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Student Resiliency Post Hurricane Katrina

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STUDENT RESILIENCY POST HURRICANE KATRINA

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Arts in Education

in

The Department of Education, Leadership, Research, & Counseling

by
Jennifer Fendrich,
B.A., Regis University, 2011
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DEDICATION

“I believe that man will not merely endure: he will prevail. He is immortal, not because he alone among creatures has an inexhaustible voice, but because he has a soul, a spirit capable of compassion and sacrifice and endurance. The poet's, the writer's, duty is to write about these things. It is his privilege to help man endure by lifting his heart, by reminding him of the courage and honor and hope and pride and compassion and pity and sacrifice which have been the glory of his past. The poet's voice need not merely be the record of man, it can be one of the props, the pillars to help him endure and prevail.”

-William Faulkner, Nobel Prize Speech, 1949

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ABSTRACT

While there is research pertaining to resiliency traits for people who experience natural disasters, there is little information about how these resiliency traits might help someone succeed in an academic setting. Through this study, I analyzed what kinds of qualities help students be resilient and successful academically post natural disaster. Five Louisiana State University students were selected to participate in this study and shared their narratives about their personal experiences during Katrina and how those experiences shaped their lives.

CHAPTER 1: INTRODUCTION TO THE RESEARCH

Purpose of the Study

The purpose of this study is to evaluate how students who experience a natural disaster may develop resiliency traits. The intent of this study was to gain insight into how students that experience natural disasters or trauma develop resiliency traits. Since I attended LSU, this gave me the opportunity to evaluate how Hurricane Katrina, the largest national disaster to impact the United States continues to affect this region. It was my hope that by studying current LSU students that experienced Hurricane Katrina twelve years ago, I might see how this event influenced these students, and how it may still be impacting them today.

Research Questions and Design

My main goal for conducting this research project is to understand how an individual's experiences during Hurricane Katrina, twelve years ago, impacted them in terms of academic success and developing resiliency traits. The secondary goal of the research project is to understand how the disruption of the individual's ecological systems impacted or influenced the development of resiliency traits. The following questions guided this study:

1. What strategies helped individuals cope with difficult situations that they've experienced since Hurricane Katrina?
2. How did the potential change in academic resources and schools impact their motivation to succeed?
3. How did the destabilization of the individual's social and academic networks during Hurricane Katrina impact their development?

To best answer these questions a qualitative research method was selected. A qualitative research design allowed the participants to share their narratives with the researcher. Qualitative data was best to answer the research questions since the answers were coded for themes.

Theoretical Framework

For this research project's theoretical framework, Bronfenbrenner's (1994) Ecological Systems Theory was selected. This theory was selected because I wanted to see how the disruption of ecological systems impacted the individual. Bronfenbrenner breaks the larger ecological system down into five different systems: microsystem, mesosystem, exosystem, macrosystem, and chronosystem (1994). The microsystem is the system that an individual interacts with on a regular basis. The microsystem typically includes interactions an individual has with their family or friends. The microsystem can also include the school classroom, and the interactions that happen within the school environment. The mesosystem encompasses interactions between microsystems; for example, when friends of the individual interact with the individual's family. The exosystem brings in systems that the individual may not interact with on a day-to-day basis, but can still influence their lives. In terms of this study the exosystem could include the breakdown of the educational system in the wake of the Hurricane. The macrosystem includes cultural and societal expectations. This system could have been impacted when participants in this study had to move to different states/regions in the United States. Finally, the chronosystem was added in a revision to the theory and adds time as a layer to all the other systems and how that factor may influence and change the other systems over time.

By using this theory as the framework for this research project, I can see how the disruptions in the exosystem and macrosystem impacted the micro and mesosystems, and how these disruptions and changes impacted an individual's development of resiliency traits.

CHAPTER 2: LITERATURE REVIEW

Through this study, I wanted to understand how natural disasters, specifically Hurricane Katrina impacts and influences an individual's ability to be resilient despite challenges in life. A large amount of the research conducted on Hurricane Katrina highlights: the difficulty of getting an accurate number of those impacted and killed, how the region is still recovering, and the societal instability caused by the Hurricane. Some of the research related to natural disasters discussed the roles post-traumatic stress disorder and post-traumatic growth play when someone is recovering from experiencing this trauma. The purpose of this study is to understand how experiencing a natural disaster can make someone more resilient and how the disruption of their ecological systems can impact the development of resiliency traits.

For the Literature review I began by exploring research related to Hurricane Katrina. Next then I reviewed literature related to resiliency and resiliency traits that are created after trauma. To better understand the role that resiliency has, literature related to post-traumatic stress disorder and post-traumatic growth in relation to natural disasters is summarized. Finally, to better understand the potential relationship between ecological systems and resiliency, I looked at how ecological factors are influenced and changed by disaster.

The Impact of Katrina on K-12 Students

Hurricane Katrina made landfall in Louisiana on August 29, 2005 (Picou & Marshall, 2007). Approximately one million people from the gulf coast region lost their homes and were forced to leave (Morrice, 2010). Among those displaced were hundreds of thousands of students; about a quarter of the K-12 population in Louisiana (Picou & Marshall, 2007; Pane, McCaffrey, Tharp-Taylor, Asmus, and Stokes, 2006). Over 90,000 square miles were declared disaster areas, 875 schools were damaged, and at least 40 were destroyed (Madrid and Grant, 2008; Osofsky,

Osofsky, Kronenberg, Brennan, Hansel, 2009). Hurricane Katrina is “*the most expensive natural disaster in U.S. history*” (Picou & Marshall, 2007, p. 768). Damage to the city of New Orleans was estimated to cost between \$40-\$50 billion. The Red Cross managed 470 shelters that attended to 386,000 evacuees (Mills, Edmonson, and Park 2007). The evacuees received health care and treatment for Post-Traumatic Stress Disorder (PTSD).

Pane, McCaffrey, Tharp-Taylor, Asmus, and Stokes (2006) studied the displacement of approximately 172,000 Louisiana public school students. The researchers wanted to understand the short-term effects of these moves due to the storm. The study occurred from October 2005 to September 2006. Pane et al. classified students as either displaced or relocated. Students were only considered relocated if they returned to their original public school. By the end of the 2005-2006 school year about half of the students studied were still displaced. The researchers also found that students on average spent about five weeks out of school after the storm. In order to better understand displaced students, the researchers surveyed principals of schools that enrolled displaced students. Through this data, the researchers discerned that most of the displaced students were minority, low-income, low-achieving students. The data also indicated that displaced students were more likely to violate a rule, participate in a verbal disagreement with a peer, be involved in an altercation, and/or bully other students. The researchers hope that in the future there is a way to better track students that are displaced after a disaster that crosses state lines.

Abramson and Garfield (2006) studied the psychological impact that Hurricane Katrina had on children and families. The researchers estimated that 110,000 children were displaced from New Orleans. Parents reported increased rates of asthma, behavioral problems, and learning disabilities in their children post-hurricane Katrina. The researchers observed that parents who scored low on a mental health evaluation were almost twice as likely to have children who

experienced emotional or behavioral problems post-Hurricane. Abramson and Garfield also observed what happened to a community when a large population is displaced. Specifically, many families did not have proper access to health care due to the societal breakdown after the storm.

Davis, Grills-Taquechel, and Ollendick, (2010) studied how displacement impacted college-aged students. The researchers sent a survey to 68 New Orleans students that were relocated to Louisiana State University. Based on data collected, the researchers indicated that displaced students experienced more distress, exhibited more symptoms of PTSD, and demonstrated symptoms of depression. Davis et al. suggested that schools in areas prone to natural disasters should look at training and hiring personnel that are able to recognize the needs of displaced students and can support them.

Dunn, Solovieff, Lowe, Gallagher, Chaponis, Rosand, Koenen, Walters, Rhodes, & Smoller (2014) conducted a quantitative study that looked for a genetic connection between post-traumatic stress and post-traumatic growth (PTG) in low income adults post Hurricane Katrina. Somewhere between one-fifth and one-third of natural disaster survivors experienced PTSD. Based on the data, the researchers saw a reduced risk of PTSD, and an increase in PTG if the adult had experienced Hurricane Andrew. The researchers assessed that people that experienced Hurricane Andrew had established coping mechanisms that could help them crate PTG traits during Hurricane Katrina. The researchers suggested more studies to understand how genetic, social, and psychological traits might influence PTSD and PTG.

Goodman, and West-Olatunji studied Post-Katrina New Orleans to help mental health practitioners better understand transgenerational trauma and resilience (2008). The researchers listed specific risk factors for PTSD such as lack of social support and history of mental illness (both individual and family), and displacement. The researchers encouraged mental health

professionals to ask probing questions to their clients to see what kind of Post-Traumatic symptoms they may have.

