild, retired, diabetic, owns home, evacuated to TX
I21	LP/HD	African American male, 45, resides in Upper Ninth ward, owns home with mother, unmarried, no children, health issues, no health insurance, worked for Convention Center during Katrina, left with coworkers after buses arrived, ended up at Cajun Dome in Lafayette
Texas Interviews – 9/20/11-10/3/11		
Interview ID	Category	Characteristics of Informant
T1	MP/HD	71 year old African American female. Native New Orleanian. Lived in New Orleans East. Resides in greater Houston area. Has adult children. Unemployed.
T2/1	LP/HD	64 year old African American female. Native New Olreanian. Serious health issues. Rented in Central City. Resides in Houston – renter. Has adult children and grandchildren scattered around the country. Retired.
T2/2*	LP/HD	28 year old African American male. Resides in Houston. Has a daughter in New Orleans. Unemployed. Son of T2.

T3	MP/HD	59 year old Caucasian male. Emigrated to US. Owned home in Lakeview. Resides in Houston. Has adult daughter in Austin, TX. Owns small business and properties in New Orleans.
T4	MP/HD	57 year old Caucasian male. Rented in Uptown. Resides in Houston. No children. Employed – executive in banking.
T5/1	MP/HD	66 year old African American male. Native of New Orleans. Owned home in New Orleans East. Resides in greater Houston area. Has adult daughter in Houston. Retired.
T5/2	MP/HD	65 year old African American female. Native New Orleanian. Retired. Wife of T5/1.
T6	LP/HD	51 year old African American female. Native New Orleanian. Owned home in Bywater that is in foreclosure. Resides in Houston - renter. Has two adult children in Houston. Employed.
T7	MP/HD	59 year old African American female. Owned home in New Orleans East. Resides in greater Houston area – home in foreclosure. Widow. No children. Employed.
T8/1	LP/HD	59 year old African American female. Native New Orleanian. Resided in 8 th ward – renter. Resides in greater Houston area – renter. Has adult children in greater Houston area and grandchildren in New Orleans and greater Houston area. Employed.
T8/2*	LP/HD	34 year old African American male. Has two children in New Orleans. Disabled. Son of T10.
T9	MP/HD	31 year old African American female. Native New Orleanian. Lived in 9 th ward – renter. Resides in Houston – renter. Married with young child. Employed.
T10	LP/LD	28 year old Caucasian female. Was student at Tulane during Katrina. Lived in Uptown - renter. Resides in greater Shreveport area with parents.
T11	MP/LD	55 year old Caucasian female. Native New Orleanian. Owned home in Uptown. Resides in Austin, TX. Has two adult children also in Austin. Owns a small business.
T12/1	MP/LD	63 year old Caucasian male. Native New Orleanian. Owned condominium in CBD. Resides in Austin, TX. Retired.
T12/2	MP/LD	63 year old Caucasian female. Native New Orleanian. Retired. Wife of T12/1.
T13/1	MP/LD	67 year old Caucasian male. Owned house in French Quarter. Resides in greater Austin area. Has adult child and grandchild in Austin. Retired.
T13/2	MP/LD	53 year old Caucasian female. Wife of T13/1.
T14/1	MP/LD	61 year old Caucasian male. Owned home in Algiers Point. Resides in greater Austin area. Employed. Has adult children and grandchildren in Austin.
T14/2*	MP/LD	60 year old Caucasian female. Cares for grandchildren. Wife of T14/1.
Louisiana and Mississippi Interviews – 5/1/12-5/27/12		

Interview ID	Category	Characteristics of Informant
NNO1	LP/LD	65 year old African American female. Native New Orleanian. Rented. Resides in Lafayette area with adult daughter's family.
NNO2	LP/HD	61 year old African American male. Native New Orleanian. Rented in New Orleans East. Lives with wife in Alexandria, LA in low income apartment complex.
NNO3	MP/LD	75 year old Caucasian female. Owned home in Lakeview. Retired. Resides in Baton Rouge. Adult son lives in the neighborhood. Cares for grandchildren.
NNO4	MP/LD	63 year old Caucasian male. Lived in CBD. Resides in Baton Rouge.
NNO5	LP/HD	53 year old African American female. Native New Orleanian. Unemployed. Resides in Jackson, MS with autistic daughter.
NNO6	LP/HD	30 year old African American male. Son of NNO5. Renter in Jackson, MS.
NNO7	LP/LD	64 year old African American female. Rented in Carrollton area. Renter in Columbia, MS. Lives in same building as sister. Adult children and grandchildren in New Orleans.
NNO8	LP/HD	71 year old African American woman. Co-owned home in Broadmoor with sister. Resides in Columbia, MS. Retired. Family in Columbia, MS area.
NNO9	LP/LD	48 year old African American male. Native New Orleanian. Widower and father of two teenage children. Grandfather of 2 year old. Homeowner. Employed as cook. Resides in Monroe, LA.

