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An Evaluation of Florida Gulf Coast University's Residence Life Staff Member's Hurricane Preparedness

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An Evaluation of Florida Gulf Coast University’s
Residence Life Staff Member’s Hurricane Preparedness

by

Erin Lyn Floto

A thesis submitted in partial fulfillment of the requirements for the degree of
Master of Science
School of Geosciences
College of Arts and Sciences
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Date of Approval:
July 2, 2014

Keywords: Disasters, Student Vulnerabilities, Campus Emergency Management, Multiple Regression Analysis

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Acknowledgments

This study was made possible by with the generous encouragement and cooperation from the Florida Gulf Coast University’s (FGCU) Office of Housing and Residence Life (OHRL). I would like to recognize Mr. Jameson Moschella, Assistant Director of OHRL, for his close collaboration and support for the study. I would also like to thank my major professor, Dr. Jennifer Collins for her guidance and efforts. Furthermore, I would like to thank Dr. Douglas Lunsford for sharing his expertise and facilitating my learning. I would also like to thank Dr. Robin Ersing for her inspiration and sharing her knowledge on disasters. I would like to thank Dr. Kamal Alsharif for his continued support throughout the entire process of this thesis. Lastly, I would like to thank Ashley (Weatherall) Ludwig for providing background information on her study with LSU and laying out the foundation that inspired this study.
# Table of Contents

List of Tables iv

List of Figures vi

Abstract vii

Chapter 1. Introduction 1

1.1 Defining Disaster 2

1.2 Vulnerabilities 4

1.2.1 Risk 4

1.2.2 Susceptibility 5

1.2.2.1 Social susceptibilities 5

1.2.2.1.1 Race 6

1.2.2.1.2 Gender 6

1.2.2.1.3 Age 7

1.2.2.1.4 Social Networks 7

1.2.2.2 Psychological susceptibilities 8

1.2.2.2.1 Risk Perception and evacuation 8

1.2.2.2.2 Psychological stress and anxiety 9

1.2.2.2.3 Previous experiences 10

1.2.2.2.4 Education and awareness 11

1.2.3 Resistance and Resilience 11

1.3 Managing Disasters 12

1.3.1 History of Emergency Management 13

1.3.2 Comprehensive Emergency Management 14

1.3.3 Emergency Management on College Campuses 14

1.4 Student Vulnerabilities and Reactions to Disasters 15

1.5 Problem Statement 17

1.6 Research Objectives, Research Questions, and Hypotheses 19

1.6.1 Study Objectives 19

1.6.2 Research Questions 20

1.6.3 Study Hypotheses 20

Chapter 2. Methodology 24

2.1 Study Area 24

2.2 Data Acquisition 27

2.2.1 Survey Administration 27
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2.2</td>
<td>Survey Development and Study Measures</td>
<td>27</td>
</tr>
<tr>
<td>2.2.3</td>
<td>Survey Sections and Scoring</td>
<td>28</td>
</tr>
<tr>
<td>2.3</td>
<td>Data Analysis</td>
<td>31</td>
</tr>
<tr>
<td>2.3.1</td>
<td>Development of Variables</td>
<td>31</td>
</tr>
<tr>
<td>2.3.1.1</td>
<td>Final variables and scoring</td>
<td>32</td>
</tr>
<tr>
<td>2.3.2</td>
<td>Description and Frequency of Variables</td>
<td>33</td>
</tr>
<tr>
<td>2.3.3</td>
<td>Identifying Relationships</td>
<td>34</td>
</tr>
<tr>
<td>2.3.4</td>
<td>Regression Analyses</td>
<td>34</td>
</tr>
<tr>
<td>3.1</td>
<td>Development of Variables</td>
<td>36</td>
</tr>
<tr>
<td>3.2</td>
<td>Descriptive Statistics of Variables</td>
<td>45</td>
</tr>
<tr>
<td>3.2.1</td>
<td>Demographic Influences</td>
<td>45</td>
</tr>
<tr>
<td>3.2.2</td>
<td>Frequency of Job Status and Age</td>
<td>46</td>
</tr>
<tr>
<td>3.2.3</td>
<td>Description of Scored Variables</td>
<td>47</td>
</tr>
<tr>
<td>3.3</td>
<td>Identifying Relationships</td>
<td>49</td>
</tr>
<tr>
<td>3.3.1</td>
<td>Pearson’s Correlations</td>
<td>49</td>
</tr>
<tr>
<td>3.3.2</td>
<td>T-tests</td>
<td>50</td>
</tr>
<tr>
<td>3.4</td>
<td>Regression Analyses</td>
<td>51</td>
</tr>
<tr>
<td>3.4.1</td>
<td>Distribution of Dependent Variable</td>
<td>51</td>
</tr>
<tr>
<td>3.4.2</td>
<td>Regression</td>
<td>52</td>
</tr>
<tr>
<td>4.1</td>
<td>Factor Loading</td>
<td>54</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Hurricane Knowledge and Experience</td>
<td>54</td>
</tr>
<tr>
<td>4.1.2</td>
<td>Personality Characteristics</td>
<td>55</td>
</tr>
<tr>
<td>4.2</td>
<td>Relationships Between Variables</td>
<td>56</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Scored Variables</td>
<td>56</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Demographic Relationships with Scored Variables</td>
<td>57</td>
</tr>
<tr>
<td>4.2.2.1</td>
<td>Knowledge and experience</td>
<td>57</td>
</tr>
<tr>
<td>4.2.2.2</td>
<td>Preparedness confidence</td>
<td>58</td>
</tr>
<tr>
<td>4.2.2.3</td>
<td>Hurricane anxiety</td>
<td>58</td>
</tr>
<tr>
<td>4.2.3</td>
<td>Preparedness Relating to Preparedness Confidence</td>
<td>59</td>
</tr>
<tr>
<td>4.3</td>
<td>Regression Analysis</td>
<td>60</td>
</tr>
<tr>
<td>4.4</td>
<td>Campus Preparedness Procedures</td>
<td>62</td>
</tr>
<tr>
<td>4.4.1</td>
<td>Confidence and Concerns with FGCU</td>
<td>67</td>
</tr>
<tr>
<td>5.1</td>
<td>Study Findings</td>
<td>69</td>
</tr>
<tr>
<td>5.2</td>
<td>Study Weaknesses and Suggestions for Future Research</td>
<td>71</td>
</tr>
<tr>
<td>References</td>
<td></td>
<td>74</td>
</tr>
<tr>
<td>Appendices</td>
<td></td>
<td>80</td>
</tr>
<tr>
<td>Appendix A. Survey</td>
<td></td>
<td>81</td>
</tr>
<tr>
<td>Appendix</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>B. Survey Scoring and Justifications</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>C. Informed Consent Form</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>D. Information Letter for Potential Participants</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td>E. IRB Approval Form</td>
<td>123</td>
<td></td>
</tr>
</tbody>
</table>
List of Tables

Table 1. Output of Principle Components Analysis with Varimax Rotation 39
Table 2. Item-Total Statistics for PC1, Knowledge and Experience 40
Table 3. Item-Total Statistics for PC2, Preparedness Confidence 41
Table 4. Item-Total Statistics for PC3, Hurricane Anxiety 41
Table 5. Item-Total Statistics for PC4, Organized Personality 42
Table 6. Item-Total Statistics for PC4, Organized Personality (2) 42
Table 7. Matrix with Questions G2, G9 and G12 Removed 43
Table 8. Factor Loading Scores for RA/RD Preparedness 44
Table 9. Item-Total Statistics for PC of Dependent Variables, Preparedness as an RA/RD 44
Table 10. Gender Frequencies 45
Table 11. Race/Ethnicity Frequencies 46
Table 12. Living within a Coastal Community Frequencies 46
Table 13. Vehicle Ownership Frequencies 46
Table 14. Resident Assistant/Resident Director Frequencies 47
Table 15. Age Frequencies 47
Table 16. Descriptive Statistics of Dependent and Independent Variables 48
Table 17. Pearson’s Correlations 50
Table 18. Results of Multiple Regression Analysis 53
Table 19. Frequency of Responses for Question D-2 67
<table>
<thead>
<tr>
<th>Table</th>
<th>Frequency of Responses for Question</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>D-6</td>
<td>68</td>
</tr>
<tr>
<td>21</td>
<td>D-7</td>
<td>68</td>
</tr>
</tbody>
</table>

List of Figures

Figure 1. Lee County, FL 25
Figure 2. Location of Florida Gulf Coast University 25
Figure 3. Lee County Evacuation Zones 26
Figure 4. Lee County Overlaid with Storm Surge Mapping 26
Figure 5. Scree Plot of Eigenvalues from IBM SPSS 37
Figure 6. Histogram of Distribution of Dependent Variable 52
Abstract

Florida Gulf Coast University (FGCU) is located along the coast of the Gulf of Mexico in southern Florida, in an area vulnerable to hurricane strikes. At FGCU, The Office of Housing and Residence Life (OHRL) is responsible for three locations on- and off-campus where students reside in apartment or suite-style housing. Due to the large number of students with varying backgrounds, the OHRL staff members have become essential personnel during severe weather events that may cause safety concerns for the residents living in OHRL housing locations. This study’s purpose is to assess the Residence Life staff on their level of preparedness in the event of a hurricane strike, including carrying out severe weather procedures and maintaining the safety of residents. After running multiple regression analyses, bivariate correlations, and t-tests, this study indicates that those with a higher hurricane knowledge and experience score were more likely to be females and that one’s preparedness confidence was the single independent variable found to have a relationship with, and was considered a predicting variable for, the dependent variable (preparedness as an RA/RD). Further analysis was done to consider specific answers on RA’s and RD’s knowledge of FGCU procedures in comparison to recent campus emergency management studies to consider the overall effectiveness of their procedures. Findings indicate that improvements can be made in the areas concerning their knowledge of when to evacuate, their duties for evacuation, and how the university communicates information. This study and survey can be adapted further to expand on student vulnerabilities to include a more broad range of students, schools and teacher’s vulnerabilities, and expanded to include more natural hazards.
Chapter 1. Introduction

Florida Gulf Coast University (FGCU) is located in Fort Myers, Florida bordered to the west by the Gulf of Mexico. It is home to a fast growing population of students, reaching a total of 14,099 students during the 2014 academic year (Florida Gulf Coast 2014). Nearly a quarter of students enrolled at FGCU (4,215) are residents in the on- and off-campus housing provided by the Office of Housing and Residence Life (OHRL; Florida Gulf Coast 2014). Resident Assistants (RAs) and Resident Directors (RDs) are not only essential administrators, but can also act as friends, mentors, and information sources for residents. Although over 90% of the FGCU student population are residents of Florida and have likely been exposed to hurricanes, most of those students have not lived on their own during those experiences and generally lack the knowledge and discipline required to adequately prepare for severe weather events, such as hurricanes. Residence Life staff can communicate to provide answers and instructions for their residents about FGCU and OHRL procedures in the event of severe weather, hurricanes, and evacuation, or any other serious disasters. Based on these facts, the level of preparedness of Residence Life staff is imperative for the development and execution of an effective plan to be carried out and for the safety of the students.

Studies indicate that in student populations, there is a correlation between the level of preparedness of an individual and the psychological stress incurred after a disaster (Collins et al. 2009). Students are able to cope and prepare for disasters in both positive and negative ways. While college students may adhere to vulnerability trends that exist in the general population, they also have a unique set of susceptibilities and reactions that will be explored further. This
study hopes to expand on Weatherall’s (2012) study conducted at Louisiana State University and the limited literature on student vulnerabilities and influences in disaster preparedness. College and university students living on campus are unique subpopulations. U.S. News reports that there is an average of 38 percent of undergraduates living on university campuses out of a reported 247 universities (Haynie 2013). In 2011, the National Center for Education Statistics reports 21 million students enrolled and 31.1 million of those students aged between 18 and 24 (U.S. Department of Education 2013). Rates of students in this age range, as well as overall enrollment of students, have increased between 2001 and 2011 (U.S. Department of Education 2013). Understanding this population in preparation for and reacting to disasters, particularly those who help manage during disasters such as RAs, is increasingly important as universities across the nation are exposed to natural hazards such as earthquakes, tornadoes, and hurricanes. For many students in the 18 to 24 age range, their first time living on their own can be daunting enough without also managing their peers in a chaotic disaster scenario. Knowing influences and reactions of students in disasters can help shape the necessary training to manage effectively and maintain the safety of students.