Hawkins and Maurer (2009) studied the utilization of social capital in New Orleans post Hurricane Katrina. They wanted to study social capital to understand the strength of families and communities after a disaster. The researchers interviewed families twice, with the second interview tailored to their experiences. The second interview took place six months after the first interview. Many families began using their bonding social capital to create a plan before the storm hit. This bonding relationship also influenced the decision of whether to return to New Orleans or not. The family's social capital was also used after the storm to gain access to resources, food, and information. However, many African American families still reported that economic and racial barriers prevented them from gaining access to resources and information during Hurricane Katrina. The researchers also observed that stereotypes might negatively impact individual's social capital.

Hori and Schafer (2010) evaluated how displacement a year after Hurricane Katrina and Hurricane Rita impacted housing, economic, and health variables for individuals and families. Data from displaced and non-displaced Louisiana residents was studied to look for trends. An analysis of the data indicates that many displaced families struggled to find permanent housing, which in turn created more health concerns. Another data set the researchers analyzed was how displacement impacted employment opportunities. The researchers also observed how displacement made it more difficult for some people to have access to health centers, which in turn made it hard for many to cope with new mental health or physical health issues. The researchers also encouraged better maintenance of data related to displacement.

Madrid and Grant (2008) examined the health needs of children and families immediately after Hurricane Katrina and what kind of support was offered to them. Most of the health concerns weeks after Hurricane Katrina were psychological. The researchers also observed that a breakdown in communication at shelters resulted in an increase of anxiety and feelings of helplessness. They also highlighted the importance of reuniting families to give them more stability as they recovered from disaster.

Masozera, Bailey, and Kerchner (2007) studied how different neighborhoods in New Orleans were impacted by Hurricane Katrina from social, physical, and economic standpoints. Most of the data indicated that those from lower socioeconomic status had a harder time evacuating due to lower access to transportation. The data also indicated that areas where low SES families lived experienced more damage from Hurricane Katrina than their higher SES peers. The researchers challenged the state of Louisiana and FEMA to think of better pre/post hurricane plans.

Mills, Edmondson, and Park (2007) examined rates of acute stress disorder in 1600 evacuees 12 to 19 days after Hurricane Katrina. Based on their data analysis, the researchers observed that any previous exposure to trauma did not predict acute stress disorder in individuals. Their research also indicated that many people were exhibiting signs of PTSD and did not have enough resources to help them cope with this. The researchers also highlighted the importance of helping those impacted by the Hurricane gain access to health care, permanent housing, and reestablishing a social support network as ways of helping someone cope with their PTSD.

Morrice (2013) conducted semi-structured interviews with to understand the cognitive process when deciding to return after Hurricane Katrina and how feelings of nostalgia can influence that decision. Morrice's research indicated that the return decision is impacted by socio-

economic factors as well as a desire to return home. Another factor that may influence this decision is the need to have closure. Many survivors that were displaced by Hurricane Katrina wanted to return to New Orleans due to their strong connection to the city and desire to return home.

Osofsky, Osofsky, Kronenberg, Brennan, and Hansel (2009) studied 7,258 children and adolescents after Hurricane Katrina to understand what factors caused the development of posttraumatic stress symptoms. The data indicated that children that were still separated from family members or living in a non-permanent home experienced increased symptoms. At least 40% of the children/adolescents surveyed exhibited posttraumatic stress symptoms. The researchers stressed the importance of having mental health services available after a natural disaster.

Picou and Marshall (2007) conducted a mixed methods study of 3,681 displaced students. Their research highlighted how the family dynamic may have changed after the Hurricane; some students may be living with extended family members. Many students in this study exhibited signs of psychological stress, depression, anxiety, and uncertainty about the future. The researchers encouraged future studies to focus on the transition both students and schools go through when hosting displaced students.

Pina, Villalta, Ortiz, Gottschall, Costa, and Weems (2008) evaluated how post-Katrina social support systems and coping mechanisms influenced children's symptoms of PTSD. The researchers conducted 30-minute interviews with 46 families. The data indicated that if a child had a strong social support system, they were less likely to exhibit PTSD symptoms. If a child was exhibiting traits of avoidance in relation to their Hurricane Katrina experiences, they were more likely to have some PTSD symptoms. As a result of the research, Pina et al., encouraged the availability of mental health services for children after a traumatic event.

Sastry and VanLandingham (2009) studied displaced New Orleans residents a year after Hurricane Katrina. Specifically, they wanted to look at how prevalent mental health issues manifested within this population. Based on the researchers' analysis of the data, they noted that property loss greatly impacted mental health. If a New Orleans resident was unable to return home, it created disruption in their economic and social growth.

Wadsworth, Santiago, and Einhorn (2009) conducted a qualitative study on 93 adult survivors of Hurricane Katrina that were relocated to Colorado. Interviews were conducted six months after the Hurricane and again six months later. The researchers found that coping and coping efficacy are crucial to the healing process after trauma. The data demonstrated that higher levels of stress months after the traumatic event may cause more PTSD symptoms to display. Wadsworth et. al's research further indicated the importance of helping older populations create support networks to circumvent depression.

Zwiebach, Rhodes, and Roemer (2010) studied 402 survivors of Hurricane Katrina to examine how resource loss impacted mental health. If a survivor lost social support, encountered health issues, or lost personal property through their Hurricane Katrina experiences they were more likely to exhibit signs of psychological distress. According to the researchers one limitation of this study was the fact that they only focused on low-income, African American mothers.

Resiliency

Much research pertaining to psychological resiliency is from the last fifteen years (Bonanno, 2004; Bonanno, 2005; Baum, Rotter, Reidler, and Brom, 2009; Colten, Kates, and Laska, 2008; Bonanno, Galea, Bucciarelli, and Vlahov, 2007). Most researchers assert that there is a difference between resiliency and post-traumatic stress. One of the major differences between resiliency and post-traumatic stress is the ability to continue to fulfil responsibilities

(Bonanno et al, 2007). Resiliency is defined as, “*the human ability to adapt in the face of tragedy, trauma, adversity, hardship and ongoing significant life stressors*” (Newman, 2007, p.227). In order to adapt, many people utilize social networks, faith, and humor to sustain them during this traumatic time (Elliott and Pais, 2006).

Baum, Rotter, Reidler, and Brom (2009) reviewed the Building Resilience Project that originated in Israel and was later adapted in some elementary schools after Hurricane Katrina. The researchers specifically looked at the project through an ecological lens, which showed them the importance of creating a sense of normalcy after a traumatic event. To help students establish resiliency, it is important for teachers and staff to understand their own coping strategies in order to establish a strong environment for their students. Through the BRP training, teachers reported to the researchers that they were better equipped to help students through their own traumas.

Bonanno, Galea, Bucciarelli, and Vlahov (2007) studied the correlation between resiliency and sociocontextual factors. They studied adults that lived in New York City on September 11, 2001. The researchers found that resilient individuals do not report many psychological symptoms after a traumatic event and can continue to fulfill responsibilities. They also found a correlation between available resources and resiliency traits.

Bonanno (2005) researched how ecological factors might influence resiliency. He also explained the difference between childhood and adult resiliency. Childhood resiliency is developed by experiencing turbulent environments while adult resiliency may be established by experiencing a short traumatic event. Bonanno encouraged future researchers to ask participants about how they perceive their effectiveness of coping with traumatic events.

Bonanno (2004) originally established three different points for other researchers to understand when looking at resiliency. The first point is that there is a difference between

resiliency and recovery after a traumatic event. The second point is that resiliency is more common than originally thought. The third point is that resiliency is created through many ways including self-enhancement, repressive coping, and positive emotions.

Colten, Kates, and Laska (2008) analyzed what made communities resilient three years after Hurricane Katrina. The researchers established four recurring resiliency traits for the ecological system of New Orleans: 1) anticipation, 2) response, 3) recovery, and 4) reduced vulnerability. They also highlight the importance of reestablishing hospitals and universities to help communities recover, since both give communities access to important resources. Colten, Kates, and Laska also observed that the delayed response time from the government negatively impacted recovery efforts.

Elliott and Pais (2006) analyzed 1200 Hurricane Katrina survivors' experiences to better understand how humans respond to natural disasters. The researchers observed that African American people who experienced Hurricane Katrina were more likely to rely on religious faith to help them while Caucasians were more likely to rely on social support networks. They also observed that African Americans were four times more likely to lose their jobs after the Hurricane. Elliot and Pais advocated that more policies and assistance programs need to be designed to assist people after a disaster.

Eppler (2008) studied children aged 9-12 who experienced a parent death within the last 36 months. She wanted to see what kind of resiliency traits were helping the children cope. Through her data analysis she observed that the children experienced many emotions in relation to their parent's death, and that family and extended support systems helped the children cope. The children wanted people to see them as strong and wanted to get back to a sense of normalcy.

Eppler encourages the implementation of strength-based counseling efforts for children dealing with a loss of a parent.

McMillan and Reed (1994) analyzed at-risk adolescents to see what kind of traits contribute to resilience. One trait these students exhibited was a sense of self-reliance that they established early in childhood. Another trait that helped students was that they had good time management skills and were able to manage their homework and be involved at school. A third trait connects the student to at least one caregiver that provides the necessary attention and support. This trait is more enhanced if their parents had at least a high school education. Schools may also play a role in creating resiliency especially if they connect with someone at the school. For at-risk students creating a support system that encourages them is crucial to creating resiliency.