APPENDIX B

Interview Guide

I. Introduction and warm-up

A. *Begin with a brief review of the respondent's (R's) circumstances just before Katrina (who they were living with; where they were working).*

1. Describe your life in New Orleans before Katrina?
2. Had you evacuated before for other hurricanes?
3. Did you evacuate for Katrina? What was that like?

Probe: Did you leave before or after the levees failed?

B. *Next turn to a brief overview of R's circumstances during the interim period right after Katrina*

1. Where did you go when you left New Orleans?

Probe: What was that like?

2. Where was your family?

3. Where did you stay?

Probe: Did you stay with friends and family? Did friends and family stay with you?

II. Reasons for return or non-return (unpack)

A. I see from your earlier interview that you (are still living away/returned in _____ [month; year]).

1. What made you decide to move back/to not move back?

Probe: When you returned, where did you live and with whom?

Was that the same neighborhood? How is it different being there?

2. How do you feel about that decision now (today)?

III. Impact of Katrina on quality of life (housing, income/work, health, culture, food, education, crime, mobility, community) *I would like to explore the concept of quality of life. Quality of life can include your housing, work, income, health, culture, food, education, crime, public services, family and community.*

A. What are some of the most important issues that impact your quality of life here in New Orleans?

1. How has _____ been affected by Katrina?

B. *"Back to normal" for R?*

1. "Would you say that your life is "back to normal" or "not yet back

2. to normal (*i.e.*, compared to pre-Katrina)”?
3. Why or why not?
4. (*If “back to normal”*) When did you feel your life got back to normal?
5. **Probe** for how well rebuilding; insurance claims; Road Home; contracting work has gone...

C. Think of three most stressful experiences of your life. Is Katrina one of them? If yes, where would you rank it? 1, 2 or 3.

- IV. Impact of Katrina on children (education, housing, health and mental health, issues of access health care, access to public services, access to transportation, crime)

I would like to explore the concept of quality of life with regard to your children and/or grandchildren. Quality of life for them can include

- A. [If R has children] “What about for your children? Would you say that things are “back to normal” or “not yet back to normal (*i.e.*, compared to pre-Katrina)”? Why or why not?

V. Obstacles and sources of resiliency and support

- A. What are some of the biggest challenges you face in your life today?”
Probe: Where these challenges before Katrina? How has Katrina impact them?
- B. How have you dealt with these challenges?
Probe: Do you have any sources of help and support for dealing with the problems and challenges you just described? What are they?

VI. Wrap up

- A. Compared to the period that you lived in New Orleans before Katrina, do you think that the future will be better, worse, or basically the same?
- i. Please tell me why you think so.
 - ii. What do you think are the future challenges that you and your family will face?
 - iii. What do you think are the future challenges that the city will face?
- B. Long term plans of the household (staying in NOLA; moving out from NOLA; staying out of NOLA; returning to NOLA)
1. “Where do you think you’ll be next year?”

APPENDIX C

CODE NAME	NVIVO CODE	DESCRIPTION
A. Pre-Katrina		
Pre-Katrina housing	PREK HOUSING	Pre-Katrina living situation
Pre-Katrina employment	PREK JOB	Pre-Katrina employment situation
Pre-Katrina family	PREK FAMILY	Pre-Katrina family situation
Pre-Katrina other	PREK OTHER	Pre-Katrina issues
B. Katrina		
Preparations	PREP	Preparations for Katrina
Katrina experience	KATEXP	Katrina experience in New Orleans
Evacuation	EVAC	Evacuation out of NO cover period prior to return or relocation
Isolation	ISOLATION	Feelings of isolation
Loneliness	LONELY	Feeling lonely
Depression	DEPRESS	Feeling depressed
Ranking Katrina exp	RANK	Ranking Katrina experience – top 3 events
C. Period of Displacement		
Assistance	ASSIST	Assistance received or given during period of displacement
Family/Friends	FAMILY	Assistance from or to relatives and friends
Churches	CHURCH	Assistance from churches
NGO	NGO	Assistance from NGO, such as Red Cross
Government	GOVT	Assistance from government, such as FEMA
Experience in New Community	EXPNEWCOMM	Experience in new community during displacement
Violence	VIOLENCE	Experienced violence
Discrimination	DISCRIMINATION	Experience discrimination
Transportation	TRANS	Access to transportation
Initial	INITIAL	Initial return to New Orleans after Katrina