1.1 Defining Disaster

While there is no universal definition for a disaster, for the purposes of this study one can define a disaster as a large scale disruption of people that limits their progress when a triggering agent interacts with the vulnerabilities that exist in that population (Baker 2009; McEntire 2001; Wilson & Oyola-Yemaiel 2001). Most definitions used in disaster studies include at least three components; a triggering agent, a significant disruption, and vulnerabilities in the community. When all of these components interact with each other, a disaster occurs.
The term “triggering agent” allows for a more broad interpretation for a disaster. Rather than limiting it to an acute or sudden natural hazard, it also includes slow-onset and inadvertent events that lead to a disaster (McEntire 2001). Triggering agents can be caused by a variety of sources, including human error, mechanical failures, a number of malfunctions, and the physical environment (McEntire 2001). Different triggering agents may include the same basic parameters needed for response; however, some catalysts require more specific tasks to be implemented for its mitigation, preparedness, response and recovery (McEntire 2001). For example, the appropriate response to a tornado would not include evacuation, but it may be a valid response in the event of a hurricane.

In this study, the triggering agent is a hurricane and its associated damaging elements. Tropical cyclones are considered hurricanes when wind speeds reach 33 m s⁻¹ (64 knots). They take place in the Eastern Pacific Ocean and in the Atlantic Ocean, and have other names, such as Typhoon or Cyclone, in other parts of the world. A tropical cyclone’s strength is measured by its wind intensity. The lowest form and least intense tropical cyclone is designated as a tropical depression. Upwards of that is a tropical storm, followed by a hurricane and then a major hurricane. The Saffir-Simpson scale uses categories 1-5 to signify the strength of the hurricane based on the type of wind damage it can produce, with a category 1 hurricane being the least severe hurricane and category 5 being the most damaging (Saffir-Simpson et al. 2012). While this scale only measures wind damage and severity, there are numerous other hurricane-related elements that can cause destruction, such as storm surge, flooding, and spawned tornadoes (Cutter et al. 2014; Saffir-Simpson et al. 2012). The Saffir-Simpson scale does, however, give emergency managers necessary information to determine hurricane risk and, as a result, they are able to develop evacuation maps for vulnerable areas (Stein et al. 2013). Furthermore, the Saffir-
Simpson scale distinguishes the level of devastation associated with each category and puts particular emphasis on hurricanes of category 3 and greater as “major” hurricanes.

1.2 Vulnerabilities

The degree of risk, susceptibility, resistance and resilience are all factors in determining the level of vulnerability in a community (McEntire 2001). While these are all factors in vulnerability, the concept of vulnerability itself is not static simply because of these factors. Each of the factors can intensify or even attenuate others making the ability to measure vulnerability a variable quantity (McEntire 2001). In addition to the inconsistency of a location’s state of vulnerability, recent trends indicate the variance of vulnerability is increasing over time due to physical, social, cultural, political, economic, and technological influences (McEntire 2001). While poverty and economic status are the most likely groups to be considered vulnerable, demographics and living arrangements are factors in determining access to resources (Morrow 1999). Those with limited access to resources due to social influences are more likely to be vulnerable. Furthermore, mental limitations can provide further vulnerabilities (Morrow 1999).

1.2.1 Risk

Risk is increased for an area that has a greater exposure and proximity to a triggering agent (Baker 2009; Collins et al. 2009; McEntire 2001). Risk is also determined by historical data for the given location. Certain geophysical characteristics contribute to the increased vulnerability an area has to hurricane strikes. Low-lying coastal areas are significantly more prone to risks associated with hurricanes than those inland (West & Orr 2007). Areas along the coastline of the Gulf of Mexico, such as the area where FGCU is located, are high-risk for those
reasons. Population migration trends indicate a larger population moving towards the coastlines since the 1960s, resulting in increased damage costs from reoccurring natural disasters (Cutter et al. 2014; Sattler et al. 2000). Those located along the coasts are most vulnerable to storm surge and the strongest wind damages, while those inland may be more inclined to have damage by flooding from rainfall and weaker winds (Stein et al. 2013).

1.2.2 Susceptibility

These are numerous influences that determine how susceptible a population or group of people is. Social, political, economic and cultural influences are all considered to be motivating elements in susceptibility (McEntire 2001). Each of these factors is also affected by their risk perception and various psychological influences. This study pays particularly close attention to the demographic factors of race, gender, and age. While social susceptibilities always exist because they are an inherent weakness, a natural hazard causes these susceptibilities to become vulnerabilities because of the risk exposure and potential for harm that exists with a natural hazard. Therefore, until there is a potential for harm, these factors are considered weaknesses rather than a vulnerable population.

1.2.2.1 Social susceptibilities. Social susceptibilities include age, race, gender, class and family circumstances (West & Orr 2007). These become vulnerabilities when people are exposed to natural hazards and to what degree they are exposed (de Oliveira Mendes 2009). The groups most associated with vulnerabilities in disasters are the elderly, women, or minority groups (West & Orr 2007). Economics also play a role in their susceptibility, since those in poverty live in more vulnerable areas and lack the means to recover from disasters. Economics will not be
assessed in this study because students are exposed to a variety of sources of incomes, loans, scholarships, and federal funding opportunities that cannot be assessed in an effective manner.

1.2.2.1.1 Race. Minorities tend to be more susceptible to the risks from a disaster event. This is largely due to their geophysical location and general distrust with government information sources (Morrow 1999; West & Orr 2007). Minorities prefer to rely on their social networks for information because friends and family are considered a trustworthy source (Morrow 1999; West & Orr 2007). These groups are also often disregarded from planning and preparedness for disasters (Morrow 1999). Omissions from planning and procedures only serve to reinforce their lack of trust in government entities. As a result of their distrust, minority groups rarely utilize the communications given by the government. There is an overall lack of communication between minority groups and the government in hurricane severity and recommended preparedness plans that are issued (West & Orr 2007). Minorities are also less inclined to have education related to disasters and are not informed of the necessary preparations that should be taken (West & Orr 2007). In New Orleans, for example, public housing was designed in vulnerable areas for a large influx in the black population. This was mimicked in many other cities, particularly throughout the southern states during the 1950s and 1960s (Cutter 2005). In the aftermath of Hurricane Katrina, maps were developed on the percentage of minorities located within the flooded areas of New Orleans and provided insight to the social vulnerability that existed in many of the parishes (Cutter et al. 2014).

1.2.2.1.2 Gender. Males and females have different reactions to preparing and responding to disasters. Women are considered more susceptible to disasters due to their financial constraints and inability to access and utilize support networks and relief (West & Orr 2007). Furthermore, women-led households are more likely to have low-wage earners and are more
likely to be in poverty (Morrow 1999). Women have more associated psychological distresses following a disaster. Single female mothers are the most susceptible to Post Traumatic Stress Disorder (PTSD) as a result of a natural disaster and have higher suicidal rates than men (Morrow 1999; Zahran et al. 2011). Women are also more likely to experience violence during a disaster event and therefore, specialized needs are important to factor in for emergency planning (Morrow 1999).

1.2.2.1.3 Age. Elderly and young children are also groups that are vulnerable during disasters. The elderly are a growing population due to medical advancements enabling higher life expectancies. Elderly often require assistance during a disaster, such as evacuating during a hurricane (Morrow 1999). Evacuating the elderly to shelters also demands specialized needs that require advanced warning in regards to the number that will reside at the facility (Morrow 1999). Children also require supervision, assistance, and special services when evacuating (Morrow 1999). In the case of Hurricane Andrew in 1992, shelters were unprepared for children’s needs and mothers were unable to get proper supplies or food for their children (Morrow 1999). Children during this evacuation were exposed to uneventful and unsafe environments causing difficulties for shelter inhabitants and managers (Morrow 1999).

1.2.2.1.4 Social Networks. As stated in previous sections, having a supportive network is an important aspect to one’s vulnerability and ultimately their resiliency following a disaster. Those with family and social networks are more likely to gather necessary information regarding hurricane severity and advice on the decision to evacuate (Riad et al. 1999). Race, ethnicity, and gender all play contributing roles in the size of one’s social group. Blacks are more likely to evacuate due to their larger social networks, which allow for a location to evacuate to, for example (Riad et al. 1999). Having a social network increases social support and the ability to
evacuate to a location, receive essential resources, and receive emotional support (Riad et al. 1999).

1.2.2.2 Psychological susceptibilities.

1.2.2.2.1 Risk Perception and evacuation. Risk perceptions are considered thoughts on, preparations for, attention on alerts related to, and evacuation orders for hazards, such as storms and hurricanes (West & Orr 2007). Research indicates that demographics play a contributing role in risk perception. In natural disasters, gender, race, ethnicity and socioeconomic status cause people to perceive risk in different ways. Women and minorities are likely to perceive a greater risk and feel more vulnerable to hurricanes (West & Orr 2007). Perception of risk is further influenced by situational factors, other personal characteristics other than demographics, and social influences (Sattler et al. 2000).

The way in which people perceive risk and evacuate from a hurricane based on those risks, are dependent on their need to be self-protective, influenced by their vulnerability, controllability, self-efficiency, and subjective norms (Riad et al. 1999). Family variables, ownership of their home, and territorialism over their property are also factors in the decision to evacuate (Riad et al. 1999). When one perceives risk of a disaster, there is often a flight or fight response that correlates with the person’s decision to evacuate (Mishra & Suar 2012). The flight or fight response is often determined by anxiety levels in an individual. Those not prone to anxiety will often choose to “fight” a storm and will not evacuate, whereas an anxiety-prone individual will likely evacuate (Mishra & Suar 2012). Studies also indicate that anxiety-prone persons have a higher preparedness level during a disaster event (Mishra & Suar 2012). Other factors that are considered when fighting a storm are one’s property, thinking of others, and their
critical judgment to produce a rational justification for taking flight (Fritz & Williams 1957). Children, for example, are important factors during an evacuation decision.

1.2.2.2 Psychological stress and anxiety. Psychological stresses can be enhanced due to resource loss, threats of resource loss, and an inability to regain resources (Hobfoll 1989; Sattler et al. 2000). This is known as the conservation of resources stress model (Hobfoll 1989). In disaster preparedness and management, the availability of resources and to use those resources is an important asset to prepare and be resilient as an individual or community. Reducing the loss of resources can aid in the overall recovery of an individual, family, or community. This is an important factor for a subpopulation like students who do not have the ability like other populations to address their resources and recover from losing resources. Psychological stresses can affect many different age ranges. Studies related to tornadoes and flood victims suggest that younger-aged individuals, under the age of 65, have a larger amount of physical and emotional stress and worry following a disaster than do the elderly (Thompson et al. 1993).

Anxiety plays a contributing role in perceiving risk and considering threats and evacuation decisions, as noted in the previous section. In an earthquake preparedness study, anxiety and a sense of control in their personalities were found to predict an individual’s level of preparedness (Russel et al. 1995). Anxiety has two roles in effecting an individual during a stressful situation, such as a disaster, including trait anxiety and anxiety sensitivity. Trait anxiety is to become distressed and have a bias towards considering a situation as a threat (Bar-Haim et al. 2007; Hensley & Varela 2008). Anxiety sensitivity, on the other hand, is becoming distressed over possible negative outcomes due to one’s anxiety (Hensley & Varela 2008). Studies have supported and disproved this theory. However, the theoretical framework is supported in hurricane events since anxiety is noted to be a considerable factor in the decision to evacuate.
Furthermore, studies indicate that individuals with high trait anxiety have a higher likelihood of having post-disaster PTSD symptoms (Hensley & Varela 2008). Studies also indicate that trait anxiety and anxiety sensitivity are related to somatic symptoms in children (Hensley & Varela 2008). These symptoms are presented as physical injuries but cannot be medically explained (Hensley & Varela 2008).