Newman (2005) evaluated the American Psychological Association's Resilience Initiative that was established after September 11, 2001. Newman defines resiliency as, "*the human ability to adapt in the face of tragedy, trauma, adversity, hardship and ongoing significant life stressors*" (p.227). He also stresses the point that there is not one trait that may identify someone as resilient and that there are many ways for a person to become resilient.

Reich (2006) evaluated core traits of resiliency after someone experiences a natural or human-made disaster and suggested how they might be implemented into disaster planning. Ong et al. believe that control, coherence, and connectedness need to be felt by someone in order to exhibit resiliency. They expanded these concepts into disaster preparedness, but warned that too much control from an outside source could create dependency. They also described that a resilient community will be interconnected, and people should be able to utilize social capital within the community.

Ong, Bergeman, Bisconti, and Wallace (2006) evaluated how various factors experienced during stressful times as a child could influence how someone copes with challenges later in life. The results of the study found that positive emotions are more common among resilient people, and often positive emotions are utilized as a coping mechanism during stressful times. The researchers suggested more studies to be conducted related to emotional functions.

Fernando and Hebert (2011) studied resiliency traits between those who survived the Tsunami and those who survived Hurricane Katrina. Fernando and Hebert highlight both internal and external resources that can help people process trauma. Some internal resources are: optimism, humor, positive self-esteem, creativity, empathy, and cognitive hardiness. External resources include: support networks, material items, education, and employment. The researchers also categorized resiliency as a survival factor.

Ungar (2011) explored the process someone may go through to create resiliency. Ungar stated that there are four concepts related to the process: decentrality, complexity, atypicality, and cultural relativity. He believed that resiliency is a construct from a child's ecological background and not just an individual trait. He believed that more research needs to be conducted into ecological backgrounds and how they relate to resiliency.

Ecological Factors

When analyzing resiliency in people that experienced a traumatic event, it is necessary to evaluate how their ecological system influenced their coping mechanisms. People who experience a natural disaster typically rely on a social support network during and after the disaster (Cook & Bickman, 1990). The support network may evolve or dissolve over time due to the ramifications from the natural disaster. For example, people might be forced to relocate or may self-select not to return to their original home. For children and young adults, their ecological network is

influenced by the way their caregivers react to the traumatic event (Kilmer and Gil-Rivas, 2010). Ecological systems are important to evaluate when looking at traumatic events because they play an integral in coping with the event.

Cook and Bickman (1990) studied 96 people through a survey that experienced a significant flood in Virginia. Results from the study indicated that distress related to the flood decreased over time. They found that strong social support helped people after a disaster. The researchers defined social support into three different categories: appraisal support, tangible support, and belongingness support. Appraisal support gives someone the necessary information and advice to gauge how dangerous or threatening a situation is. Tangible support is support gained through access to objects (transportation, money, housing). Belongingness support is support received by an individual from their social networks. The researchers found that tangible support and belongingness support played a larger role in helping people post-disaster than appraisal support.

Kilmer and Gil-Rivas (2010) conducted a qualitative study of caregivers a year after Hurricane Katrina. Many caregivers still reported difficulty meeting the needs of their children as well as themselves a year after experiencing Hurricane Katrina. The researchers noted that how a caregiver reacts to stress may influence how children react to the situation.

Natural Disasters and PTSD

Throughout the research, there are correlations between experiencing a natural disaster and exhibiting traits of post-traumatic stress disorder. Once again, social support networks play an integral role in coping with the trauma from a natural disaster (Nietlishbach and Maercker, 2009; Pérez-Sales, Cervellon, Vazquez, Vidales, and Gaborit, 2005). These networks might help connect people back to their community and help them process their experiences. Gaffney's

(2006) research indicated that children process and experience trauma differently than adults. This is important to keep in mind with this research project since all the participants were children during Hurricane Katrina.

Gaffney (2006) evaluated how children processed September 11, 2001, Hurricane Katrina, and Hurricane Rita to understand how they respond to loss and crisis. Gaffney notes that for children traumatic events are recalled differently than other events. Children experience trauma in two different ways: they have a trauma response and a grief response. These responses define how the child processes the event. Children that experience trauma may have long term reactions to it. The long-term reactions may include: social withdrawal, changes in risk taking, initiating drug/alcohol use (adolescents), and sleep problems. For children to heal after a traumatic event, children need to obtain: trust, a sense of security, self-care, and feel grounded.

Nietlisbach and Maercker (2009) studied how social interactions can impact PTSD symptoms. The researchers found that social support and social acknowledgement might help prevent PTSD symptoms. Social exclusion after a traumatic event may increase PTSD. The researcher suggested more research should be done pertaining to social cognition and PTSD.

Pérez-Sales, Cervellon, Vazquez, Vidales, and Gaborit (2005) conducted a qualitative study with semi-structured interviews with people living in two of the largest shelters in El Salvador after the earthquake. The researchers highlighted six responses that relate to post-traumatic response and each response functions on a continuum. The six responses are: sense of belonging/detachment, validation/rejection of situation, conservation/reduction of capacity to control events in their life, sense of stability/chaos, safety/uncertainty, personal dignity/humiliation, and feeling optimistic about the future/hopelessness (p. 369). Participants in

the study that were positively coping with their situation were giving meaning to the event, had a good support network, and were utilizing religion as a coping mechanism.

Post-Traumatic Growth versus Resiliency

Post-Traumatic Growth is another new term from the last fifteen years. Levine Laufer, Stein, Hamama-Raz, and Solomon (2009) suggested that post-traumatic growth occurs after someone experiences post-traumatic stress. Many researchers believe that post-traumatic growth is more of a process while resiliency is more developmental (Cryder, Kilmer, Tedeschi, and Calhoun, 2006; Kilmer and Gil-Rivas, 2010; Little, Akin-Little, and Somerville, 2011). Other researchers believe that there is a correlational relationship between post-traumatic growth and resiliency (Levine Laufer, Stein, Hamama-Raz, and Solomon, 2009).

Cryder, Kilmer, Tedeschi, and Calhoun (2006) studied how posttraumatic growth in children is different than resiliency. The researchers proposed that posttraumatic growth is a transformational process while resiliency is more developmental. The results from their study indicated that if children have a positive outlook on the future, they will perceive traumatic events differently. Cryder et al., also found that a supportive social environment also helps children through traumatic events.

Kilmer and Gil-Rivas (2010) studied a group of 7-10-year-old children that experienced trauma during Hurricane Katrina. They wanted to see the differences in caregiving types received by the child and the child's reliance on self could predict which children had higher posttraumatic growth. The researchers discovered that there are more variables involved when studying reliance over posttraumatic growth. The results from their study indicated that children with higher posttraumatic growth were more optimistic about the future. They suggested that

future research looks at ways to support foster children that exhibit signs of posttraumatic growth.

Levine Laufer, Stein, Hamama-Raz, and Solomon (2009) studied posttraumatic growth and resiliency in more of a relational context. The researchers studied Israeli citizens that were experienced terrorism. Through their analysis of the data the researchers found an inverse relationship between posttraumatic growth and resiliency. These results echoed other research that indicates you need to experience PTSD to get to posttraumatic growth. Their research also indicated that posttraumatic growth can only occur if the survivor wants to make a positive meaning out of the traumatic event.

Little, Akin-Little, and Somerville (2011) studied posttraumatic growth in children and adolescents, and then gave it cultural context as well as offered suggestions for psychologists that work with children. The researchers defined resiliency as how quickly a child could return to their prior functions. They also discussed Project Fleur-de-lis which was established after Hurricane Katrina to treat children's psychological needs post Katrina. The researchers encouraged the creation of more training for psychologists as it relates to children that experienced trauma.

CHAPTER 3: METHODS

Methodology

I designed this study to be phenomenological. By selecting a phenomenological framework, I can analyze individuals lived experiences. Through this analysis, I can better understand how those memories and experiences impacted their development of resiliency traits.

Participants

Participants were selected using convenience and snowball sampling methods. Convenience sampling was selected because there is a relatively large concentration of students at the institution with lived experiences related to Hurricane Katrina. I recruited using convenience sampling by speaking about this research project during fall 2016 resident assistant training. Some of the participants suggested other people I might be able to speak with (i.e., snowball sampling), so I reached out to those potential participants as well. Other participants heard that I was working on this project and reached out to me to see if they might share their story with me.

Ethical Considerations

Given the emotional nature of trauma, all participants were invited to share their story voluntarily. Participants were informed of their right to terminate their participation at any time and given information about the availability of mental health services provided by the university. This study was approved by the Institutional Review Board.

Procedures

All interviews were recorded using an audio recorder. The participants were asked a series of 28 semi-structured protocol questions from an interview protocol developed by the researcher (see Appendix C). Before the interview began, the participant would receive a consent form, and the interviewer would review the rights of the participant. The interviewer emphasized that all identities would be kept confidential and that pseudonyms would be assigned for the participant and all information would be de-identified. The participants were notified that they had the right to stop the interview at any time.