Coping strategies	COPING	Strategies used to cope with displacement, positive or negative, all time periods
Leadership	LEADERSHIP	New Orleans and Louisiana leadership during Katrina and early post-Katrina
Rumors	RUMORS	
D. Return to New Orleans		
Katrina Damage	DAMAGE	Damage to property as a result of Katrina and/or levee breach
Salvage	SALVAGE	salvage belongings after Katrina
Theft/Looting	THEFT	Theft and looting as a result of Katrina
Reasons for return	RETURNREASON	Reason why people returned
Reason for not returning	NOTRETURNREASON	Reason why people did not return to New Orleans
Safety	SAFETY	
Feeling about decision to return	DECISION	How respondent feels about decision to return to New Orleans or not return to New Orleans
Decide	DECIDE	When informant decided to return or not return
Relocate	RELOCATE	relocation to new community, not New Orleans
Rebuilding	REBUILD	Rebuilding process after Katrina
Neighborhood	NEIGHBORHOOD	Neighborhood composition and/or change since Katrina
Personal Challenges	CHALLENGE	Challenges faced after Katrina
Insurance	INSURE	Dealing with insurance companies
Credit	CREDIT	Dealing with credit card companies
Work	WORK	Issues with work, employment, jobs at the individual level
Health issues	HEALTH	Issues with health, illness
Feeling depressed	CHALLENGEDEPRESS	Feeling depressed
Feeling isolated	CHALLENGEISOLATION	Feeling isolated
Feeling lonely	CHALLENGELONELY	Feeling lonely
Access to health care	ACCESSHC	Access to health care

Access to mental health care	ACCESSMHC	Assess to mental health care
Infrastructure/Services	SERVICES	Lack of infrastructure and/or services and commercial services (supermarkets)
Blighted properties in neighborhood	BLIGHT	Blighted properties near house that are affecting quality of life
Arts/Culture	ARTS	Loss of arts and culture
Road Home	ROAD HOME	Road Home challenges
Other	PERSONALOTHER	Other personal challenges not listed above
Religion	RELIGION	Religion, spiritual support
Family Challenges	FAMCHALLENGE	Challenges encountered by family members
Family relocation	FAMRELOCATE	Family relocation following Katrina
Challenges for NO	CHALLENGENO	
Education	EDUC	Education system
Government	GOVTCHALLENGE	Government
Corruption	CORRUPT	Corruption
Police	POLICE	Police
Crime	CRIME	Crime
Drugs	DRUGS	Drugs
Employment/Job	JOBS	Lack of good jobs
Future Preparedness	PREPARE	
Infrastructure/services	INFRASTRUCTURE	Infrastructure (such as roads, public services including public housing)
Immigrants	IMMIGRANTS	Immigrants (legal and illegal)
Housing	HOUSING	Housing
Blight	BLIGHT	
Prepare	PREPARE	Future preparedness
Other	NOOTHER	Other challenges for NO not listed above
Children	CHILD	Children
Service for Children	CHILDSERVE	Services for children
Violence	VIOLENCENO	Individual and/or community level violence, murders, etc.
F. PERCEPTIONS of self and city		
Future of New Orleans	FUTURE	Perceptions of NO future, either good or bad