1.2.2.3 Previous experiences. Having experienced a natural hazard before can have both positive and negative implications in future events. Those affected by a significant previous experience associated with loss and distress may have a higher perception of risk and can present in a more cautious and attentive manner for future events (Sattler et al. 2000). One can make adjustments for future by overcoming human bias on protection, improving behavior and learning new preparedness procedures and reduce loss of resources (Gerber 2007; Sattler et al. 2000). This can be done at the individual, community, local, state, and national levels. Personal experiences with hurricanes can be enlightening for some in terms of how they prepare in the future. For example, a study with Texas business owners found that following Hurricane Rita 59% of business owners attempt major or minor efforts towards the development of an annual plan (Mayer et al. 2008).

In other situations, those who have had a previous experience and had a less traumatizing experience may have a sense of overconfidence in future scenarios. This can cause less preparedness by individuals or communities (Sattler et al. 2000). Because of the extreme diversities in strength and size of the hurricane itself and the strength and size or damaging extent of its associated elements, hurricanes can be underestimated and personal experiences may cause an overconfidence in future situations (Sattler et al. 2000). Less or no experience can have negative effects as well. Without knowing or having experienced a particular disaster, the
perception of risk is not immediate and therefore, the preparation attempts begin late (Fritz & Williams 1957).

1.2.2.2.4 Education and awareness. Stress levels of those who participate in an activity such as disaster education programs are likely to be lower than those who do not attend such programs (Faupel & Styles 1993). Though this is not always the case, there are other contributing factors that can affect the overall level of stress in an individual. Studies from Hurricane Hugo suggest that the participation in disaster education programs before the hurricane strike was the most important variable to predict overall preparedness (Faupel & Styles 1993). Education is thought to facilitate preparedness (Izadkhan 2005). Furthermore, educating children transfers the knowledge learned to the rest of their family and can facilitate education on disasters for the future (Izadkhan 2005). This has become a focus in developing nations in their emergency management. To facilitate education and participation, the public must be aware of the risks associated with disasters (Izadkhan 2005).

1.2.3 Resistance and Resilience

Being resistant to a disaster is determined by the infrastructure and its ability to withstand the force of a triggering agent (McEntire et al. 2002). In impoverished areas, the resistance for hurricanes and other natural disasters is much lower because of the lack of infrastructure and building stability. Developing disaster-resistant communities prior to or following a disaster requires assessing various mitigation preparations and applying them to reduce the costs associated with damages from hurricanes (McEntire et al. 2002). The various mitigation strategies that can be implemented include land-use planning, educational opportunities for residents of the community, upgrading building codes for reoccurring disasters, and conducting
analysis on risks associated with the community (McEntire et al. 2002). This method of disaster-resistance is catered towards development of communities to create less inherent risk from the natural hazards that reoccur within that community. However, this model does not come without flaws. This model does not envelope several aspects important to development and emergency management. Preparedness, responses, various actors, and triggering agents are disregarded in the disaster-resistance model (McEntire et al. 2002).

Resilience is a population’s ability to ‘bounce back,’ or respond, cope, and reorganize following a disaster (Cutter et al. 2008; Frazier et al. 2013; McEntire 2001; McEntire et al. 2002; Zahran et al. 2011). Resiliency is often multi-faceted and therefore, the ability to measure resiliency has not been universalized (Cutter et al. 2008). Resiliency is found to be inherent and adaptive (Cutter et al. 2008). This model encompasses social factors that affect overall recovery, such as economic status, emotional state and cultural influences (McEntire et al. 2002). The resilience model was developed following the disaster-resistance models and addresses the need for recovery following a hazard. It is interdisciplinary in its make-up and considers social influences (McEntire et al. 2002). It does, however, have its own set of faults. Disaster-resiliency is noticeably geared towards recovery. However, preparedness is a major component of recovery that should be addressed (McEntire et al. 2002). This model also does not consider that following a disaster, “normal” is a relative term because the “normal” the community will experience will be inherently different than prior to the disaster (McEntire et al. 2002).

1.3 Managing Disasters

Emergency management is composed of mitigation, preparedness, response, and recovery, as well as using science and technology towards the reduction of impacts on life and property
One of the most important things to manage is the risk associated with the inevitable disasters that will occur (Wilson & Oyola-Yemaiel 2001). Ultimately, the two main goals of managing an emergency is to assess the hazards and reduce risk (Perry & Lindell 2003). The modern-day trend in emergency management is to create a holistic policy. Creating comprehensive emergency management hopes to include variables that have not otherwise been addressed fully. Furthermore, it provides interconnectedness between the multiple actors that work in managing disasters.

1.3.1 History of Emergency Management

Emergency management in the United States was primarily in the hands of law enforcement and fire departments when first put into practice (Wilson & Oyola-Yemaiel 2001). During the Franklin D. Roosevelt administration, management switched from law enforcement and fire departments to a full-time job of a government agency (Wilson & Oyola-Yemaiel 2001). The role of emergency managers was passed through several different government entities and given several names, such as the Office for Emergency Management in the White House, Office of Emergency Preparedness through the Executive Office, Office of Civil Defense in the Department of Defense, and the Federal Preparedness Agency (McLoughlin 1985). Through that time, emergency management also evolved to incorporate other entities, including the US Army Corps of Engineers, to help reduce the effects of disaster-related damages (Wilson & Oyola-Yemaiel 2001). The disaster management agency we know today, the Federal Emergency Management Agency (FEMA), was created in 1979 to reorganize the structure of the agency to a more comprehensive system. It refocused from recovery to also incorporating preparedness and prevention into management practices (McLoughlin 1985; Wilson & Oyola-Yemaiel 2001).
1.3.2 Comprehensive Emergency Management

Under FEMA, emergency management has become more catered to managing a greater diversity of disaster situations. A holistic or integrated approach is possible because many different hazards have functional similarities (McEntire et al. 2002). Not only does comprehensive emergency management aim to meet management needs for a larger variety of disasters, it also attempts to incorporate the various stakeholders involved and manage throughout a disaster situation (McEntire et al. 2002; Petak 1985). Furthermore, it integrates the many disciplines involved to reduce the damages caused by natural disasters (Petak 1985).

As with other management models, this management system has challenges that affect the effectiveness of its procedures. As with most government agencies, the political complexities, funding issues and costs, and prioritizing agendas cause institutional issues in creating and carrying out procedures (Petak 1985). Within disaster and emergency management, there are further challenges due to scientific uncertainties and lack of political support until immediately following a disaster (Petak 1985).

1.3.3 Emergency Management on College Campuses

There are very few studies associated with how to prepare for disasters on college campuses. However, from the existing research, it has been noted that colleges are most prepared for disasters or crises that have previously occurred to it (Bruxvoort 2012; Mitroff et al. 2006). Despite a greater number of environmental disasters were the last experienced, study findings indicate that colleges are overall more prepared for fires, lawsuits, and crimes (Mitroff et al. 2006). However, by mandate, most colleges and universities are forced to maintain preparedness plans for environmental disasters (Mitroff et al. 2006). They must factor in the safeguard of their
assets, such as human life, buildings, research, and maintaining operations (Bruxvoort 2012). Maintaining operational status following a disaster can include challenges such as rebuilding buildings, maintaining faculty and staff, and reconstructing lost records and data (Mitroff et al. 2006). A study on business owners following Hurricane Rita found that backing-up data and important records to an off-site location is essential in preparing for a natural hazard, such as a hurricane (Mayer et al. 2008). Hurricanes provide forewarning and an opportunity to plan for such protection and preparation measures to be carried out by the emergency managers in a business, institution, as a family, or individually.

Following Hurricane Katrina, the Delgado Community College in New Orleans noted important lessons learned that could be helpful at other institutions. Identify emergency headquarters, assemble emergency response team, recover information technology systems, create communications procedures, utilize help from government officials and private foundations, and maintain the safety of students are all procedures that should be implemented based on their experiences (Johnson et al. 2006). Furthermore, when delivering information to students and others on campus, it is best to do so immediately and through one service (McCarthy & Butler 2003). Identifying this early will be helpful to reduce any conflicting messages and will be easier for students and employees to gather information and instructions, rather than searching (McCarthy & Butler 2003).

1.4 Student Vulnerabilities and Reactions to Disasters

Students, particularly undergraduates, are considered a vulnerable population because of their average ages and their status as students (Collins et al. 2009). Students are more likely to underestimate disasters and impair their ability to recover following a disaster (Collins et al.
2009). Therefore, students are less likely to perceive risk and factors like a low financial income and a small social network will likely reduce their resiliency to a disaster. Students lack resources that would make them successful in preparing for and coping with a natural disaster, including social support (McCarthy & Butler 2003). Since students often travel for college, they are not able to communicate their needs to each other and to their families because they no longer feel connected (Collins et al. 2009; Watson et al. 2011). However, colleges have a unique sense of community that could provide a social network that could benefit the students, if embraced (Davis et al. 2010). Being within a university system can provide a buffer of vulnerabilities for students (Willigen et al. 2005). In terms of demographics, vulnerabilities associated with minorities were not found to be apparent in students in a study conducted on Hurricane Floyd victims (Willigen et al. 2005).

An inability to communicate can be problematic in each stage of a disaster. When preparing for a disaster, such as a hurricane, students must communicate with others to determine what supplies are needed to prepare, what procedures they are expected to follow for their institution and what decisions they reach in regards to evacuation plans. If at a shelter during the event, students need to be able to communicate any concerns that have while at the shelter, including medical needs, behavior issues and food and water needs. While recovering, it is essential for students to be open with the psychological stresses they possess, health problems, damages to personal property or their living area, and financial concerns that would prevent them from having a successful recovery.

Following a disaster, many students are prone to psychological distress. Many students have been reported to develop Acute Stress Disorder (ASD) during a disaster (Collins et al. 2009). A study following Hurricane Katrina and Rita on college students also suggests that half of the
students surveyed show signs of clinical depression and few even report substance abuse and showing signs of PTSD (Lemieux et al. 2010). Another study indicates that students who experienced or had friends or relatives experience Hurricane Katrina were prone to suicidal thoughts (Eisenberg et al. 2007). Students who are displaced are more likely to be depressed and be exposed to moderate to extreme stress as a result (Davis et al. 2010). Universities are often able to provide their students with emotional support following a disaster (Collins et al. 2009). In the Delgado Community College study, Johnson et al. (2006) suggests providing immediate group and individual counseling for employees and students to manage post-disaster emotional traumas. Offering these services immediately can lead to further individual counseling and can reduce the effects the disaster has on an individual (McCarthy & Butler 2003). Due to their lack of resources, utilizing the conservation of resources model, mentioned in the psychological vulnerabilities, can be useful when recovering from the psychological distress students are prone to (McCarthy & Butler 2003). Therefore, universities should recognize the lack of resources and help manage and mitigate the diminishing of resources (McCarthy & Butler 2003). Students are often able to seek financial assistance for repairing and recovering resources following a disaster (Willigen et al. 2005). Stress for students is an immediate reaction but can dissipate over a 1-year time period (McCarthy & Butler 2003). Mitigating the loss of resources for students can significantly decrease the overall time of recovery for students (McCarthy & Butler 2003).