Limitations

As with all research, there are a few limitations to my qualitative study. The first limitation is that the data is not generalizable. Due to time constraints, there is a small sample size of participants. All of the data utilized is self-reported information, and there is no way to analyze how memories change over time and the validity of the memories shared by participants.

CHAPTER 4: FINDINGS

Participants

Five college students were selected to participate in the study utilizing a combination of convenience and snowball sampling. Participants ranged in age from 18-21. Three females and two males were interviewed. There were two African-American students that participated in the study; one male and one female. The other three participants were White. There was one senior, one junior, two sophomores, and one freshman. Three participants identified their hometown as New Orleans, Louisiana. One participant identified their hometown as Chalmette, Louisiana. The final participant identified their home town as Prairieville, Louisiana. Two students self-identified as first-generation students. One student was home-schooled until high school. Four of the five participants left Louisiana because Hurricane Katrina. One participant did not have to evacuate during the storm.

Four of the participants had to relocate to other states. Leslie, spent time in three different states: Mississippi, Tennessee, and Texas. Mason was first relocated to New Jersey, then spent time in Georgia before returning to New Orleans. Elaine was briefly relocated to upstate Louisiana from the Superdome, before moving out to California for a few months to live with extended family, and then returned to New Orleans. Piper remained in Prairieville, Louisiana; but did see the after effects of Hurricane Katrina as an influx of people began to move into town and the school

parish had to absorb the displaced students. Taylor's family left New Orleans shortly before the storm and stayed in Houston, Texas from August to December before returning to New Orleans.

The five participants in the study had different academic journeys. Leslie was homeschooled by her mother from kindergarten until high school. While her family was displaced, her schooling remained consistent. Mason attended a Catholic school in New Orleans, that continued to request money from his family while the school was closed. Mason attended a public school in Georgia, that he described as, "seemed behind" in terms of academic rigor. Elaine attended a public school in New Orleans and then she recalls, "four or five" different public schools in California. She recalls the school in California having more resources available to help students and that the teachers seemed to be more invested in the students. Elaine struggled with her identity and fitting in when she moved to California and upon returning to New Orleans. As stated earlier, Piper was not displaced, so she continued her education at the same school. She did see an influx of students at her school, and the diversity within the school changed due to the displaced population. Taylor attended a charter school in New Orleans, and a public school in Houston. Taylor struggled with the pacing of the classes in Houston, and felt very rushed. Both Taylor and Mason remember being identified as the Hurricane Katrina student in their classes.

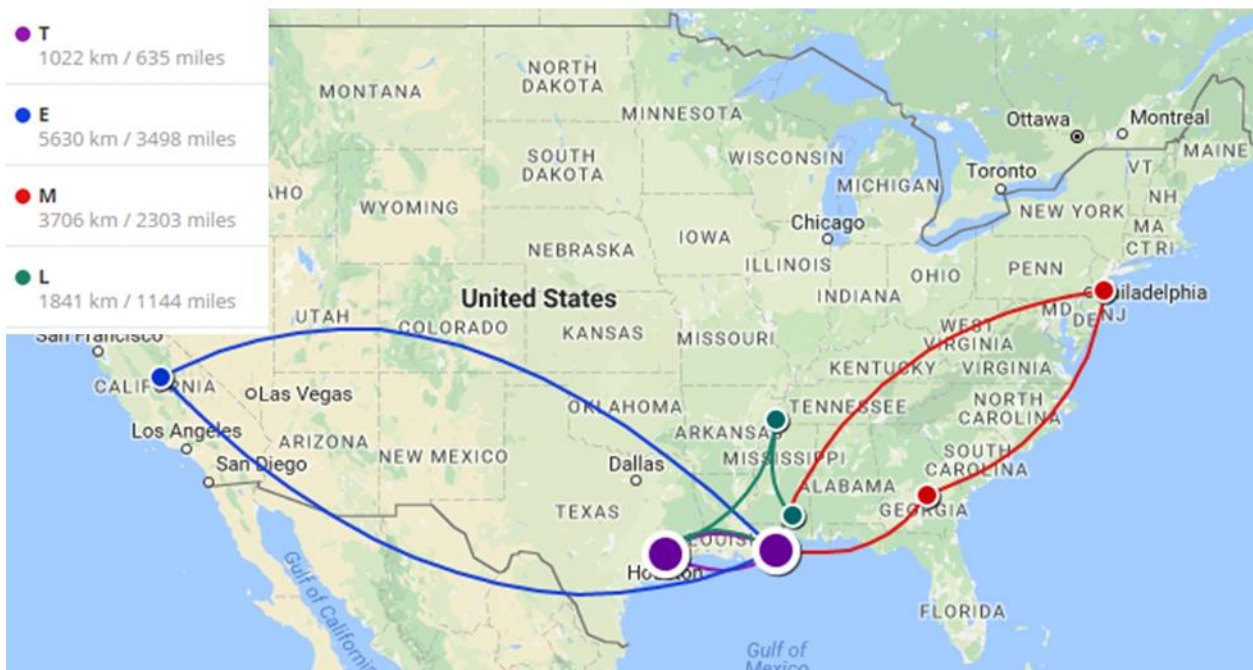
Table 4.1

Participant Demographics

Name	Gender	Hometown	Current Age	Age when Katrina Happened	Graduation Year	Major
Leslie	Female	Chalmette, LA	19	7	May 2019	Accounting
Mason	Male	New Orleans, LA	19	7/8	December 2019	Plant and Soil Systems
Elaine	Female	New Orleans, LA	18	6/7	May 2020	Mass Communications
Piper	Female	Prairieville, LA	20	9 ½	May 2018	Elementary Education
Taylor	Male	New Orleans, LA	20	9	May 2017	Psychology

Image 4.1

Map of Relocation Process



Overview of Themes

Table 4.2

List of Themes and Description

Theme	Description
Theme 1: Support Groups and Family	Who the students rely on when they need advice or guidance
Theme 2: Everything is Temporary	All situations are dynamic, nothing lasts forever
Theme 3: Financial Concerns	Family Income, Selecting Post-Secondary Institutions, Paying for college
Theme 4: Coping Mechanisms	Humor, Denial, and Faith
Theme 5: Family and Education	Future plans for family, what role does education play in that

Theme 1: Support Groups and Family

When the participants were asked about their support networks, there were some reoccurring themes. Some of the participants did not have one particular group for support, but had various groups for support depending on what kind of problem they were trying to solve. One participant identified one person as the person the individual went to when they needed advice or support. Elaine was unable to identify a functioning support network within her life.

Three participants: Piper, Mason, and Taylor identified that they had multiple support networks, and that they floated between them as necessary. Piper and Taylor identified family members as one of their support groups. Taylor identified his aunt as someone he would reach out to when he needed advice because, *“she’s seen me through everything and we’re very close”*. He also mentioned his family as a general source of support, but his aunt is someone he will specifically reach out to when going through a problem. Piper identified her mother as a source of support, but also recognized that her mother’s education level can be a barrier sometimes:

...she wants to say the right things, and this is also not saying it to be offensive, but just educational wise she's only limited to so much. Having more education now, seeing the sweetness of that, in the sense are you able to help people and you're just able to communicate so much better, I think.

Both participants identified female family members as people they would reach out to for support. I think that it's interesting, and perhaps plays into that feminine identity of support.

Piper and Taylor identified some of their high school friends as another group for support. They were the only two participants that specifically mentioned keeping in touch with this demographic of friends. Piper's high school friend group is about six people. She gave spoke about a current challenge the group is working through,

My best friend just got broken up with two days ago, so we're trying to work through that and help her with that. So I called my other friend and be like, "How is she today?" so good talk, not gossip or anything. I'm also pretty open about my own problems and what I'm going though myself and working through, and doing wrong in instances like that too

Taylor mainly focused on talking about his best friend, and how he's learned that smaller support networks are more beneficial for him,

Even though I lost a lot of the childhood friends I've always wanted to always be here and support me, what I realized about that is, through comparing myself to others, sometimes other people need that to validate themselves in their lives. For me, I felt like I've always been one step ahead and a little bit more mature than others and that's not just me saying that, people have told me that about myself, so maybe me losing those friends wasn't such

a terrible thing. It was actually for the better. So having a support group of fewer people has made everything more worthwhile.

Piper's third group blends her support network with her utilization of faith to resolve problems. Piper identified her church group of *"five, six, seven of them"*. This group functions in a similar fashion to her high school support network. She will share what problems she is working through in her life with them, and likes the feedback they give her. With this group, Piper will also disclose what challenges she may be working through in terms of her faith as well. What is interesting about Piper's networks is that she is more open with her two peer groups than with her family. This is probably related to the differences in educational attainment within her family than anything else.

Mason's support groups consisted of diverse groups on campus. He made no mention of utilizing family when working through challenges. While Mason talked about having different groups that he floats between, he will connect with one individual within the group who will become his main source of support within the group.