Perception of individual's future	INDFUTURE	Perceptions of individual's future, either good or bad
Normal	NORMAL	Getting back to normal, normalcy, new normal
Support Networks	SUPPORT	Social Support Networks or lack of
New Networks	NEWNET	Accessing new networks
Quality of Life	QOL	Quality of life
Quality of Life - Children	CHILDQOL	Quality of Life and QOL issues for children
Qualities of New Orleans and New Orleanians	QUALNO	Qualities and attributes specific to New Orleans and New Orleanians
Qualities of new community	QUAKNEW	
Race	RACE	Perception of race(whether overt or subtle)
Long-term plans	LTP	Long-terms plans, where respondents expect to be in a year
Katrina as an excuse	KATEXCUSE	Using Katrina as an excuse
Katrina as catalyst for change	CHANGE	Katrina as a catalyst for change, this can be career change or permanent relocation by choice, etc.
Fortunate	FORTUNE	Feeling fortunate, blessed
Staying out of trouble*	TROUBLE	Staying out of trouble
Future risk	RISK	Perceptions of future risk
God	GOD	God
Oil spill	BP	BP Oil spill
Development Business	DEVBUS	The Development Business, Outsiders
Compare	COMPARE	Comparison between new community and New Orleans

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APPENDIX D

Expert Interview Guide

1. Individual Organization Level: We would like to ask you about your organization, the services you provide, the population you serve and how Katrina may have impacted this.

- When was your organization founded?
- Describe your organization? What is your mission?
- Who do you serve?
 - Has this population changed since Katrina?
- What services do you provide? Why do you provide these services?
 - How have these services changed since Katrina?
- What is your service coverage area? Where do your clients live?
- [Pre/post differences in terms of population, services]
- If there have been changes in the population served or services provided, why do you think these changes have occurred (getting at: why certain people returned or didn't return).

2. Sector Level Issues: I would like to ask you about the larger _____ (health, education, law enforcement, non-governmental organization, etc.) sector in New Orleans and the vulnerable population that this sector serves.

- Describe the overall ____ sector
 - Pre/post issues at the sector level. What stayed the same? What has changed?
 - If there have been changes, why did these occur?
- Please define "Vulnerable Populations"
- Please define Quality of Life for vulnerable populations that you serve.
 - Has this changed since Katrina?

3. Challenges post-Katrina at the: I would like to explore some the challenges that your organization, the ____ sector and vulnerable populations served by your organization and the ____ sector face.

- Individual organizational level
- Sector level
- Vulnerable population served by your organization and sector

4. Finally, what does the future look like for:

- Your organization
- Your clients
- The _____ sector

APPENDIX E

Organization	Contact
Crescent Alliance Recovery Effort (CARE)	Eleanor Simmons
New Orleans Department of Health	Dr. Karen B. DeSalvo
Common Ground Clinic	Coleen and Noah
New Orleans Recovery Alliance (NORA)	Joyce Wilkerson, ED Tom Lasher
City Council District C	Kristen Gisleson Palmer
City Council District E	Jon D. Johnson
Second Harvest Food Bank	Natalia Jayroe
United Way of Southeast Louisiana	Mary Ambrose Steve Zimmer
Catholic Charities	Tom Costanza
Sweet Home New Orleans	Sue Mobley
Sojourner Truth Academy	Lawliss Turner
Silence is Violence	Tamara Jackson, Director of Victim and Community
Greater New Orleans Fair Housing Action Center	Kate Smith Seth Weingart

APPENDIX F: Applying Ground Theory to Conceptual Framework Development

Grounded theory refers to theory that is developed inductively from a corpus of data (Glaser & Strauss, 1967). This approach allows for the study of a process and the development of a broad theory or explanation of the process, particularly when current theories about a phenomenon are either inadequate or non-existent (Creswell, 2008). My initial research question looks at the dynamic reframing of post-disaster quality of life which I have attempted to answer through a qualitative case study design making grounded theory a suitable approach. My second research question examines the relationship between post-disaster quality of life and migration behavior for which there is a gap in the current literature. In this section I will outline the steps I took using a grounded theory approach to develop my conceptual model.

The central idea of the grounded theory approach is to read a textual database and “discover” or label variables and their interrelationships (Glaser & Strauss, 1967). Rather than starting with the research and development of a hypothesis (or a set of hypotheses), grounded theory begins at the initial point of data collection. My initial recruitment for key informant interviews used a quota sampling rather than a theoretical sampling. I chose this sampling strategy in order to examine variables of interest: geography, level of damage and socio-economic status; as well as provide maximum variation of post-disaster recovery experiences. Building off the data collected during my key informant interviews, I conducted expert interviews with New Orleans policy makers, local non-

profit leaders and service providers using a theoretical sampling strategy. I employed this sampling strategy, because I was interested in the generation and development of a conceptual theory rather than creating a descriptive account.