1.5 Problem Statement

Resident Assistants are the first line of defense to prevent a chaotic situation in the face of a disaster event. They serve as friends, mentors, administrators and bosses to the residents and therefore, residents will seek out their RAs for their first interaction to find out relevant
information, advice and comfort. Each RA manages over 40 residents at FGCU. In order to reduce anxiety for their residents, RAs are expected to be knowledgeable on the appropriate procedures and able to manage their residents. Knowledge is essential to carry out the procedures effectively for FGCU’s OHRL and aid in maintaining the safety of their residents. RDs provide essential communication between OHRL leadership and the RAs and are full-time staff for OHRL and considered essential personnel. Their status as essential personnel is important in the event of evacuation and managing at the designated shelter. It is vital that communication is up-to-date and is clear and concise between all parties to maintain the highest efficiency. Each RD has 400-500 residents under their jurisdiction at FGCU. OHRL provides guidelines of duties in case of severe weather and evacuation through several documents, including the severe weather procedures, responsibilities of the OHRL regarding sheltering students during hurricanes, the Alico Arena shelter plan, personal preparedness guide for full time staff, and community guidelines. This study will determine what variables determine preparedness through administering an online survey for RAs and RDs. Considering influencing variables will determine what factors aid in how knowledgeable an RA/RD is in the severe weather procedures for OHRL. Ultimately, their knowledge on severe weather procedures will help determine the effectiveness of OHRL’s emergency management team as a whole. This study will provide FGCU and other universities vulnerable to a hurricane strike with information that will allow for them to evaluate potential flaws and make improvements based on that knowledge. Furthermore, this study will produce further information on student vulnerabilities in disasters. This is currently a study area lacking in the literature will few contributions to date. Conducting this study will produce information that will strengthen the literature on college student vulnerabilities to disasters.
1.6 Study Objectives, Research Questions, and Hypotheses

Using the information gathered from the existing literature, objectives were created to list the goals for this study. Overall, the goals of this study were structured around giving information to FGCU’s OHRL that could be applied to enhance their training experience for RAs/RDs on severe weather procedures. Research questions were then developed to determine how to carry out the objectives. Questions were further developed using the survey sections. Scored independent variables are referring to sections A, B, D, E, and G from the survey (Appendix A). These are scored according to the justification provided in Appendix B. Furthermore, hypotheses were formed using theoretical knowledge gained from existing literature. Each hypothesis was developed based on the research questions and objectives for the study.

1.6.1 Study Objectives

The objectives of the study include:

**Objective 1.** To provide information on relationships that exist that could have an effect on the training of individuals

**Objective 2.** To provide information regarding demographics that can be utilized in training decisions for RAs/RDs.

**Objective 3.** To reveal factors that could be related to RAs’/RDs’ ability to communicate effectively and their perceived risk.

**Objective 4.** To examine and expose gaps that could exist in training and understanding of preparedness procedures at FGCU.
Objective 5. To determine gaps that could exist in the current procedures and provide information on effective on-campus procedures.

1.6.2 Study Research Questions

This study hopes to answer the following research questions:

Question 1. Are there relationships between the scored independent variables?

Question 2. Are there relationships between demographics and the scored independent variables?

Question 3. Does the level of preparedness as an RA/RD relate to the level of confidence in their own preparedness?

Question 4. Does hurricane knowledge and experience, preparedness confidence, hurricane anxiety, an organized personality, and demographic variables have a relationship with their level of preparedness knowledge as an RA/RD?

Question 5. Are FGCU and OHRL’s severe weather preparedness procedures effective for emergency management on campus?

1.6.3 Study Hypotheses

This study hypothesizes the following based on existing literature and theoretical knowledge:

Hypothesis 1. Relationships will exist between scored independent variables.

1-A. A positive relationship will exist between knowledge and experience scores and preparedness confidence scores. Those who have a higher score for knowledge and experience will likely have a higher score in their confidence in their own preparedness level. This is based
on existing literature associated with a greater level of preparedness facilitated from education and awareness (Izadhan 2005) and a theoretical and reasonably supported notion that experience will heighten your confidence level.

1-B. Preparedness confidence will have a negative relationship with hurricane anxiety. Theoretically, those who have a higher level of confidence in their preparedness would not likely have a high level of anxiety concerning hurricanes.

Hypothesis 2. Demographics variables will have a relationship with the scored independent variables.

2-A. Gender will have a negative correlation with hurricane knowledge and experience. Existing literature indicates that males are less likely to evacuate during a hurricane and therefore men are theoretically likely to have more experience with hurricanes.

2-B. There will be a negative relationship between race and hurricane knowledge and experience. Though minorities tend to live in more at-risk locations, the level of education and awareness of disasters is significantly lower (West & Orr 2007). Therefore, their overall scores are likely to be lower and a negative relationship with exist.

2-C. Coastal residents will have a positive relationship with hurricane knowledge and experience. Those living on the coasts are vulnerable to hurricanes and are likely to have experienced severe weather and hurricanes and theoretically will have more knowledge on hurricanes and experience with hurricanes.

2-D. Gender will have a negative relationship with preparedness confidence. Existing literature indicates that women are more likely to have anxiety concerning disasters, which could affect their overall confidence (Morrow 1999; Zahran et al. 2011).
2-E. There will be a negative relationship between race and preparedness confidence. Literature indicates that minorities are less likely to rely on government for information concerning preparedness and are more likely to rely on social network (West & Orr 2007). Furthermore, minorities are more likely to perceive higher risk from an incoming hurricane that raises their anxiety and could decrease their confidence (West & Orr 2007).

2-F. Coastal residents will have a positive correlation with preparedness confidence. Coastal residents have likely experienced a hurricane strike or severe weather events before that could strengthen their confidence (Sattler et al. 2000). Particularly, if individuals have not experienced significant damage or loss from a hurricane, they can tend to be overconfident in their perception of risk (Sattler et al. 2000).

2-G. Gender will have a positive relationship with hurricane anxiety. Studies indicate that women are more likely to experience distress from a hurricane (Morrow 1999; Zahran et al. 2011). Women are also more likely to perceive risk from hurricanes that could increase their overall anxiety (West & Orr 2007).

2-H. Race will have a positive relationship with hurricane anxiety. Minorities perceive a greater risk from a disaster and are less likely to have resources and education that are helpful in preparing that can cause anxiety (Morrow 1999; West & Orr 2007).

2-I. Having a primary address in a coastal community, owning a vehicle at their residence and years lived in Fort Myers will have a negative correlation with anxiety. Unless having had an extreme previous experience, being from a coast and living in Fort Myers for a longer period of time will likely have less anxiety because of previous experiences. Owning a vehicle could theoretically provide an easier option for evacuation that could reduce stress.
**Hypothesis 3.** There will be a positive relationship between the preparedness confidence scores and the dependent variable, preparedness as an RA/RD.

**Hypothesis 4.** Scores measuring hurricane knowledge and experience, preparedness confidence, hurricane anxiety, organized personality, and demographics will aid in the prediction of scores measuring the overall level of preparedness as an RA/RD.
Chapter 2. Methodology

2.1 Study Area

Florida Gulf Coast University (FGCU) is located in Fort Myers, Florida, less than 5 miles from the Gulf of Mexico coastline in Lee County, Florida (Figure 2 and 3). The Florida peninsula is located in a geographically vulnerable location for hurricane strikes, as demonstrated by its historical record with hurricanes (Wilson & Oyola-Yemaiel 2001). For example, between 1990-1996, 57 hurricanes made landfall in Florida; 24 of which were major hurricanes at category 3 and higher (Wilson & Oyola-Yemaiel 2001). This study area has been particularly active in the recent past with severe weather activity including Hurricane Charley in 2004, a category 4 hurricane that made landfall on the Gulf beaches in Lee County and continued through the central region of the Florida peninsula.

As part of its hurricane preparedness, Lee County has designated 5 evacuation zones, A-E, based on the vulnerability of the area (Figure 4). Evacuation Zone A is the most vulnerable and first to be evacuated. Areas in this zone include the Gulf beaches and islands, as well as those areas north of the Caloosahatchee River. Evacuation Zone B is immediately inland of Zone A and is the next to be evacuated. Evacuation Zone C, including FGCU, has areas which have the potential to be affected by storm surge and/or winds (Lee County Southwest) (Figure 5). Storm surges can create catastrophic effects and is often the first sign of damage because it can extend further than the damaging winds (Muller & Stone 2001).
Figure 1. Lee County, FL


Figure 2. Location of Florida Gulf Coast University

Figure 3. Lee County Evacuation Zones

(Lee County Southwest)

Figure 4. Lee County Overlaid with Storm Surge Mapping

2.2 Data Acquisition

2.2.1 Survey Administration

Data was acquired using an online survey administered through esurveycreator.com (Appendix A). The survey utilized the “anonymous survey” option in order to maintain the participants’ anonymity throughout the survey process. Additionally, a consent form was provided for the potential participants prior to participating in the survey (Appendix C). Selecting “yes” on the survey stating that the participants understood and wanted to continue forward with the survey was considered consent to participate. The targeted participants include the FGCU RAs and RDs, creating a potential participant set of 112 entries. The Assistant Director of OHRL, Mr. Jameson Moschella, gave each potential participant a link and passcode to the survey through electronic mail on April 28, 2014. Along with the survey link, Mr. Moschella provided the potential participants with information concerning the study, low risks associated with the study, and anonymity of the study (Appendix D). These efforts were designed to remind students and Residence Life staff that participation was completely voluntary so that the results are free of any coerced information. Due to the online nature of the survey, participants were able to complete it at their convenience.

2.2.2 Survey Development and Study Measures

The survey contains seven sections, each section was meant to measure a variable believed to be influential in determining and assessing the level of hurricane preparedness of the RA/RD in relation to FGCU and OHRL severe weather procedures. The survey sections were general hurricane knowledge, personal experience with hurricanes, hurricane preparedness as an
RA/RD, hurricane preparedness attitude, thoughts about incoming hurricanes, demographics, and personality characteristics. The survey questions consist of yes/no, true/false, single and multiple selection, open-ended, and Likert scale questions. Within the demographics section, questions were asked regarding their age, race/ethnicity, gender, their international student status, their primary address, length of time living in Fort Myers, and owning a motor vehicle in Fort Myers. The personality characteristics are not a form of measure, but rather test questions to determine if being detail-oriented, organized, anxious or having a high level of procrastination is useful in determining preparedness of an individual. Several sections and questions were used or developed and expanded from a previous study done on RAs and Resident Life Coordinators (RLCs) at Louisiana State University (Weatherall 2012). The survey questions were developed with the use of Weatherall’s study and Fink’s *The Survey Handbook* (2003) and *How to Ask Survey Questions* (1995). The survey administered is provided in Appendix A. A scorecard was developed for each section in the survey to aid in the statistical analysis of those sections and is provided through Appendix B.

### 2.2.3 Survey Sections and Scoring

Section A includes general hurricane knowledge questions. These questions aim to gauge the hurricane knowledge of each surveyed individual. The questions test their knowledge on the hurricane season, Saffir-Simpson scale, damaging elements of a hurricane, and necessary supplies that are important for their ability to be prepared. RAs and RDs can receive a maximum of 12 points in this section. Those with a higher level of knowledge of hurricanes determined by the correctness of their answers will have a higher score in this section. Those with a lower score have lower general hurricane knowledge.
Section B determines the amount of prior experience the RAs and RDs have had with hurricanes. Past experiences in this survey include hurricane strikes, evacuations, power outages, relief and donations, and injuries or loss sustained due to a hurricane. Past experiences, as noted earlier, can shape future preparations taken. Section B has a maximum point value of 13 points assessed. A high score in this section would be associated with a more personal experience with hurricanes. A low score in this section implies the individual has little experience with hurricanes.

Section C asks questions on their preparedness as a Resident Life staff member. Responsibilities identified in OHRL’s severe weather procedures, FGCU shelter and evacuation information, and FGCU severe weather warning system are all tested in this section. These questions are derived from various severe weather and evacuation procedure documents. Higher scores in this section are associated with a higher level of knowledge on preparedness measures and procedures set by FGCU and OHRL. Low scores are associated with a lower knowledge on procedures and lower level of preparedness as an RA/RD. RAs/RDs can earn up to 12 points in this section.

Section D uses the Likert scale to gauge RAs’ and RDs’ attitude towards preparedness. This includes feelings such as confidence in knowledge and the ability to pass that knowledge on to their residents and feelings on FGCU’s support prior to and after a hurricane strike. The survey asks RAs and RDs to use a 1-5 scale to measure their attitude from strongly agree to strongly disagree respectively on each of the feelings. Higher scores are considered more confident, while lower scores are considered to be less confident in their hurricane preparedness. RAs/RDs can earn up to 35 points in this section of the survey.
Section E also uses the Likert scale using a 1-5 measure to reflect the thoughts RAs and RDs have on an incoming hurricane. The statements determine their worries and thoughts on property damage, bodily harm, job security, power outage, and living arrangements in the event of a hurricane strike in or around Fort Myers. Higher scores determine a higher anxiety level of hurricane strikes and lower scores are associated with less anxious individuals. RAs/RDs can be assessed up to 35 points in this sections based on their responses.