Leslie did not identify any support groups. When asked about her support network and who she goes to when working through a problem, she identified her father, *"My dad. My dad and I started growing closer with Katrina, I mean he was always the distant fatherly figure, but after Katrina we grew a little closer"*. This contrasted Piper and Taylor because Leslie's support network consists of one male paternal figure. Leslie identified Hurricane Katrina as the reason she and her father began to get close. She also recognized that while her father is her support network, that they sometimes struggle, especially when Leslie started talking to him about some mental health concerns. She explained,

And that's been fun dealing with, with my dad. Because he doesn't really know how to cope either, or deal with things at all, I was like, "I think I have this issue" and he was like, "Oh. Well go see a doctor." And I'm like, "oh, okay, thanks dad" (laughs)

Finally, Elaine did not identify anyone as an established support network. When asked about her support network Elaine stated, *"I really didn't have support because I was the oldest one, and I guess I kinda had motivation because I was the oldest one"*. Elaine tries to serve as her own support network, but can shut down sometimes especially when she recognizes she needs help, "I think I just break down. Like I don't look for it because I don't want to be a problem for anyone else. I just break down until somebody asks me." Elaine is a first-generation student, and her lack of knowledge may prevent her from making connections that might help her adjust to the college environment. She also seemed afraid of asking for help, and perceived herself as a burden to others.

Theme 2: Everything is Temporary

In four of the five interviews, the concept that life is dynamic and not stagnant kept reoccurring, particularly when participants were asked what they learned from their experiences with Hurricane Katrina. Leslie stated, *"...everything is temporary. I guess would be like a good thing, because everything is temporary. Things can change in a second. That's it. That's all it is. The only constant in life is change"*. Mason said, *"nothing is going to end everything. Katrina couldn't keep New Orleans down, ever. We can come back from it. So no. And it'll end okay"*. Piper shared, *"that this life can be so short, and I think that's something we hear a lot and so it can sound like a cliché statement but it's so accurate"*. Taylor summed this up,

That you know what, life does go on. I know that's a cliché but what I mean by that is, yeah your experience before something drastic happens, it may be incredible, it may be

great, and post Katrina, you might be like oh my gosh it's awful. But amazing things do happen

These participants recognized that everything can change very quickly, and that it's important to embrace it. They also understand that there are going to be challenges in their lives, but even those will not last forever. They understand how fragile human life is, and how important it is to take advantage of every opportunity.

Theme 3: Financial Concerns

All participants when asked about their college selection process, touched on how cost influenced their choices. Four participants also discussed how TOPS made them want to stay in the state, since at the time it would cover a significant majority of school costs. When prompted with the question about selecting a college, Piper responded with,

TOPS. Okay. That's actually an interesting question. I didn't ever really fully grasp that people don't leave the state. Because Louisiana has literally closed us in this bubble and now they've popped this bubble because of TOPS. But they closed us this in this bubble, I was shocked, everyone from my school stays in Louisiana. Even people that are so crazy smart, because LSU gave them so much money to come here.

Through this quote, Piper recognized that the financial incentive that the state gave to college aged students, may entrap students in the state. She describes Louisiana and TOPS as a bubble, as something that does not coalesce well. Piper also discussed the money as something that is given, where as in many states, students must take out loans, and their education is not covered by the state. Piper also recognized that this financial opportunity, is not as stable as it once was; she describes it as the bubble bursting.

Taylor recognized how his finances influenced his school decision and how empowering it was for him to receive his financial aid. When I asked him why he decided to stay in Louisiana for college he stated,

I stayed in Louisiana for college, I'm going to be honest, because I was broke. Earning my TOPS scholarship meant the world to me, I jumped out of bed on the morning I found out. I took the ACT twice to get it. Jumped out of bed because I'm like, "Oh my gosh, I just got a full scholarship to college. Like that is amazing" And to realize I got that, I was like I have to put it to good use.

Taylor admitted that he did not have much money for his college career. He also talked about how receiving this scholarship motivated him to succeed in college. He mentioned that he had to take the ACT twice in order to get the score necessary to qualify, which further shows his dedication to finding a way to pay for college. He also recognized that he stayed in Louisiana for college because it was the best financial decision for him.

During Elaine's interview, she mentioned that she identified her family as low income twice. Whenever she brought it up, her body language and tone would change. In both instances, she brought up her socioeconomic status when we discussed education. Elaine did not mention TOPS when asked about her school selection process; she stated, "*we're really low income, so I didn't really have any money*". Again, through this quote, there seems to be a sense of entrapment by finances.

Theme 4: Coping Mechanisms

How do these students cope during times of extreme duress? Through the interviews three reoccurring coping mechanisms seemed to come up: humor, repression, and faith. The humor came through all interviews, as a way to lighten the mood when sharing their narratives in relation to a

heavy topic. The idea of repression came up when reflecting on how others dealt with the storm, but still had underlying tones of humor. Two of the participants discussed how their faith helped guide them during difficult times.

Humor. All participants interviewed would make jokes or laugh, while answering the questions. This seemed to make the participants feel a little more at ease when talking about their experiences, and helped build a repertoire with the interviewer. They would also smile or chuckle when talking about their selection process for college, since a significant factor for all participants was the cost of college.

Denial. When the interviewers were asked what they learned from their parents in terms of coping strategies, three of the five participants made a joke about how their parents did not talk about what was going on, or about how they learned not to cope from their parents. This information indicates that denial was a typical coping mechanism for families that experienced Hurricane Katrina.

One participant reinforced this theme during their interview. When speaking with Mason, he stated, “I hadn’t really talked to anyone else so I don’t know how other people’s experiences are in all honesty, and that’s something that I just realized now. That I have never done this.” This means that Mason had not discussed his experiences and perceptions with anyone after experiencing the storm for twelve years.

Taylor also talked about how not to cope in terms of learning from his parents, my parents are really aggressive and they’re not really ones to sit down and have conversations about what’s going on, but when I learned that based on their behaviors that’s not how I wanted to be, I learned that it’s okay to be a little more sensitive and have conversations about what’s going on.

Taylor recognizes that he needed to have conversations about events in order to fully process them. He also shared that this is not what his parents do. Through this quote, it seems like his family didn't really talk about what happened, and just wanted to move on. He also shared that it's okay to be sensitive; which indicated his desire to show emotion and be more empathetic towards others.

When I asked Leslie about the learned coping strategies from her family, she stated:

They had no coping strategies at all. No. Not at all. My dad is very, "okay I have a problem, I'm going to fix it right now", which is how I am to a degree, and my mom was just a blubbing, emotional mess. So I just kinda dealt with it I guess, and I just moved on. Like okay this is what I have to deal with now, never really went back and thought about it.

Leslie recognized that she never really thinks about her experiences, which is a learned behavior from her parents. She talked about just dealing with things, and going into a very unemotional, operational state. She created a dichotomy between her parents and their emotional state. She aligned herself with her father, who focused on what needs to get done, instead of her mother who was paralyzed by her emotions.

Elaine explained the importance of talking about problems and not keeping them inside, That when I had to be tough for those situations and then the journey of it all I had to be tough and keep everything in, it kinda wasn't a good thing because everything kept being bottled up. I had to fit into school, I had to challenge myself academically, I kept all of that bottled up and then I would have my breakdowns from time to time and all I just needed was to get it off my chest and I feel like most of the stuff is still on my chest, and I'm having trouble finding the person to open up to about it and have them stay in my life

and build something with that person, get to know that person, yeah I'm still having trouble opening up, I have to keep it in, I have to be so tough, I still have to be tough even though it's not going on anymore.

This quote also illuminates how Elaine continues to struggle without a support network, and seems to have some trouble identifying someone whom she might trust to not abandon her. For Elaine, it seems she feels like to be tough she cannot discuss any of her struggles with anyone. While she recognized that this is detrimental to her health, she still felt obligated to maintain a façade of strength.

Piper recognized that some people may be able to continue with their lives while keeping certain memories repressed,

That some people put things in a box, and not necessarily a good thing, but they're able to function well. I saw some people that functioned still really well after Katrina and they probably maybe even dealing with some of that now. Because again, I don't think things can really stay in a box just because they're going to affect you one way or another.

Piper used the box metaphor for repression a few times during her interview. The first time she brought it up is when she talked about her family,

To not cope. No I'm just kidding. I don't think they deal with things well. From learning with them, kind of just put things in a box and close it. So still able to just move on and continue life, keep going. Even now I see some of those things, yeah. How that's not the way to cope, that those things need to be discussed, and talked about, and processed, and not just put in boxes, those boxes will open eventually.

Faith. Piper and Taylor brought up their faith and how it helps them cope and comprehend what happens in their lives, whether it be a natural disaster or an everyday challenge.

Taylor, the senior majoring in psychology, discussed his faith in two different places. First, when he discussed his support network, “my relationship with God is very crucial, even though it really could be a whole lot better”. By bringing up his faith while talking about his support networks, he indicated that he uses it when working through difficult situations and problems. Additionally, he talked about the coping strategies he learned from his family, “*definitely to always seek God first and pray because our faith has to be strong*”. By stating, “*our faith*” it shows that his family role modeled a strong connection to religion, and is something that helped his family process the aftermath of the Hurricane.