Within my transcripts, I marked key points (events) with a series of codes that I and my research assistant extracted directly from the text of transcripts. A code is “a word or phrase that is symbolically assigned a summative, salient, essence capturing and/or evocative attribute for a portion of language-based or visual data” (Saldaña, 2009, p. 3). I began with an open coding (which formed the initial categories) and axial coding (which allowed me to development of a coding paradigm to identify the central phenomenon conditions) in NVivo. In some cases the same text received more than one code. For example, the following passage was coded *Pre-katrina Other, Neighborhood*:

Well, it was...it's a whole lot different now than pre-Katrina. You know, you don't see the people you used to see, you don't see people walking the streets as much. They aren't, well, nights, maybe. But pre-Katrina, you would see people walking at night. A lot of walking in the day. But it's not quite the same as it was before Katrina. The whole lifestyle of people have somewhat changes.

The first step to developing the coding framework involved a review of the goals of DNORQS and the specific questions included in the interview guide. Each question received at least one initial code. Five key structural themes to the codebook are: Pre-Katrina, Katrina experience, Period of Displacement, Return to New Orleans, Perceptions of self and city. The first four themes capture a time element, tracking the process of post-Katrina migration. Additional codes were added as transcripts were read and analyzed and as important themes emerged through writing memos and discussion with collaborators. According to Holton (2010), “memos are theoretical notes about the data and the conceptual connections between categories.” For example, I noted that some of

my informants talked about Katrina as a catalyst for change. “Katrina as a catalyst for change” reflects a common perspective among our informants that while Katrina was the single-most stressful and catastrophic event in their lives, the event also led to progressive changes in New Orleans’ political landscape and educational system. More personally, many felt that the event also led to an expansion of their pre-disaster social and career networks. I highlighted each example of this in the transcripts in NVivo and placed a conceptual memo next to it. I developed the code *Change* which I defined as “Katrina as a catalyst for change, this can be career change or permanent relocation by choice.”

A central tenet of ground theory is the use of constant comparison in order to see if data support emerging categories. At the same time, the process further builds and validates the emerging categories by defining their properties and dimensions (Holton, 2010). Since my initial research question was interested in exploring the dynamic reframing of quality of life (QOL), I organized my codes related to QOL into similar concepts. From these concepts, categories formed that serve as the basis for my conceptual model. These categories included family, safety, health, mental health, housing, financial, social support, community, culture, governance, and inequity. I organized each of the cases (individuals) into an Excel spreadsheet placing relevant data into each of the categories. I used my original sampling strategy criteria of level of damage and level of privilege as a starting point to make patterns. Cases (individuals) were divided on each worksheet by whether they returned or out-migrated. As I layered the data, I explored the interrelationship between the themes in order to develop the domains of *Common* and *Local*. For example, two key themes that emerged from the

texts were *family* and *social networks*. In my initial analysis, I noted that there was a strong overlap between these themes in the narratives of African American informants so I initially placed *social networks* in the domain of *Common*. As I examined these two concepts and their interrelationship in my larger sample, I saw that social networks looked different for different groups based on more contextual factors. As result of this finding, I moved social networks into the domain of *Local*. Figure 2 shows a screenshot of my analysis.