Section F asks demographic information for each individual including his or her gender, age, race, and residence information. This information will be used to determine trends in preparedness among different demographics. Dummy coding will be used to assess the demographics section. This section will be assessed as individual variables, rather than considered as a section during the analysis.

Section G asks for each respondent to use the Likert scale and assign a value to each characteristic question. These statements are designed to identify characteristics that can be attributed to the level of preparedness they may take in the event of a natural disaster, such as anxiety, procrastination, organization and being detail-oriented. Scoring will be broken up by each category. These variables are to be used as test questions, rather than as a measure, to find if they are related to preparedness. A maximum score value of 20 is assessed for each category of detail-oriented, organized, and procrastination. A maximum score of 15 can be earned for anxiety.
2.3 Data Analysis

2.3.1 Development of Variables

Out of the 63 surveys submitted online by RAs and RDs, 13 were discarded because they did not consent to participate, were neither an RA nor an RD, or had blank answers. The remaining 50 surveys were applied to this analysis. An unrotated Principal Components Analysis (PCA) was used to produce a scree plot of eigenvalues. These values determine how many principal components (PCs) for grouping the data are required based on the patterns identified (Smith 2002).

Following this process, a varimax rotation was applied to the data with the number of factors restricted to the number of PCs found using the scree plot and eigenvalues. A varimax rotation allows the data to be simplified with the other original factors associated with it into the lesser amount of factors found from the eigenvalues (Abdi 2003). After eliminating the original factors with factor loading scores below 0.3 and those with factor loading scores above 0.3 in multiple components, a varimax rotation was applied to the data again to retrieve the final PCs with the coherently aligned questions.

To determine if the internal consistency was reliable and considered acceptable, a Cronbach’s alpha test was used. Internal consistency determines how well a group of items measures the same concept (Litwin 1995). This provides a numerical coefficient of reliability (Santos 1999). PCs were adjusted as necessary to receive an acceptable score of 0.7 or above (Santos 1999).

An unrotated PCA was also applied to the dependent variable, preparedness as an RA/RD. For this variable, only one PC was retained for analysis. This method allows for
questions that are coherently aligned to be assessed. Out of the 13 questions, 8 were kept. A Cronbach’s alpha test was evaluated on those 8 remaining questions to determine the reliability of the internal consistency for that grouping of questions.

2.3.1.1 **Final variables and scoring.** Due to the changes made after applying the findings from the PCA, varimax rotations and Cronbach’s alpha tests the sections and scorings were reassessed. For section A, several general hurricane knowledge questions were eliminated and from section B, questions concerning personal experience with hurricanes were added. This section is identified as “hurricane knowledge and experience” during the analysis. The points possible in this section range from 0-10 points. A higher score in this section signifies a higher level of knowledge concerning hurricanes and experience with hurricanes.

Section C, preparedness as an RA/RD, contained eliminated questions and scoring for the dependent variable was reassessed. Each of the remaining questions is valued at 1 point each. Points can range from 0-8 in this section. Higher scores represent a higher level of knowledge on FGCU and OHRL’s hurricane preparedness procedures.

All questions in section D, hurricane preparedness attitude, remained and therefore there were no changes in the scoring. 35 points are possible in this section with a higher score being assessed for a higher confidence level in personal hurricane preparedness. This section is referred to as “preparedness confidence.” Section E, thoughts about incoming hurricanes retained all original questions and added a question from the personality characteristics. The maximum number of points possible in this section is 40. Higher scores in this section are associated with a higher level of anxiety concerning hurricanes. This section is referred to as “hurricane anxiety.”
The demographic section was also re-addressed due to lack of variance. No participant is an international student and therefore, the international status variable cannot be factored in to the analysis.

The last section became an entirely new variable. Three questions from section G, personality characteristics, were used in this variable. Each of these questions addresses the participant’s level of organization. A question from the personal experience section was also used concerning donated goods. This section is referred to as “organized personality” and has a maximum score of 16. Higher scores are associated with higher levels of organization for the RA/RD.

2.3.2 Description and Frequency of Variables

Each demographic variable was assessed using frequency statistics to provide information on the percentages of participants for their gender, age, race/ethnicity, and their primary address located in a coastal area and owning a vehicle in Fort Myers. Frequency statistics were also used to determine the percentages in their role as either a RA or a RD and if participants were of traditional college age (18-24) or older.

Descriptive statistics was utilized in the statistical software, IBM SPSS; to determine the minimum and maximum scores, mean score, and the standard deviation for the scored sections and a demographic variable. The sections described using descriptive statistics include the dependent variable, preparedness as an RA/RD, knowledge and experience, preparedness confidence, hurricane anxiety, organized personality and years lived in Fort Myers.
2.3.3 Identifying Relationships

When determining the relationships exist, Pearson’s correlation is applied to discover a relationship between two variables that are expressed numerically (Fink 2005). Using Pearson’s bivariate correlations and t-tests, each variable was compared to determine the level of relationship between the variables. These tests were chosen based on the information gathered and using Fink’s (2005) *How to Manage, Analyze, and Interpret Survey Data*. Pearson’s bivariate correlations were tested on the variables knowledge and experience, preparedness confidence, hurricane anxiety, organized personality, and number of years lived in Fort Myers. Running this type of correlation aids in determining if a relationship exists between the variables. It was determined that multicollinearity issues were not present, which is important for running further regression analyses. T-tests were measured on demographic variables of gender, age, race, their coastal status, and owning a vehicle that is located at their residence with the previously assessed variables. A t-test was also conducted to determine if a relationship exists between the dependent variable, preparedness, and preparedness confidence. T-tests are used to evaluate hypotheses based on their means (Fink 2005).

2.3.4 Regression Analyses

Using IBM SPSS, a histogram was created to determine if the dependent value followed a normal-distribution curve. Following this determination, variables were inserted into IBM SPSS multiple linear regression to determine which are predicting variables for the dependent variable. Because a new measure was introduced concerning the organized personality characteristics, stepwise multiple linear regressions were conducted to determine if any variables outside of preparedness confidence were found to be influential. Following these analyses, it was
determined that only “preparedness confidence” was found to be a predicting element. The F-value from the F-test was used to determine model utility and the explanation of variance for the model.
Chapter 3. Results

3.1 Development of Variables

Out of 112 RAs and RDs on the campus, 50 surveys were returned online and were able to be used for analysis. Unrotated Principle Components Analysis (PCA) was used to determine correlated variables and principle components (PCs) that were linearly uncorrelated were kept. Question B-11, “Have you or has someone you’ve known suffered bodily injury from a hurricane?” was eliminated because of the lack of variance, as 100% responded no. Figure 6 displays a scree plot developed with inputs from the scored sections of independent variables, including general hurricane knowledge, personal experience with hurricanes, hurricane preparedness attitude, thoughts about incoming hurricanes, and personality characteristics. The first 4 PCs were kept and explained 39.93% of the total variance. Although there was a significant increase in the variance explained using 5 factors (46.48%), the items in each factor were not theoretically compatible.
Next, a varimax rotation was performed on the variables to determine which questions should be retained and which questions should be thrown out when considering their groupings (Litwin 1995). Only questions with a factor loading score above 0.3 were kept for further analysis because they are able to explain a higher level of variance. Those with factor loading scores above 0.3 in multiple categories were categorized with those that were more theoretically compatible based on the literature.

After two rounds of eliminations, a final varimax rotation was run through SPSS to determine the final survey questions that would be utilized in further analyses and which components the questions would be aligned with. Table 1 provides the output from SPSS with the survey questions aligned with the construct of its PC. Survey sections A, D, and E (general hurricane knowledge, hurricane preparedness attitude, and thoughts about incoming hurricanes, respectively)(Appendix A) coherently aligned with their respective PCs. Survey questions from
section A coherently aligned with the construct of PC3, survey questions from section D coherently aligned with the construct of PC1, and survey questions from section E coherently aligned with the construct of PC2. Survey questions from sections B and G (personal experience with hurricanes and personality characteristics, respectively) (Appendix A) had questions aligned with numerous PCs.

Personal experience questions were not considered to be their own component, even if 5 PCs were selected for analysis. Question B4, “Has the power in your home gone out during a hurricane?” and Question B4a, “What was the longest power outage you’ve experienced due to a hurricane?” were scored together and were reevaluated to be considered with general hurricane knowledge questions. Question B9, “Have you ever traveled to an area that was struck by a hurricane and seen damage?” and Question B10, “Have you or has someone you’ve known suffered a loss of any kind from a hurricane?” were also aligned with general hurricane knowledge. Question G2, “I find myself procrastinating in my schoolwork” was also aligned with general hurricane knowledge with the construct of PC3. Since personal experience questions were not aligned in their own PC, theoretically, they are most compatible with hurricane knowledge questions. The more experience one has, the more likely one has a higher knowledge level.

The construct of PC2 also included the survey question G15, “I am a nervous person.” This question is a good fit within this section because section E measures the amount of anxiety concerning a hurricane strike. Having a generally nervous personality is an important factor in the anxiety one feels about hurricanes and being in a location struck by a hurricane.

The construct of PC4 is made up of personality characteristic questions concerning organization, planning and being detail-oriented. Survey question B7, “Have you ever donated
goods to help with hurricane relief?” was also aligned with the construct of PC4. This type of question can be considered an aspect of planning.

**Table 1. Output of Principle Components Analysis with Varimax Rotation**

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Components 1</th>
<th>Components 2</th>
<th>Components 3</th>
<th>Components 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>0.521</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>0.680</td>
<td></td>
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</tr>
<tr>
<td>A5</td>
<td>0.565</td>
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<td></td>
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</tr>
<tr>
<td>A9</td>
<td>0.492</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A10</td>
<td>0.651</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A11</td>
<td>0.635</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B4</td>
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<tr>
<td>B9</td>
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<td></td>
</tr>
<tr>
<td>B10</td>
<td>0.526</td>
<td></td>
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</tr>
<tr>
<td>G2</td>
<td>0.354</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1</td>
<td></td>
<td>0.902</td>
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<tr>
<td>D2</td>
<td></td>
<td>0.715</td>
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<td>D3</td>
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<td>D4</td>
<td></td>
<td>0.742</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5</td>
<td></td>
<td>0.837</td>
<td></td>
<td></td>
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<tr>
<td>D6</td>
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<td>0.728</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D7</td>
<td></td>
<td>0.591</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E1</td>
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<td>0.703</td>
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<td>E2</td>
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<td>0.726</td>
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<td>E3</td>
<td></td>
<td></td>
<td>0.814</td>
<td></td>
</tr>
<tr>
<td>E4</td>
<td></td>
<td></td>
<td>0.763</td>
<td></td>
</tr>
<tr>
<td>E5</td>
<td></td>
<td></td>
<td>0.835</td>
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<tr>
<td>E6</td>
<td></td>
<td></td>
<td>0.676</td>
<td></td>
</tr>
<tr>
<td>E7</td>
<td></td>
<td></td>
<td>0.600</td>
<td></td>
</tr>
<tr>
<td>G15</td>
<td></td>
<td></td>
<td></td>
<td>0.462</td>
</tr>
<tr>
<td>B7</td>
<td></td>
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<td></td>
<td>0.420</td>
</tr>
<tr>
<td>G5</td>
<td></td>
<td></td>
<td></td>
<td>0.710</td>
</tr>
<tr>
<td>G6</td>
<td></td>
<td></td>
<td></td>
<td>0.691</td>
</tr>
<tr>
<td>G8</td>
<td></td>
<td></td>
<td></td>
<td>0.716</td>
</tr>
<tr>
<td>G9</td>
<td></td>
<td></td>
<td></td>
<td>0.418</td>
</tr>
<tr>
<td>G12</td>
<td></td>
<td></td>
<td></td>
<td>0.577</td>
</tr>
</tbody>
</table>

*only factor loading scores above 0.3 are shown*
Following the varimax rotation, the Cronbach’s alpha of each PC was calculated to determine the internal consistency in each PC. To be considered reliable, a Cronbach’s alpha score of 0.7 or more is preferred. For PC1, with survey questions from general hurricane knowledge and personal experience with hurricane sections and a question from personality characteristics, the internal consistency was not reliable with a score of $\alpha=0.655$. To make this component more reliable, the question G2 was eliminated to improve the score to $\alpha=0.685$ (Table 2). Though this score is still lower than the target Cronbach’s alpha score, it is still considered to be acceptable to move forward and is a reflection of the relationship of each item with the factor.

| Table 2. Item-Total Statistics for PC1, Knowledge and Experience |
|---|---|---|
|  | Corrected Item-Total Correlation | Cronbach’s alpha if Item Deleted |
| A1 | 0.331 | 0.628 |
| A4 | 0.409 | 0.634 |
| A5 | 0.279 | 0.639 |
| A9 | 0.228 | 0.648 |
| A10 | 0.433 | 0.633 |
| A11 | 0.368 | 0.642 |
| B4 | 0.533 | 0.571 |
| B9 | 0.441 | 0.608 |
| B10 | 0.405 | 0.614 |
| G2 | 0.330 | 0.685 |

The Cronbach’s alpha score for PC2, which includes all survey questions from section D measuring hurricane preparedness attitude, revealed that the internal consistency is reliable with a score of $\alpha=0.896$. Table 3 displays the Cronbach’s alpha and factor analysis associated with the survey questions aligned with the construct of PC1. The Cronbach’s alpha score for PC3, the questions concerning thoughts about incoming hurricanes and a question concerning nervousness...
from the personality characteristics section, is considered to be reliable with a score of \( \alpha = 0.868 \).