Piper also talked about her faith. She first discussed her faith when she identified her church group as one of her support networks and how she can rely on them to help her work through some problems. When she discussed her church network and what kind of concerns they help her address, she stated, “*probably more in detail with my own heart and what I’m working through that kind of thing with the church group*”. This shows that Piper preferred to discuss her emotions and challenges with this particular demographic because she appreciated the guidance they gave her.

When Piper was asked if she would remove the Hurricane and its aftermath from the world, she responded, “*I think that the lessons that were learned were also very valuable. God’s sovereign over the situation, so I think that I wouldn’t, I think it’s purposeful although as tragic as it is.*” Through this quote, Piper believed that Hurricane Katrina and its aftermath was an act

of God. She trusted in her faith that it happened for a reason, and that crucial lessons were learned from the experience.

Theme 5: Education and Family

When participants were asked if they would ever leave Louisiana, all stated they would leave, but they would come back to the state eventually. Leslie, Elaine, Piper, and Taylor all cited family as the reason they would return to the state. Only one participant, Taylor definitively answered that if he were to have children he would want them to grow up in Louisiana. Taylor stated:

I would love for my kids to grow up in Louisiana because it's, the culture is amazing! Literally, like you have crawfish, you have corn, potatoes, shrimp. You have zydeco music, creole music. You have amazing sights like the House of Blues in New Orleans, you have the French Quarter. You have muffulettas, po'boys, you have gumbo. The people here are so friendly, the culture is beautiful. This is amazing. And we may not be New York where they have like, "what dreams are made of" and Broadway and the streetlights are hitting you every time you walk down the street like, "pow, pow, pow," down here, this is home. Taylor identifies connections to culture with food, music, a sense of comfort, and a feeling of home with New Orleans. He recognizes the individuality and uniqueness of New Orleans, and the opportunities for his potential children to grow up in the middle of the culture. What I find interesting about Taylor's response is that he does not mention the educational disparities within the state; he focuses on the experiences his potential children could have if they grow up in Louisiana. Similarly, when Leslie was asked this question, she responded,

See that's my problem. I don't. I like the culture down here, but I like the New Orleans culture. I don't like the rest of the state's culture... New Orleans has their own way of doing

things. They're a lot more relaxed, they're blue, for one. And they um, there's a lot more culture, a lot more things to do, a lot less societal pressure.

Leslie recognizes the political divide within the state, and how that could impact her children's development and perception of the world. Similar to Taylor, she also recognizes that New Orleans has a distinct culture.

Mason discussed the importance of creating an academic foundation for his children, and how other school systems may be better at supporting his potential children. Mason's response to this question was,

I wouldn't want them to grow up in New Orleans because of the school system. I went to the top ranked high school in Louisiana but other than that in New Orleans there wasn't much else. There are very good catholic schools that are there, but as far as public school systems, I feel other cities, other states may offer something better

Mason reflected on his experiences and recognized the discrepancies between public and private schools in New Orleans.

Piper recognized that there would be challenges wherever she and her future husband decide to raise their children. Piper stated,

I wouldn't be against it, but I wouldn't necessarily, I think if I did I'd make sure, I think conversation is huge, wherever you grow up there's going to be something you're not going to agree with and you just need to talk to your kids about, even if you do agree with it and talk to your kids about it

This statement demonstrated Piper's hesitation to raise children in this state and showed that she recognized the importance of having conversations with her potential children in order to help them process. I think that this quote could be tied back to things that she learned not to do from

her parents, because further in her response to the question about raising children she said: *“some things my parents didn’t do, which is okay”*. It could be connected to her desire to instill better coping mechanisms in her children than what she learned from her parents. Piper also recognized how important her family is to her when she stated, *“I think that the only thing that would hold me here is my family.”* Piper’s use of the word “hold” made it sound as if she is entrapped by her desire to be close to her family.

When I asked Piper why she decided to attend her post-secondary institution, she responded with,

it’s been so interesting watching people come from so many different states in my residence hall. Because I’m like, “wow, that’s a thing, that’s like a college experience”. I didn’t understand that. Couldn’t even consider it. I never applied anywhere else but Louisiana, only LSU actually.

Piper admitted that she didn’t realize that people left their home state for college. She also admitted that she didn’t really understand this concept at first. This might be connected to her original desire to stay close to her family, especially since she lived at home for her first year of college. But it may be indicative of the culture of Louisiana, where you may want to go and explore other places, but you will always return home.

Elaine mentioned that, *“I think that I would introduce them to here so that they could see what I did go through. What I learned from here, and like my family is not leaving Louisiana so I’m gonna have to come back here”*. What I found interesting about this answer was that she wanted her children to really understand how her experiences impacted her identity development. I feel like giving her children the visual of her experiences will make them more tangible and easier to comprehend. In this quote, Elaine also mentions that her family will never leave

Louisiana, so she knows that she will have to come back in order to be close to her family. Leslie also recognizes that while she wants to explore and see the world, she will have to return back to Louisiana: “because this is where my family is. My little sister will probably move, but she won’t be far either. When I get to my 40-50s I want to be closer to them.”

CHAPTER 5: DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

Connections to Literature

This study was consistent with current literature related to resiliency traits and ecological factors. In this section, I will review the themes identified in the earlier chapter and connect them to existing literature.

Theme 1: Support Groups

The participants in the group were asked to identify what support groups they had currently and when Hurricane Katrina occurred. They were also asked about what kind of problems they preferred to solve on their own, and when they looked for advice when faced with a difficult decision or challenge in their lives. These questions were designed in order to better understand the ecological systems the participants are involved in, and how the different systems interact with the individual (Bronfenbrenner, 1994).

Three of the participants shared some vivid memories from Hurricane Katrina that show the breakdown of ecological systems during and right after the storm. Mason recanted this memory,

I also remember people were looting, obviously. And since the water was high enough they were going on boats, like the flat boats, and I remember one time looking outside in the doorway, I’m looking outside and a boat comes flying by with a bunch of TVs on it and the vibration from the boat passing caused me to fall into the water. So that happened.

Which wasn't the greatest experience, but of course I mean it wasn't like I was in danger of drowning or anything like that, so I was able to get back out. Also once the water started to rise and our situation didn't seem great, a couple of my male cousins went to go try and find the National Guard because we did have an infant child and an elderly grandmother that was there, um but they were told, they were turned away. The National Guard said, "we can't help you". So we were kinda stuck on our own at that point.

In this memory, there is the clear breakdown of societal norms with the looting of televisions and the breakdown in government assistance with the National Guard turning his family away. Both of these show breakdowns in the exosystem and microsystem (Bronfenbrenner, 1994), because these are systems that an individual would not normally interact with on a day-to-day basis; however, during this crisis, Mason witnessed the breakdown of these systems and how it would impact his microsystem. It impacted his microsystem (his family) because they were turned away from the National Guard when they requested assistance.

Elaine also saw a breakdown in the exosystem when she was evacuated from her home and sent to a shelter:

I remember we went to...I don't remember if we went to the Superdome or the Arena, but we got into the truck. But I remember before we got in there [arena or superdome] that morning everybody was breaking into the corner stores and stuff and they were taking snacks and stuff. So when we got to the, I don't know if it was the Arena or the Superdome, I remember we had the cots and then there were bins just full of snacks. I remember that. Like pickles, noodles, Hot Cheetos, and candy, I just remember that.

Again, we see the breakdown of societal expectations with the increase in looting. In Elaine's memory, her family is never really identified beyond the unifying term of "we". She also does not

specify if she had any snacks, or if her microsystem (her family) commented on the looting happening around them. Elaine also shared that if another hurricane happens she would not know what to do:

Now I'm just going to be lost. I'm not going to know how to find my mom. I'm not going to know how to find my family. I'm just not really educated about what to do for a hurricane because my mom had to take care of it last time.

Elaine recognized that she is concerned about how the breakdown of the larger ecological systems will impact her ability to reconnect with her microsystem (her family). She acknowledged that she does not know the protocol for a natural disaster since she was so young last time and her mother took care of everyone. She does not know where to find information about hurricane evacuation protocol in the mesosystem or exosystem (Bronfenbrenner, 1994). This also connects to the concept of social capital discussed by Hawkins and Maurer (2009). They highlighted the difficulties people with less social capital have when in natural disaster situations, and how they can have a harder time adjusting and coping with the situation.

The potential lack of knowledge/social capital interplays with the fear of breakdown in the ecological systems, which further indicates the necessity to help marginalized populations prepare for a natural disaster. This also connects to Masozera, Bailey, and Kerchner's (2007) research on populations impacted by Hurricane Katrina that had a difficult time leaving due to their socioeconomic status. Because Elaine articulated her concerns about her ability to navigate a future natural disaster, may not only be connected to her social capital, and knowledge of ecological systems; but also to the fact that her socioeconomic status has impacted the availability of resources that may help her prepare.