Figure 2: Screenshot of domain analysis

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	LP/JP	Race	Gender	Age	Migration	Family	Health	Mental Health	Safety	Housing	Financial	Social Support	Community	Ca	ne
1	LP/JP														
2	154	White	Female	M	Force evacuated; returned in October	Not married; no children	No health issues; weight gain	she had a breakdown two months after returning and had to leave the city; went to Mexico	NOPD	Rented in Lower Garden; was able to move back in; bought house after Katrina in 7th Ward. House is an important part of QOL.	Went in service industry; lost her job after returning because boss assaulted another employee and she could not continue to bartend (9 jobs in 3 years); worked PT and has started 1 side businesses; planning for retirement. Financial security is an important part of her QOL.	Social network changed after Katrina; the first few years were very difficult; lost a lot of friends; some no suicide			
3	13	White	Male	O	Voluntary evac; returned quickly	Five - evacuated with wife and adult children	No health issues; VA		No safety concerns	No damage to house in Atchafalaya	Retired - low income but comfortable				
4	120	Black	Male	O	Voluntary evac; returned after 1 year	Five	Diabetes; no trauma accessing care		No safety concerns	Minor damage to house in Tremé	Retired	Family			
5	125	Black	Male	Y	Voluntary evac with brother and grandmother - stayed in MS for sophomore yr of HS	Last uncle to cancer right before storm who was living with them; lives with mother; father NOPD; grandmother stayed in MS; mother plans to retire to MS	No health issues; mother had diabetes	People are taking the stress of Katrina out on each other; he experiences with the violence and loss	Her best friend; experienced stroke; returning; staying safe from crime	Mother had insurance but it took time to payout; House repaired	Mother's job called her back (HS). Education is an important aspect of his QOL; his mother could not afford to send him to parochial school; attending college; plans to get a Master's and work with at-risk youth	His school was badly damaged; MS was a familiar surrounding; made new friends; Katrina forced people up social (in a good way)			
6	115	Black	Female	M	Force evacuated; returned 3 years after					Rented an apartment in the Garden District before Katrina; living with children and grandchildren at house of distant relative in Central City house in disrepair	was employed before Katrina; unemployed; financially unstable				

Once I established the domains of *Common* and *Local*, I turned my attention to Research Question 2. I added the column of *Migration* into the spreadsheet and applied the taxonomy of 'new normal' outcomes. I coded mixed outcomes in blue and poor outcomes in green. I interrogated the data to explore for patterns in themes that impacted post-disaster QOL which I highlighted in a darker color in order to investigate different patterns that shaped post-disaster QOL. I used my original sampling categories as an

organizational starting point for this step and examined trends within domains through intersections of race, class, gender, and age. I highlighted references to race and racism in pink as this was the most dominate form of inequity discussed by informants. Figures 3 and 4 shows trends in domains of cases by variables of interest.