Table 4 displays the Cronbach’s alpha and factor analysis associated with the survey questions aligned with the construct of PC3.

### Table 3. Item-Total Statistics for PC2, Preparedness Confidence

<table>
<thead>
<tr>
<th>Item</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>0.854</td>
<td>0.863</td>
</tr>
<tr>
<td>D2</td>
<td>0.627</td>
<td>0.888</td>
</tr>
<tr>
<td>D3</td>
<td>0.830</td>
<td>0.865</td>
</tr>
<tr>
<td>D4</td>
<td>0.658</td>
<td>0.886</td>
</tr>
<tr>
<td>D5</td>
<td>0.782</td>
<td>0.870</td>
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<tr>
<td>D6</td>
<td>0.659</td>
<td>0.885</td>
</tr>
<tr>
<td>D7</td>
<td>0.517</td>
<td>0.902</td>
</tr>
</tbody>
</table>

### Table 4. Item-Total Statistics for PC3, Hurricane Anxiety

<table>
<thead>
<tr>
<th>Item</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>0.570</td>
<td>0.858</td>
</tr>
<tr>
<td>E2</td>
<td>0.647</td>
<td>0.849</td>
</tr>
<tr>
<td>E3</td>
<td>0.657</td>
<td>0.847</td>
</tr>
<tr>
<td>E4</td>
<td>0.723</td>
<td>0.842</td>
</tr>
<tr>
<td>E5</td>
<td>0.725</td>
<td>0.840</td>
</tr>
<tr>
<td>E6</td>
<td>0.676</td>
<td>0.846</td>
</tr>
<tr>
<td>E7</td>
<td>0.548</td>
<td>0.862</td>
</tr>
<tr>
<td>G15</td>
<td>0.446</td>
<td>0.869</td>
</tr>
</tbody>
</table>
The Cronbach’s alpha score for PC4 is not in the acceptable range ($\alpha=0.679$). By eliminating question G9, the score is raised to $\alpha=0.684$ (Table 5). By further eliminating question G12, the Cronbach’s alpha score is improved to an acceptably reliable score ($\alpha=0.710$)(Table 6).

<table>
<thead>
<tr>
<th>Item</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>B7</td>
<td>0.264</td>
<td>0.680</td>
</tr>
<tr>
<td>G5</td>
<td>0.55</td>
<td>0.581</td>
</tr>
<tr>
<td>G6</td>
<td>0.617</td>
<td>0.573</td>
</tr>
<tr>
<td>G8</td>
<td>0.499</td>
<td>0.604</td>
</tr>
<tr>
<td>G9</td>
<td>0.258</td>
<td>0.684</td>
</tr>
<tr>
<td>G12</td>
<td>0.321</td>
<td>0.670</td>
</tr>
</tbody>
</table>

**Table 6. Item-Total Statistics for PC4, Organized Personality (2)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>B7</td>
<td>0.270</td>
<td>0.697</td>
</tr>
<tr>
<td>G5</td>
<td>0.598</td>
<td>0.552</td>
</tr>
<tr>
<td>G6</td>
<td>0.512</td>
<td>0.608</td>
</tr>
<tr>
<td>G8</td>
<td>0.607</td>
<td>0.546</td>
</tr>
<tr>
<td>G12</td>
<td>0.273</td>
<td>0.710</td>
</tr>
</tbody>
</table>

Table 7 provides the PCA varimax rotation with the questions G2, G9, and G12 eliminated to construct reliable or marginally reliable PCs for further analysis.
Table 7. Matrix with Questions G2, G9 and G12 Removed

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>A1</td>
<td>0.531</td>
</tr>
<tr>
<td>A4</td>
<td>0.680</td>
</tr>
<tr>
<td>A5</td>
<td>0.565</td>
</tr>
<tr>
<td>A9</td>
<td>0.492</td>
</tr>
<tr>
<td>A10</td>
<td>0.651</td>
</tr>
<tr>
<td>A11</td>
<td>0.635</td>
</tr>
<tr>
<td>B4</td>
<td>0.570</td>
</tr>
<tr>
<td>B9</td>
<td>0.460</td>
</tr>
<tr>
<td>B10</td>
<td>0.526</td>
</tr>
<tr>
<td>D1</td>
<td>0.902</td>
</tr>
<tr>
<td>D2</td>
<td>0.715</td>
</tr>
<tr>
<td>D3</td>
<td>0.888</td>
</tr>
<tr>
<td>D4</td>
<td>0.742</td>
</tr>
<tr>
<td>D5</td>
<td>0.837</td>
</tr>
<tr>
<td>D6</td>
<td>0.728</td>
</tr>
<tr>
<td>D7</td>
<td>0.591</td>
</tr>
<tr>
<td>E1</td>
<td>0.703</td>
</tr>
<tr>
<td>E2</td>
<td>0.726</td>
</tr>
<tr>
<td>E3</td>
<td>0.814</td>
</tr>
<tr>
<td>E4</td>
<td>0.763</td>
</tr>
<tr>
<td>E5</td>
<td>0.835</td>
</tr>
<tr>
<td>E6</td>
<td>0.676</td>
</tr>
<tr>
<td>E7</td>
<td>0.600</td>
</tr>
<tr>
<td>G15</td>
<td>0.462</td>
</tr>
<tr>
<td>B7</td>
<td>0.420</td>
</tr>
<tr>
<td>G5</td>
<td>0.710</td>
</tr>
<tr>
<td>G6</td>
<td>0.691</td>
</tr>
<tr>
<td>G8</td>
<td>0.716</td>
</tr>
</tbody>
</table>

*only factor loading scores above 0.3 are shown

An unrotated PCA was run on the dependent variable, preparedness as an RA/RD from section C of the survey (Appendix A). Table 8 displays the factor loading scores above 0.3 for PC1. Questions C2, C5, C6, and C7 were eliminated because their factor loading scores were
below 0.3. The Cronbach’s Alpha score is considered acceptable ($\alpha=0.709$) with Table 9 providing the results of the Cronbach’s alpha and factor analysis associated with the survey questions for preparedness as an RA/RD.

### Table 8. Factor Loading Scores for RA/RD Preparedness

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3</td>
<td>.595</td>
</tr>
<tr>
<td>C4</td>
<td>.594</td>
</tr>
<tr>
<td>C8</td>
<td>.647</td>
</tr>
<tr>
<td>C9</td>
<td>.501</td>
</tr>
<tr>
<td>C10</td>
<td>.380</td>
</tr>
<tr>
<td>C11</td>
<td>.620</td>
</tr>
<tr>
<td>C12</td>
<td>.496</td>
</tr>
<tr>
<td>C13</td>
<td>.802</td>
</tr>
</tbody>
</table>

*only factor loading scores about 0.3 are shown

### Table 9. Item-Total Statistics for PC of Dependent Variable, Preparedness as an RA/RD

<table>
<thead>
<tr>
<th></th>
<th>Corrected Item-Total Correlation</th>
<th>Cronbach's Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3</td>
<td>0.414</td>
<td>0.678</td>
</tr>
<tr>
<td>C4</td>
<td>0.449</td>
<td>0.670</td>
</tr>
<tr>
<td>C8</td>
<td>0.485</td>
<td>0.660</td>
</tr>
<tr>
<td>C9</td>
<td>0.34</td>
<td>0.693</td>
</tr>
<tr>
<td>C10</td>
<td>0.228</td>
<td>0.716</td>
</tr>
<tr>
<td>C11</td>
<td>0.434</td>
<td>0.673</td>
</tr>
<tr>
<td>C12</td>
<td>0.291</td>
<td>0.703</td>
</tr>
<tr>
<td>C13</td>
<td>0.659</td>
<td>0.647</td>
</tr>
</tbody>
</table>
3.2 Descriptive Statistics of Variables

3.2.1 Demographic Influences

Question F3 was eliminated for lack of variation. No RA/RD was an international student in this study. There were a slightly higher percentage of female participants (58%) (Table 10). Over half of the participants designated themselves as White (not-Hispanic) (56%), 20% of the responses were Hispanic, 18% participants in the study were Black and 6% chose not to respond or were of another race (Table 11). As expected from the location of the school, a majority of students at FGCU were Florida residents, and 82% of participants had their primary home address within a 30-mile proximity to the coast (Table 12). Of the 50 respondents, 44 responded that they owned a vehicle at their residence.

<table>
<thead>
<tr>
<th>Table 10. Gender Frequencies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Male (0)</td>
</tr>
<tr>
<td>Female (1)</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
Table 11. Race/Ethnicity Frequencies

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White (0)</td>
<td>28</td>
<td>56</td>
</tr>
<tr>
<td>Hispanic (1)</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Black (2)</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Other (3)</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 12. Living within a Coastal Community Frequencies

<table>
<thead>
<tr>
<th>Location</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Coastal (0)</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Coastal (1)</td>
<td>41</td>
<td>82</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

*Coastal communities are noted to be within a 30-mile proximity of the coast

Table 13. Vehicle Ownership Frequencies

<table>
<thead>
<tr>
<th>Ownership</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not own vehicle (0)</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Own vehicle (1)</td>
<td>44</td>
<td>88</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

3.2.2 Frequency of Job Status and Age. Of the 50 surveys that were evaluated, 90% had the job title of Resident Assistants (Table 14). Most RAs were within the 18-24 age range.
RA was above 24 years of age. Overall, out of 50 surveys, 88% of those survey-takers fell between the ages of 18-24 years old, the expected age range of college-aged students (Table 15).

Table 14. Resident Assistant/Resident Director Frequencies

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident Director (0)</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Resident Assistant (1)</td>
<td>45</td>
<td>90</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 15. Age Frequencies

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 24 years (0)</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Between 18-24 years (1)</td>
<td>44</td>
<td>88</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

3.2.3 Description of Scored Variables

Descriptive statistics were run on the scored values including the dependent variable, preparedness as an RA/RD and the independent values of knowledge and experience, preparedness confidence, hurricane anxiety, and organized personality. Descriptive statistics were also included for the demographic variables of years lived in Fort Myers. The scored variables each have a point possible through the scoring methods explained (Appendix B). Scoring was adjusted based on the new sections composed through PCA and varimax rotations. Each of the minimum and maximum values reflected the minimum and maximum of the points.
possible for preparedness (y), knowledge and experience, preparedness confidence, and organized personality (Table 16). Hurricane anxiety had 40 points possible and only received a 37 as the maximum score (Table 16).

The preparedness variable (y) had a mean score of 4.589 from the 50 surveys (Table 16). This score suggests that on average, the RAs and RDs scored a 57.36% for knowledge on their preparedness procedures. While the average scored slightly above half of the points possible for preparedness, multiple participants received a score of 0 that is discouraging.