Leslie shared a memory that shows how she continues to interact with the chronosystem and how the breakdown of support from her microsystem may have impacted her ability to cope with the storm,

Leslie: I never remember worrying before Katrina. I mean I understand I was young, but like I remember sitting in the hallway, and there were trees all around us, okay?

Researcher: In Mississippi?

Leslie: Yeah in Mississippi, stressing out about the trees falling on the house because we could hear them fall, we were hearing trees fall, and I remember thinking one might fall on us. And then from there to Houston, and from Houston, to okay we don't have a house, where we're going to live. And there's seven-year-old me stressing out about this stuff.

Like Elaine, Leslie unifies herself with her microsystem during the time of duress (Bronfenbrenner, 1994). Leslie identified how her experiences with Hurricane Katrina continue to impact her life today.

As addressed earlier, three of the participants floated between two to three different groups for support. These interactions show the participant's ability to create multiple microsystems; however, based on their answers these microsystems do not have any type of mesosystem relationship, because the individual does not want them to do so. This could be a survival tactic. In order for these participants to still have a support network, they keep them separate so that they can't influence one another, and the systems will remain intact even if a separate microsystem dissolves (Bronfenbrenner, 1994).

Within the identified support networks and ecological systems there is a correlation between the ecological systems and research pertaining to student resiliency. Ungar (2011) indicated that a child's ecological background was a catalyst for resiliency. Because the

participants witnessed and comprehended the breakdown in their ecological systems, they were more prepared to cope with challenges later in life. Cryder et al.'s (2006) research found that a supportive social environment helped children process traumatic events, which may be why the participants created various microsystems in order to obtain the support they needed and continue to need. The separation of the microsystems by the individual, could be a survival tactic. For these participants to still have a support network, they keep the networks separate so that they can't influence one another, and the various microsystems will remain intact even if another microsystem dissolves.

Theme 2: Everything is Temporary

The second emerging theme from the interviews was the concept that everything that happens is temporary. This theme indicates participants' resiliency created through their experiences with Hurricane Katrina. Bonanno (2004), Fernando and Herbert (2011), and Ong et al., (2006) stated that people that are resilient are more positive about the future. Because these participants recognized that the world is always changing, I believe that shows their positivity towards their future goals and whatever challenges they may face further in life.

As stated earlier, four of the five participants explained that nothing lasts forever. Leslie states, *"everything is temporary. Things can change in a second. That's it. That's all it is. The only constant in life is change."* Taylor echoed this sentiment when he said,

life does go on. I know that's a cliché but what I mean by that is, yeah your experience before something drastic happens, it may be incredible, it may be great, and post Katrina, you might be like oh my gosh it's awful. But amazing things do happen

In each of these statements, these individuals were not pessimistic about the future, but were positive about it. They recognized that they would be able to overcome any challenge. Taylor's

statement about how something may be awful, and following that statement up with, “*amazing things do happen*” showed his positivity and optimism about the future, which is a strong trait of resiliency (Bonanno, 2004; Fernando and Herbert, 2011; Ong et al., 2006).

Theme 3: Financial Concerns

For the third overarching theme from the interviews, the emphasis on staying in Louisiana due to financial concerns and/or financial necessity; shows the interplay of the participant’s microsystem with the larger exosystem and macrosystem. These students’ decision to remain in Louisiana for college because it was the cheaper option, demonstrated how their choices are influenced by political decisions at the exosystem level. Selecting this option indicated that their microsystem (e.g. families), may or may not have been able to support their college aspirations financially, without the support from the state. (Bronfenbrenner, 1994)

Elaine’s repeated comments about how her family is low income shows how societal and cultural expectations may change her perception of herself, her family, and her social capital. When asked about her college selection, she said, “*we’re really low-income so I didn’t really have any money.*” Elaine’s reluctant understanding about her socioeconomic status also connected to Hawkins and Maurer’s (2009) research about social capital, and marginalized populations. Because Elaine did not have the same resources as other people, she was likely not as aware of resources that might have helped her pay for college.

Theme 4: Coping Mechanisms

The fourth theme that shows the coping mechanisms utilized by the participants’ families as well as learned behavior, further indicated their resiliency. Fernando and Herbert (2011) and Bonanno (2004) listed resiliency traits as: optimism, humor, repressive coping, and empathy.

Elliott and Pais (2006) and Cervellon et al. (2005), highlighted how some people will use their faith to help them process challenges in their life.

When participants were asked about their parents' coping styles during Hurricane Katrina and what behaviors they learned from their parents during this time, four of them made a joke about they learned not to cope from their parents. This ability to make jokes about what they learned from their parents showed their sense of humor, which is an indication of resiliency (Fernando and Herbert, 2011; Bonanno, 2004). Throughout the interviews, all participants could laugh, smile, and make jokes. Further indicating their ability to find humor in even the darkest times (Fernando and Herbert, 2011; Bonanno, 2004).

All participants stated that they learned during the Hurricane not to talk about what was going on. This indicated maladaptive coping. Piper gave an analogy of putting everything in a box:

From learning with them, kind of just put things in a box and close it. So still able to just move on and continue life, keep going. Even now I see some of those things, yeah. How that's not the way to cope, that those things need to be discussed, and talked about, and processed, and not just put in boxes, those boxes will open eventually.

I think that through my interview with Elaine, I heard about some of the detriment repressive coping can do to someone. Elaine shared that,

I kept all of that bottled up and then I would have my breakdowns from time to time and all I just needed was to get it off my chest and I feel like most of the stuff is still on my chest, and I'm having trouble finding the person to open up to about it and have them stay in my life and build something with that person, get to know that person, yeah I'm still having trouble opening up, I have to keep it in, I have to be so tough, I still have to be tough even though it's not going on anymore.

This shows Elaine's struggle with keeping everything to herself, as well as her lack of a microsystem to support her (Bronfenbrenner, 1994). Elaine articulated that she wants someone to open up to (create a microsystem), but finds it difficult to establish trust and create a sustainable relationship.

Taylor and Piper mentioned using their faith for guidance when working through a problem or for additional support. Their utilization of their faith creates a new microsystem that also made them more resilient (Bronfenbrenner, 1994; Elliott and Pais, 2006; Pérez-Sales et. al, 2005).

Theme 5: Education and Family

The theme of education and family established through the interviews also connected to the research about resiliency as well as the theoretical framework.

McMillian and Reed (1994) studied resiliency traits in at-risk teenagers and what helped them succeed. They found they needed a connection to at least one caregiver to connect with them, and they are further resilient if they connect to someone at the school. When I asked Taylor about his experiences at his various elementary schools in the months after Hurricane Katrina, he identified many friends he made during that time. This indicated a solid connection to other students at the school that helped him acclimate and create resiliency traits after the Hurricane. He also discussed his mother being very involved with his schoolwork and how she would ask the teachers if there was anything that he had struggled with or if there was anything he would need to review when they got home. This connected to the McMillian and Reed's (1994) research because he is also connected to one of his caregivers, and the caregiver is invested in his academic achievement. This further connected to the Ecological System's theory because through the establishment of these microsystems Taylor created a network that supported him and helped him cultivate resiliency traits (Bronfenbrenner, 1994).

Pane et. al, (2006) discussed how students who experienced Hurricane Katrina were more likely to exhibit destructive behaviors, or break rules at their schools. This research connects to Mason's experiences. Mason shared,

they made it to where school absences didn't count. And so I took advantage of that I guess? And I remember as a kid not going to school every Friday because I could. Um, and then in every single subsequent year up until I got to college (laughs), absences were a very large, large part of my school career.

Mason admitted to taking "*advantage of the rules*" after Hurricane Katrina. He also recognized that it became a habitual part of his academic career, until he made it to college. This also indicated that his ecological systems helped make the behavior normal, by never really punishing him for his actions (Bronfenbrenner, 1994). Mason also shared that while he was in Georgia he hung out with children,

that were always outside and you know around, and I'd say if I would have spent more time in Georgia, they would have been kind of a bad influence on me. Just based on what was going on there. I didn't have any close friends in Georgia.

This coincides with Pane et. al's (2006) research that children that experienced Hurricane Katrina were more likely to exhibit negative behaviors. Mason recognizes that he was beginning to hang out with people that would negatively influence him, but the fact that he returned to Louisiana saved him from some behavioral issues, except for the attendance ones.

As discussed earlier, when I asked Elaine if she would raise her children here she stated, I think that I would introduce them to here so that they could see what I did go through. What I learned from here, and like my family is not leaving Louisiana so I'm gonna have to come back here

This quote indicated that Elaine recognized how the breakdown of the ecological systems impacted her identity development, and wants to share this with her children in order for them to truly understand her experiences (Brofenbrenner, 1994).

Implications for Practice

I believe that this research on student resiliency post-Hurricane Katrina may help faculty and staff at many higher education institutions, specifically institutions in regions that are impacted by tropical storms or other natural disasters. Three of the participants in the study mentioned the concept that you never really know what others have experienced before meeting you, and the importance of not judging them. I think that at times, many working within the realm of higher education do not want to be flexible in meeting student needs. However, it is important to recognize that there may be more going on with that student than what is seen on the surface.