Figure 3: Analysis of Cases Classified as Poor

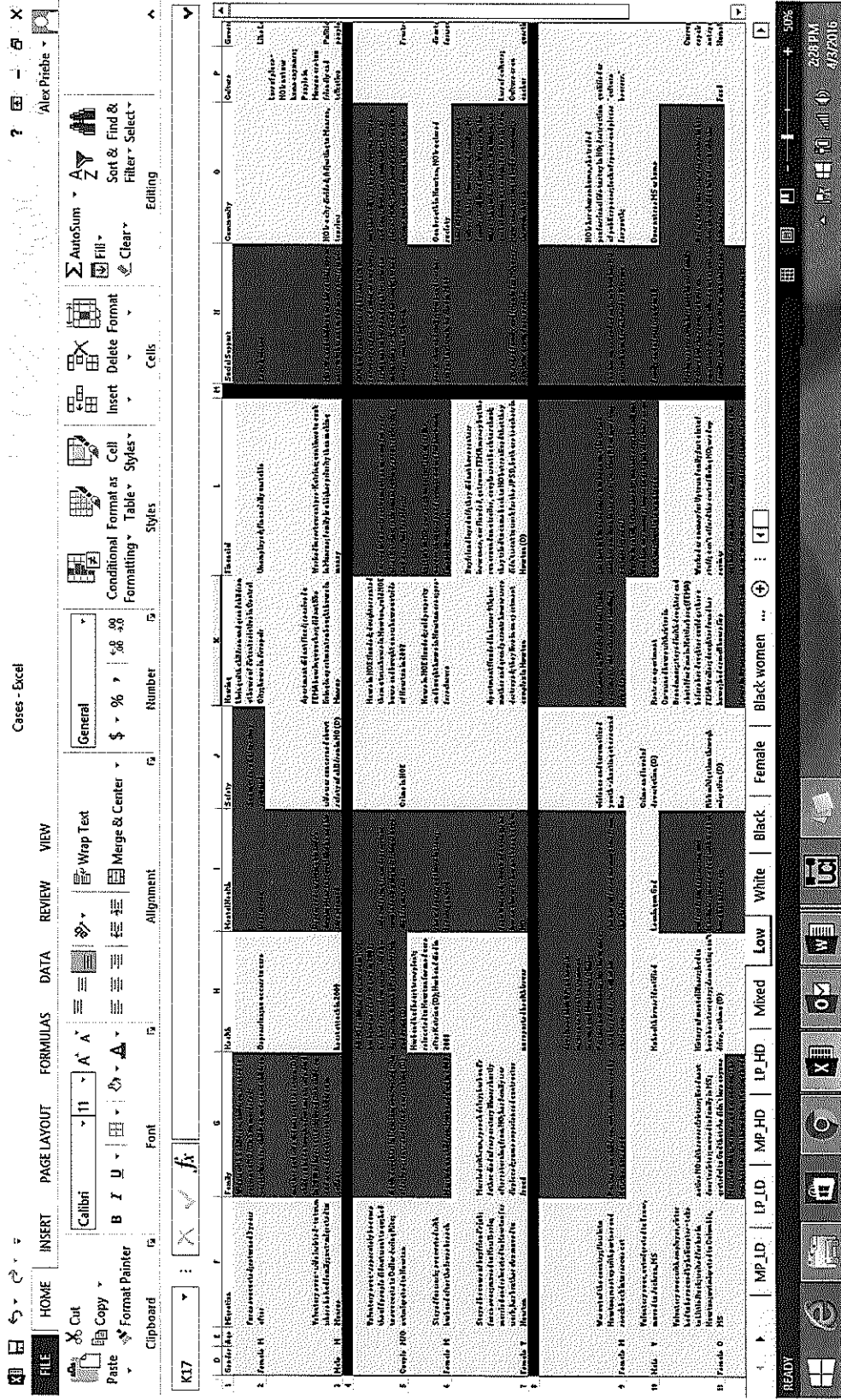
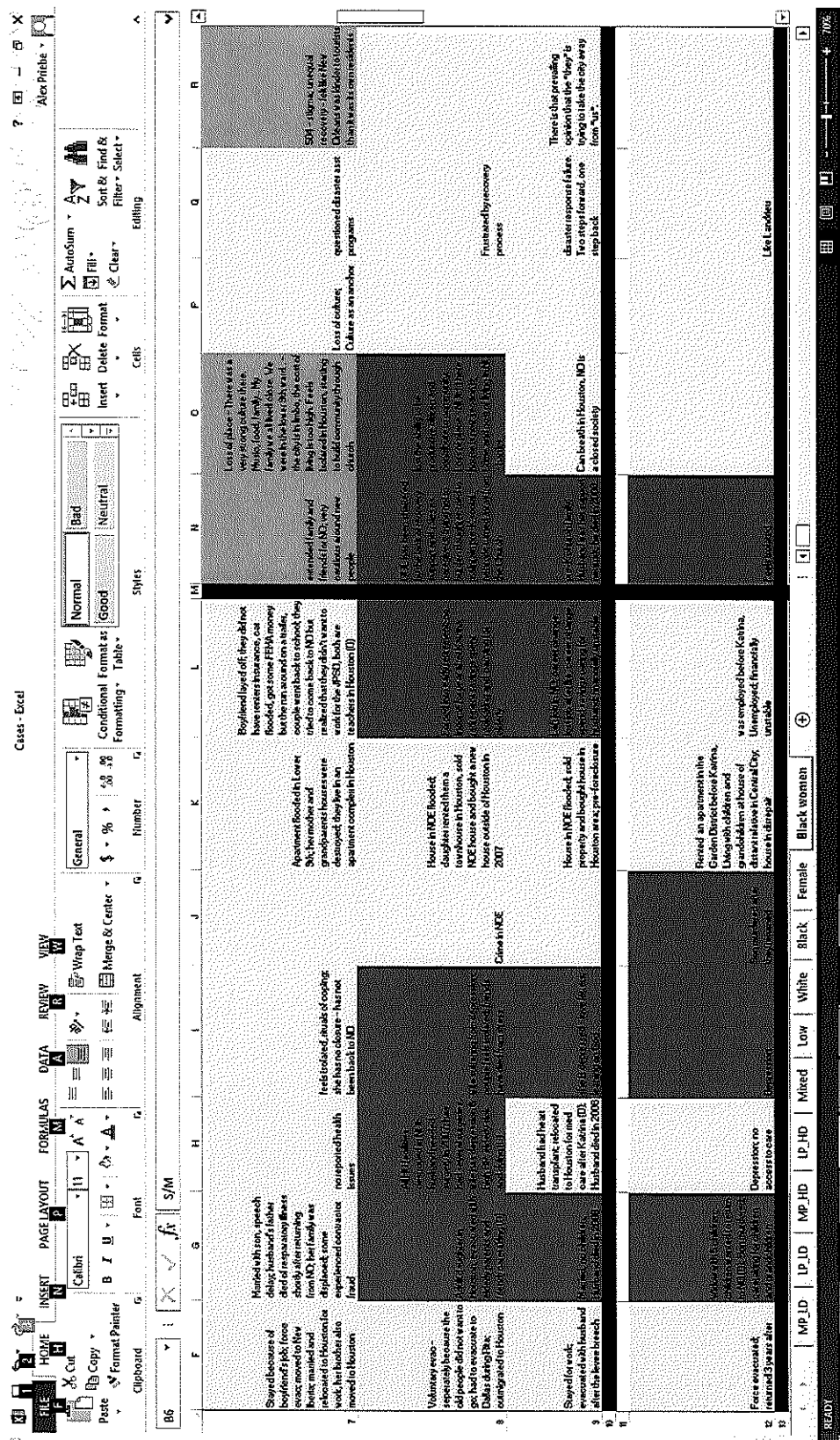
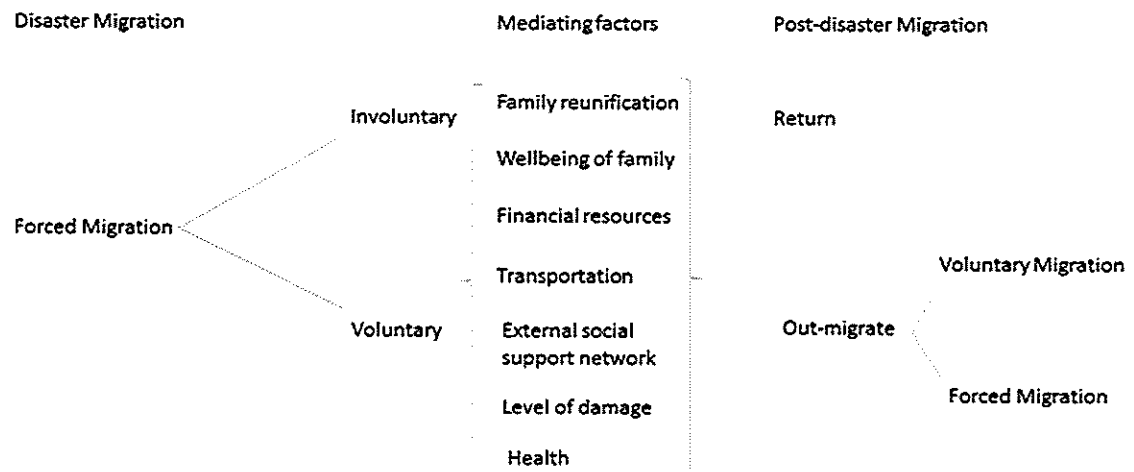