Table 16. Descriptive Statistics of Dependent and Independent Variables

<table>
<thead>
<tr>
<th>Points Possible</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparedness (y)</td>
<td>0-8</td>
<td>0</td>
<td>8</td>
<td>4.589</td>
</tr>
<tr>
<td>Knowledge and Experience</td>
<td>0-10</td>
<td>0</td>
<td>10</td>
<td>7.5137</td>
</tr>
<tr>
<td>Preparedness Confidence</td>
<td>7-35</td>
<td>7</td>
<td>35</td>
<td>21.840</td>
</tr>
<tr>
<td>Hurricane Anxiety</td>
<td>8-40</td>
<td>8</td>
<td>37</td>
<td>17.520</td>
</tr>
<tr>
<td>Organized Personality</td>
<td>4-16</td>
<td>4</td>
<td>16</td>
<td>11.760</td>
</tr>
<tr>
<td>Years Lived in Fort Myers</td>
<td>-</td>
<td>0.08</td>
<td>21.92</td>
<td>3.4916</td>
</tr>
</tbody>
</table>

The mean score for knowledge and experience was relatively high (7.5137). This is likely due to a large number of participants being from a coastal community. However, there were also scores of 0 that represents little to no hurricane knowledge and experience. The mean score indicates that participants, on average, scored 75.14% on the hurricane knowledge and personal experience questions. Overall, the mean score indicates that the participants in this study have a high level of knowledge and experience concerning hurricanes.

The mean score preparedness confidence was 21.840 (Table 16). This means that when taking into account that there are 7 questions in this section, the average score for each question was a 3.12 out of 5. This number is slightly higher than the median score of 3 for each question.
Hurricane anxiety had a mean score of 17.52 (Table 16). When dividing that score against the 8 questions, on average, the participants had a low anxiety score of 2.19 out of 5 for each question. Overall, no participant reached a score over 37 when the maximum score was 40, so a lower anxiety score is expected (Table 16).

Having an organized personality was measured out of a total of 16. Scores were determined through three Likert scale-styled questions and a personal experience yes/no question. The mean score of the participants was 11.76 (Table 16). Because this section was combined, the percentage or average score on the Likert scale cannot be calculated. However, based on the mean score and the maximum score, the mean score is relatively high indicating that most participants have a more organized personality.

3.3 Identifying Relationships

3.3.1 Pearson’s Correlations

The Pearson’s correlations displayed in Table 17 supports hypothesis 1-B, that preparedness confidence and hurricane anxiety have a significantly negative relationship with each other. This is likely due to the more confidence one has in their preparedness, the less anxiety one has concerning incoming hurricanes. However, hypothesis 1-A is rejected because although a positive relationship exists between knowledge and experience scores and preparedness confidence, the relationship is not significant.
Table 17. Pearson’s Correlations

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Knowledge and Experience</td>
<td>.685</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Preparedness Confidence</td>
<td>.101</td>
<td>.896</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Hurricane Anxiety</td>
<td>-.057</td>
<td>-.329*</td>
<td>.868</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Organized Personality</td>
<td>.072</td>
<td>-.008</td>
<td>-.068</td>
<td>.684</td>
<td></td>
</tr>
<tr>
<td>5. Years Lived in Fort Myers</td>
<td>.118</td>
<td>-.134</td>
<td>-.0130</td>
<td>.088</td>
<td></td>
</tr>
</tbody>
</table>

*correlation is significant at the $\alpha<0.05$ level; Cronbach’s alpha displayed in the diagonal

Other than the correlation between preparedness confidence and hurricane anxiety, there is no significant relationship among the remaining variables (Table 17). Because there is only one significant correlation, there is not likely to be any multicollinearity between any variables.

**3.3.2 T-tests**

There is a significant relationship between knowledge and experience and the variable of gender ($r=.29$, $p<.05$). As the knowledge and experience score increases so is the likelihood of being female increases. This test rejects the hypothesis 2-A, gender will have a negative correlation with hurricane knowledge and experience. In this study, women are more likely to have higher knowledge and experience scores.

Tests also determined that race is shown to have a significant relationship. However, when assessing each race using dummy coding, the significance was within the ‘Other’ category.
With only 3 of the 50 participants scored in this category, this significance was not considered further with 2 of the 3 of the participants indicating they would prefer not to answer. There were no other significant relationships based on the $t$-test results and therefore we cannot support hypotheses 2-B through 2-I related to the other demographic components and their relationships with the scored variables.

Hypothesis 3 was supported through the findings from the $t$-test. Preparedness confidence and preparedness as an RA/RD have a significant positive relationship ($r=.568$, $p<.01$). Therefore, as preparedness increases, so is the likelihood that being confident in their preparedness increases.

### 3.4 Regression Analyses

#### 3.4.1 Distribution of Dependent Variable

Figure 7 displays the histogram of the dependent variables, preparedness as an RA/RD, overlaid with a normal bell curve. The scores for the RAs/RDs that took the survey do not follow a normally distributed curve (Figure 7).
Figure 7. Histogram of Distribution of Dependent Variable

3.4.2 Regression

The independent variables of knowledge and experience, preparedness confidence, hurricane anxiety, organized personality, years living in Fort Myers, gender, age, race, and owning a vehicle at their residence were run through multiple regression analyses to determine which variables had a relationship with the dependent variable, preparedness as an RA/RD. Race was dummy coded into 3 sections for Hispanic, Black, and other. Overall, 12 independent variables were assessed against the dependent variable. Of these independent variables, only preparedness confidence ($x_2$) was found to be of any statistical significance in predicting the level of knowledge of the preparedness procedures at FGCU ($y$). Results are shown in Table 18.
Stepwise regressions did not indicate that there are any further variables of statistical significance. The overall model with all 12 variables was able to explain 49.5% of the variance on the dependent variable. With an F-value of 3.017 and a p-value of .005, the overall model is considered significant.

However, when only preparedness confidence was run through the regression analysis, the model utility improved significantly ($\alpha=0.000$ with $F=22.820$) (Table 18). Although utility increased significantly, the explanation of variance dropped to 32.2% when only one variable was used in the model.

<table>
<thead>
<tr>
<th>Table 18. Results of Multiple Regression Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>Preparedness Confidence</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>$r^2$</td>
</tr>
<tr>
<td>Stand. Error of Estimate</td>
</tr>
<tr>
<td>Sig. ($p$-value)</td>
</tr>
<tr>
<td>F</td>
</tr>
</tbody>
</table>

The equation that best predicts the preparedness of an RA/RD is given below:

$$y = .618 + .182x_2$$

$t$-values: 4.777

($.000$)

Where:

$y$: Preparedness

$x_2$: Preparedness Confidence
Chapter 4. Discussion

4.1 Factor Loading

4.1.1 Hurricane Knowledge and Experience

A surprising finding in this study was the combination of knowledge and experience into one PC used for analysis. While theoretically these can be combined because there is likely to be a relationship between the level of personal experience and the level of knowledge, the existing literature and studies maintain these are two distinctive measures and predictors of preparedness. Even if 5 PCs were kept during the PCA, most questions from section B were still aligned with those from section A. Few were aligned with section G’s organized questions. Theoretically, the fit was considered better with hurricane knowledge than with being organized.

The hurricane knowledge section was developed as a measure due to the literature suggesting education and awareness is a predictor for preparedness of an individual (Faupel & Styles 1993; Izadkhan 2005). However, studies indicate variation on the influence of a previous experience on preparedness. Some findings suggest significant previous experience will result in cautiousness in future events, indicating a higher level of preparedness, or creating or implementing an annual plan for preparedness (Mayer et al. 2008; Sattler et al. 2000). Other findings reveal that individuals that have experienced hurricanes but were not affected significantly due to the size or strength of the hurricane were more overconfident, did not perceive risk, and were less prepared as a result (Sattler et al. 2000).
Students of traditional college age have been associated with overconfidence concerning hurricanes (Collins et al. 2009; Willigen et al. 2005). This study also indicates a certain level of overconfidence in individuals. Therefore, with over confident individuals likely to perceive less risk and be less prepared (Sattler et al. 2000) and more education being a predictor in preparedness (Faupel & Styles 1993; Izadkhan 2005), these variables being combined into the same PC could be counterproductive in determining their ability to predict preparedness.

4.1.2 Personality Characteristics

The personality characteristics section provided test questions to determine if factors such as organization, being detail-oriented, level of procrastination and overall anxiety were predicting elements in the preparedness of an RA/RD. These personality characteristics were considered because of related literature and theoretical concepts.

Being organized has not been assessed on an individual level to determine its influence on preparedness. However, organization has been assessed on a community level concerning resistance and resiliency. Questions relating to organization were considered into their own PC and used in multiple regression analyses. Using the Likert scale, questions that were used in this PC include questions G5, “I am messy,” that was reverse-scored, G6, “I am an organized person,” and G8 “I keep my living area cluttered,” which was also reverse-scored. Question B7, “Have you ever donated goods to help with hurricane relief?” was also used in this PC. This can be seen as being organized because of the organization that is needed to specifically donate goods to relief. Although the variable was not found to have statistical significance for a student population, further studies on the general population could be enlightening on its ability to predict preparedness. A question on anxiety was also used in combination with the hurricane
anxiety measure. While several questions were initially used in PCs regarding procrastination and being detail-oriented, they were eliminated to increase the internal reliability of the variable.

Although being detail oriented and level of procrastination were not considered for statistical analysis, this could be due to the scoring method used for questions related to these sections. Questions in this section of the survey were scored based on a bias of perception to which category the question belonged using both forward and inverse scoring methods. However, there is a relationship existing between several questions, such as G-12, “I plan my schoolwork schedule ahead of time” and G-2, “I find myself procrastinating in my schoolwork.” Question G-12 was forward scored because it was assessed as a being detail-oriented for 5 points. On the other hand, question G-2 was assessed as a measure of procrastination and was forward scored giving it 5 points for procrastination. If G-12 were considered in the procrastination grouping, however, it would have been reverse scored. For future studies, measures should be split into separate categories to reduce conflict, forward scored and allow the statistical program to assess their relationships. Questions could also be worded so inverse scoring would not be needed.

4.2 Relationships Between Variables

4.2.1 Scored Variables

Hypothesis 1 was partially supported with 95% confidence. Hypothesis 1-A was not supported at this level of significance, however hypothesis 1-B was. 1-A hypothesized that knowledge and experience would have a positive relationship with preparedness confidence scores. Which there was a positive relationship, the relationship wasn’t considered to be
significant. Hypothesis 1-B predicted that preparedness confidence would have a negative relationship with hurricane anxiety. Those with a higher score in hurricane preparedness confidence would, theoretically, have a lower score for their overall hurricane anxiety. Hypothesis 1-B was supported with 95% confidence, indicating that those who are confident in their own preparedness were less anxious from the threat of an incoming hurricane strike.

**4.2.2 Demographic Relationships with Scored Variables**

Hypothesis 2 was composed of parts A-I associated with the demographic elements and the scored variables from the measures knowledge and experience, preparedness confidence, hurricane anxiety, and organized personality. Only two demographic and scored variable t-tests were found to be significant.

**4.2.2.1 Knowledge and experience.** Hypothesis 2-A through 2-C predicted the relationships between certain demographic components with the knowledge and experience measure. Hypothesis 2-A was not supported by the results of the t-test. In fact, gender had a positive correlation with knowledge and experience. This indicated that higher knowledge and experience scores had a positive relationship with being female. While literature on the general population suggests there is more knowledge with the white male population, these scores specify women have the higher scores. This could be because the PC also included several personal experience scores that may have had a higher score with the female participants.

Hypothesis 2-B predicted a negative relationship between race and hurricane knowledge and experience. While there was a significant negative relationship between race and knowledge and experience, upon further investigation using dummy coding for Hispanic, Black and other, the significant relationship was found with the “other” variable. The “other” variable was
composed of 3 responses, 2 of which were “Prefer not to answer”. Therefore, though the hypothesis is supported, the significance is eliminated from analysis.

In hypothesis 2-C, a positive relationship between coastal residents and hurricane knowledge and experience was predicted. Theoretically, those who have their primary address within a 30 mile proximity to the coast would likely have had experience with a hurricane, be exposed to more information on hurricanes from news alerts on hurricanes and other sources of information. This $t$-test indicated a positive relationship, however, it was not considered significant.