I think this research also indicated the importance of helping new faculty and staff adjust to their new environment if they have not lived in an area that is typically impacted by natural disasters. This could look like a brochure of resources available, and a check-list of items for a natural disaster preparation kit.

This research also underscores that students are still struggling with the aftermath of this storm. Mason had mentioned that he had not talked about his experiences until this project. Leslie discussed how she felt “*triggered*” by Beyoncé’s “Formation” video. Elaine and Piper talked about how Hurricane Katrina students’ education was significantly impacted. Many students were academically challenged, while others fell further behind.

Recommendations for Future Research

More research needs to be conducted on the psychological impact of natural disasters and what coping mechanisms are used. It would also be helpful to see if individuals who experience other natural disasters also have more resiliency traits than those that do not. I think that additional research might be conducted in relation to the type of natural disaster, and the region in which the disaster occurs, to see if there is a difference in resiliency traits and coping mechanisms.

Researcher Reflection

I've always been fascinated by Hurricane Katrina, from the impending storm to the historic aftermath, I've always wanted to understand and learn more about it. For the longest time (about four years), I was convinced I wasn't smart enough to obtain a master's degree, let alone write a thesis. But here I am. This whole process was a journey. From reading about the storm and comprehending the true destruction that happened, to hearing some heart-wrenching narratives that were still filled with hope and perseverance, to composing all my thoughts into this document, and finally facing another one of my fears when I defend it.

This process renewed my passion and dedication to helping others succeed, and being an advocate. These participants reminded me of the importance of being humble and grateful for all everything; even the terrible things I'd rather forget.

Conclusion

Hurricane Katrina and its aftermath still reverberates through the community. It is imperative to recognize that some people may still be struggling with their experiences. However, it is also important to celebrate the resiliency of the human spirit and the beautiful relationships that may come from experiencing challenges together. Participants in this study were able to utilize

their social networks for support to cultivate resiliency traits that will continue to serve them for the rest of their lives.

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APPENDIX A: Institutional Review Board Approval

Application for Exemption from Institutional Oversight

Unless qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research/ projects using living humans as subjects, or samples, or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This form helps the PI determine if a project may be exempted, and is used to request an exemption.



Institutional Review Board
Dr. Dennis Landin, Chair
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P: 225.578.8692
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irb@lsu.edu | lsu.edu/irb

– Applicant, Please fill out the application in its entirety and include the completed application as well as parts B-F, listed below, when submitting to the IRB. Once the application is completed, please submit the completed application to the IRB Office by e-mail (irb@lsu.edu) for review. If you would like to have your application reviewed by a member of the Human Subjects Screening Committee before submitting it to the IRB office, you can find the list of committee members at <http://sites01.lsu.edu/wp/red/human-subjects-screening-committee-members/>.

– A Complete Application Includes All of the Following:

- (A) This completed form
- (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1&2)
- (C) Copies of all instruments to be used.
*If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
- (D) The consent form that you will use in the study (see part 3 for more information.)
- (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB. Training link: (<http://php.nihtraining.com/users/login.php>)
- (F) Signed copy of the IRB Security of Data Agreement: (<https://sites01.lsu.edu/wp/red/files/2013/07/IRB-Security-of-Data.pdf>)

1) Principal Investigator: Jennifer Curry Rank: Associate Professor
Dept: School of Education Ph: 225-578-6867 E-mail: jcurry@lsu.edu

2) Co Investigator(s): please include department, rank, phone and e-mail for each

*If the Principal Investigator is a student, identify and name supervising professor in this space

Jennifer Fendrich/School of Education/Graduate Student/jfendr1@lsu.edu / 303-581-2782

3) Project Title: Student Resiliency Post Hurricane Katrina

4) Proposal? (yes or no) ☒ NO If Yes, LSU Proposal Number
Also, if YES, either ☐ This application completely matches the scope of work in the grant
OR ☐ More IRB Applications will be filed later

5) Subject pool (e.g. Psychology students) LSU Undergraduate Students

*Indicate any "vulnerable populations" to be used: (children <18 the mentally impaired, pregnant women, the aged, ethnic). Projects with incarcerated persons cannot be exempted.

6) PI Signature Jennifer Curry Date 1/13/17 (no per signatures)

** I certify my responses are accurate and complete. If the project scope or design is later changes, I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departmental Office.

Screening Committee Action: ☐ Exempted ☐ Not Exempted Category/Paragraph
Signed Consent Waived?: ☐ Yes or ☐ No
Reviewer Signature Date

Continue on the next page

APPENDIX B: Consent Form

Participant Informed Consent

Please read this informed consent document carefully before you decide whether or not to participate in this study.

Project Title: *Student Resiliency Post Hurricane Katrina*

Investigators: Jennifer Curry, Ph. D. and Jennifer Fendrich

Purpose of the Study/ Brief Project Description: The purpose of this study is to investigate how experiencing Hurricane Katrina impacted student resiliency. Specifically this study will investigate how these experiences impacted their academic journey from elementary school to now.

Instruments: The instruments to be used in this study are a electronic vocal recorder to document the participant's answers, and a document with questions to be read to the participant for them to answer.

What you will be asked to do in the study: You will be asked to meet one time with the researcher and will be interviewed.

Time Required: Approximately 1 hour for an interview

Anticipated Risks of Participation: There are no anticipated risks to participants.

Benefits/ Compensation: There is no compensation or other direct benefit to you for participation. Information gained from this research may benefit future school counselors and education leaders in developing programs that help students make choices about college.

Confidentiality: Your identity will be kept confidential. Pseudonyms will be used for each person such that names are not revealed. All identifying information will be removed from the data set. When the study is complete and the data is analyzed, the list of participants will be destroyed. Your name will not be used in any report. The consent forms will be stored in a locked cabinet SEPARATE from paper or electronic copies for a minimum of 3 years.

Voluntary Participation: Your participation in this study is strictly voluntary. There is no penalty for not participating and you may withdraw at any time during the study if you choose to participate.

Whom to contact if you have questions: Please contact Jennifer Curry, Ph. D. at (225) 578-1437, jcurry@lsu.edu or Jennifer Fendrich at (303) 587-2782, jfendr1@lsu.edu.

Whom to contact about your rights in the study: Research at Louisiana State University involving human participants is overseen by the Institutional Review Board (IRB). For information about participants' rights please contact: Institutional Review Board, Dr. Dennis Landin (Chair), 130 David Boyd Hall, Baton Rouge, LA 70803, (225) 578-8692.

_____ I have read the informed consent.

_____ I voluntarily agree to participate in this study.

Participant's Signature

Date

APPENDIX C: Interview Protocol

- 1) Current Age?
- 2) Where are you from?
- 3) How old were you when Katrina happened?
- 4) Major?
- 5) Expected Graduation year?
- 6) What do you want to do after graduation?
- 7) What do you first think of when you hear the words Hurricane Katrina?
- 8) Where were you living when Katrina happened?
- 9) Where were you leading up to the storm?
 - a) Did your family decide to stay put, or did you leave (voluntary or forced)?
 - b) If you did evacuate, what was it like coming home?
- 10) What are some of your memories from this time?
- 11) How did your family handle the storm?
 - a) How did your parents handle the storm?
 - b) What changed after the storm?
- 12) What did family support look like during and after the storm?
- 13) What kind of academic support did you receive from your parents before the storm?
 - a) Did this change after the storm?

- 14) What was it like returning to school after the storm?
- a) What changed?
- 15) What kind of support system do you need to be successful?
- a) What was your greatest achievement?
 - b) Hardest challenge?
- 16) What does your support network look like now?
- a) What was it like back then?
- 17) What kind of coping strategies did you learn from your parents?
- 18) When do you look for assistance when working through a problem?
- 19) What kind of problems do you prefer to solve on your own?
- 20) Why did you stay in/return to Louisiana for college?
- a) Why did you pick this institution?
- 21) Would you want to leave Louisiana? Why or why not?
- a) If you were to have children, would you want them to grow up here? Why or why not?
- 22) As a result of Hurricane Katrina, how are you different than other students?
- a) What do you want people to know about your overall experience as a Katrina Survivor?
 - b) What do you think professors should know about those who experienced the storm?
- 23) Given the difficulties and what you've learned about Hurricane Katrina, would you remove it all from your life?

24) If you could make it so the Hurricane never happened, would you? Why or why not?

25) Did Hurricane Katrina make you harder or softer as a person?

26) On a scale from 1-10 how academically motivated were you before Hurricane Katrina?

a) After?

b) If there is a difference, why?

27) What has your experience taught you?

a) About yourself?

b) About others?

28) Do you worry about another storm?

VITA

Jennifer Marie Fendrich received her Bachelor's degree from Regis University in Denver, Colorado in 2011. She has a passion for Student Affairs and helping students adjust to the post-secondary environment. She made the decision to enter graduate school in the School of Education at Louisiana State University. She will receive her Master's degree in May 2017 and plans to continue her work on resiliency and natural disasters.