Figure 4: Analysis of African American female informants



It was through this process of constant comparison that I developed the domain of *Migration Control* and tested the relationship between *Common*, *Local* and *Migration Control* in my conceptual framework. As worked through my analysis, I wrote conceptual memoos to guide my development of the final model. For example, Figure 5 shows my initial conceptualization of migration as I sought to develop a clearer understanding of the relationship between post-disaster QOL and migration behavior.

Figure 5: Initial Conceptualization of Migration Control



After several iterations, I developed my final conceptual model (shown in Chapter 4). The output of a grounded theory approach is a theory to be developed and tested.

Alexandra Priebe is originally from Buffalo, NY but proudly calls New Orleans her home with her husband and son. She moved to New Orleans a week before Hurricane Katrina for what would become one of the most interesting chapters in her life. Alex is currently the Qualitative Research Manager in Division of Evaluation and Research at the Louisiana Public Health Institute. She also serves as a consultant to the Louisiana Department of Public Safety and Corrections where she provides design, implementation and evaluation support for statewide prisoner reentry programs and builds community reentry capacity. Alex has a MPH in International Health from Tulane School of Public Health and Tropical Medicine and MA in Anthropology with a concentration in Medical Anthropology from the University at Buffalo. She has worked on a broad range of public health and development issues, nationally and internationally, including HIV/AIDS, maternal and child health, women's health, mental and behavioral health, tobacco control, post-disaster recovery, refugee and migrant health, violence, human resources for health, m-health and telemedicine.