4.2.2.2 Preparedness confidence. Hypotheses 2-D through 2-F were not supported through the $t$-tests. Both gender and race had a negative relationship with preparedness confidence, but was not considered a significant relationship. These hypotheses were based on literature considering their availability to information sources and their perceived risk to hurricanes. Hypothesis 2-F predicted coastal residents would have a positive relationship with preparedness confidence due to the likelihood of their heightened experience with hurricanes and knowing ways to prepare from those experiences. While there was a positive relationship, it was not considered significant.

4.2.2.3 Hurricane anxiety. Demographics were tested against the hurricane anxiety measure in hypotheses 2-G through 2-I. Each of these hypotheses were not found to have significance. Hypothesis 2-G predicted females would have a higher level of anxiety concerning hurricanes based on literature from the general population. Gender was found to have a slightly negative relationship indicating that men were slightly more anxious over hurricane strikes than females. Hypothesis 2-H was concerning race and hurricane anxiety. Due to the higher level of perceived risk, it was hypothesized that race would have a positive relationship with anxiety. The
correlation was slightly less than significant but would likely be found to be significant at the 90% level of confidence. Hypothesis 2-I predicted the demographic variables concerning their coastal status, ownership of a vehicle, and the number of years living in Fort Myers would have a negative correlation with anxiety. Being a coastal resident and having lived in Fort Myers would theoretically have a negative correlation because with the likelihood of having experienced hurricanes before, they would have more experiences and likely know how to prepare for a hurricane strike. Furthermore, owning a vehicle would give the option for evacuation that could reduce stress about experiencing the impact of a hurricane strike. While there was a slightly negative relationship with the number of years living in Fort Myers and owning a vehicle, they were not considered significant. Being a coastal resident, on the other hand, had a slightly positive relationship. This could be due to individuals having a traumatic experience previously that could affect their future feelings on a hurricane strike, such as a higher level of distress or perceived risk (Sattler et al. 2000).

Organized personality was not hypothesized due to the lack of literature on the subject and because these questions were used as tests rather than a form of measure.

4.2.3 Preparedness Relating to Preparedness Confidence

T-tests helped determine whether there is a strong, positive relationship between confidence and preparedness that supported hypothesis 3. Theoretically, the higher knowledge one has on their procedures for their residence hall, the more likely they will be confident. This is theorized based on hurricane knowledge from educational programs reducing stress and creating a higher level of overall preparedness in individuals (Faupel & Styles 1993). Therefore,
this relationship was not only significant in how preparedness confidence was able to predict preparedness as an RA/RD, but also the inverse relationship.

4.3 Regression Analysis

Only one independent variable was helpful in predicting the preparedness as an RA/RD. This variable was their preparedness confidence. This was a surprising finding since existing literature highlights knowledge and experience and demographic factors as predictors for preparedness. However, the findings compared to the LSU study are similar with respect to the measure of preparedness confidence (Weatherall 2012). However, the LSU study also found knowledge to be a predictor in their preparedness (Weatherall 2012). Weatherall notes that the recent strike of Hurricane Isaac prior to the study being conducted could have been an influential element for their high hurricane knowledge (2012).

Preparedness confidence was assessed using t-tests, as well as multiple regression analysis. As noted before, t-tests helped determine that there is a strong, positive relationship between confidence and preparedness. Therefore, it was likely that preparedness confidence would be a predicting variable for the preparedness. This supports existing literature that students tend to be confident, and more likely overconfident, in their preparedness and are more likely to underestimate a disaster situation (Collins et al. 2009; Weatherall 2012). 21 participants received preparedness scores below the mean. When assessing these 21 participants with their preparedness confidence score, they received a mean score of 18.0, just slightly below the mean score for the entire 50 participants (21.840). Despite having lower than average scores, confidence was still high for these 21 participants. Most notably, a student who received a score of 1.5 out of a possible 8 for knowledge of preparedness (y) also scored 25 out of 35 possible
points, indicating a high confidence in their level of preparedness. Only 2 individuals had scores below 10 in the group of 21. Overall, this indicates overconfidence in the low-scoring individuals.

A surprising finding in this study was that knowledge and experience was not found to be predictors of preparedness. This could be due to the fact that the measures of knowledge and experience were combined into one variable and possibly counteracting their ability to predict preparedness, as previously mentioned. Furthermore, this PC has the lowest reliability score from the Cronbach’s alpha test ($\alpha=0.685$). With a higher reliability and internal consistency, this variable could have been a predictor for the dependent variable. Many of the experience questions were not found to be significant and greatly reduced the points possible in that category. Restructuring the questions and adding additional experience questions could have provided more information that could have been statistically useful in analysis.

Hurricane anxiety was also not found to be a predictor in preparedness. This is likely due to the strong negative correlation between preparedness confidence and hurricane anxiety. Existing literature also indicated that students are likely to be more overconfident regarding their preparedness and perceive less risk (Collins et al. 2009). Therefore, have a lower level of anxiety. This is noted through the mean score of 17.52. Although this section had higher points possible than preparedness confidence, the mean was still lower than that of preparedness confidence (21.84).

Organized personality was used as a test variable to determine its significance in preparedness levels. This was hypothesized based on theory relating to community organization and their ability to recover and be resilient. However, in this study, being organized was not found to be a predictor for preparedness. This PC had a marginally acceptable Cronbach’s alpha
score ($\alpha=0.710$) that could have been a factor in this finding. Furthermore, Residence Life staff are working within an established set of procedures and the organization of the system as a whole can be influential in its effectiveness and how prepared OHRL is, rather than on an individual level. Therefore, the organization of OHRL leadership would be more important than individual organization in their preparedness.

Demographics were also a surprising find. Although gender was found to have a correlation with knowledge, no demographics were found to be predictors in Residence Life staff’s knowledge of preparedness procedures. However, in a study relating students with community residents, gender was a key component in predicting impacts for students (Willigen et al. 2005). While this was not found to be a predicting element for preparedness in this study, it was the only demographic component found to have a significant relationship to any of the scored variables. It is likely that due to their status as students, home connections, and living within an existing institutional system those students can be unique in their vulnerabilities (Willigen et al. 2005). The institutional system may provide students with a unique feeling of safety, leading students to have less perceived risk and therefore creating a “buffer” from general population vulnerabilities (Collins et al. 2009; Willigen et al. 2005). Furthermore, lingering connections with family and being part of a university system could aid in gaining the necessary lost resources that would have otherwise been difficult for females, minorities, and low-income individuals to receive (Willigen et al. 2005).

**4.4 Campus Preparedness Procedures**

FGCU and OHRL’s preparedness procedures were examined for analysis. Information was used from colleges with recent hurricane experiences to learn of suggestions to a more
successful experience including their preparations, management, reaction and recovery from the hurricane strike.

One note made from the Delgado Community College in New Orleans was the importance of identifying an emergency response team (Johnson et al. 2006). In the case of FGCU and OHRL procedures they describe using “essential personnel” in several steps of their procedures. In the survey question C-4, RAs/RDs were asked, “Does OHRL consider you ‘essential personnel’ in the event of a hurricane?” 50% of responses indicate that they were considered essential personnel and the other 50% of the responses indicated they “Do not know” or were not considered essential personnel. This indicates that while half were aware of their status, many were not. This can lead to mistakes, miscommunication and tasks left uncompleted. However, among the RDS, 4 of the 5 submitted surveys indicate that they were aware of their status as essential personnel. This indicates that RAs are less aware of their essential personnel status and should be communicated more clearly.

Tasks and responsibilities as RAs/RDs and their role as “essential personnel” are also important to communicate early. Question C-3 asks, “Do you know the emergency procedures for your residence hall?” Knowing these procedures are one of the main responsibilities for RAs/RDs. 19 of the 50 participants responded that they do not know the procedures for their residence hall. As a staff member in a Florida university located along a coastline in a geographically risky location, knowing these procedures should be including in a training session at the beginning of the year, particularly because the school year and their job as RA/RD starts during the hurricane season. Procedures did not indicate if training sessions pertaining to severe weather would be done at the start of the beginning of the academic year. Question C-6 was used to determine if RAs knew about their responsibility to learn of evacuation plans for their
residents. Only 12% did not know this was their responsibility. This is a very encouraging number because this information is given to OHRL leadership to keep a roster of those who will be taken to Alico Arena for shelter. This roster is kept throughout the evacuation process and is important to maintain to ensure student safety. Question C-9 asked RAs/RDs to choose which tasks were the responsibility of OHRL staff members and leadership. 32% of RAs/RDs did not receive any correct responses or indicated they did not know and only 10% knew all 5 tasks. While this information can be expressed as needed to RAs/RDs while at the shelter, it is important they know where OHRL responsibilities lie since the shelter plan designates several groups involved in management of the shelter.

Identifying emergency headquarters was also noted as important from the Delgado case study. In the case of RAs/RDs, it is equally important to be able to identify the evacuation shelter and at which point in the procedures they should begin evacuating students. While neither of these questions were considered as statistically significant to include in the PC for the dependent variable, they are relevant to determining this aspect of campus emergency management. Question C-5 asked, “What ‘phase’ do you have to evacuate according to the severe weather procedures document?” and question C-7 asked RAs/RDs, “What FGCU shelter do residents get evacuated to?” Responses to the location of the shelter were encouraging with 47 of the 50 responses indicating that Alico Arena was the appropriate location. However, 98% of responses to the phase at which they should evacuate the residents were incorrectly answered or were responded to with “Do not know.” This percentage of RAs/RDs indicates that only 1 response was correct. Therefore, this information is either not communicated clearly by leadership or was not known by the RAs/RDs due to the lack of implementation of the evacuation procedures during this academic year. However, this could be problematic when implementing and
communicating the procedures effectively in the future. If each phase was also assigned a main theme, such as preparing essential personnel or begin evacuation, students may be more likely to remember the order of their responsibilities rather than just noting each phase numerically.

Communication was another important aspect of managing hurricanes during an emergency, such as a severe weather event. Delivering communications through a single service is considered to be less chaotic and will reduce conflicting messages for students and staff (McCarthy & Butler 2003). At FGCU, there are multiple services to provide information. In this case, it is necessary since the information needs to be provided to multiple groups. FGCU provides services such as the FGCU Alert System that provides text messages on information for severe weather events, tone alerts in on-campus buildings, and instructions for students and staff. It is not clear how FGCU issues these instructions as it was not indicated in their informational material; however, there are several documents on the FGCU website that provides general information and instructions for severe weather. OHRL also provides instructions through their Community Guidebook for residents. Furthermore, OHRL describes distribution of preparation information to residents such as how to prepare the residence hall for evacuation and power outage, having an evacuation plan to leave the campus, what to take to the shelter, and where/how to get information on the campus closing/opening during Phase Two of their procedures.

It is important that information comes from both FGCU and OHRL since FGCU communicates to a broad crowd of students and staff and OHRL have specific information to distribute to residents and Residence Life staff. However, RAs/RDs should also understand FGCU communications because they are staff members of the university. Questions C-2, C-10 and C-11 asked about their subscription to the text alert system, using a tone alert and FGCU
issuing instructions for severe weather, respectively. 50% of RAs/RDs indicated they were either not subscribed to or did not know about the FGCU Alert System provided through text messages. 76% of RAs/RDs believed that there was no tone alert or did not know about the tone alerts provided for on-campus buildings. More encouraging, only 28% either answered “No” or “Do not know” concerning FGCU issuing instructions on how to remain safe during severe weather. Encouraging RAs/RDs to be aware of FGCU as well as OHRL communications could elevate these percentages and will allow RAs/RDs to communicate the most up-to-date information to their residents, as well as give them information on where to gather information. Utilizing the text alert system could be extremely beneficial to not only RAs/RDs, but also to residents.

Aside from issuing the procedures and having a meeting prior to an incoming hurricane strike, the procedures do not indicate an established set of training regarding severe weather procedures. FGCU should establish routine training for RAs/RDs during the hurricane season due to their vulnerable location and the literature that emphasizing disaster education programs influencing a higher level of preparedness (Faupel & Styles 1993). By having a disaster training and education program, the essential personnel team can prepare as a team and become better prepared as a team in their preparedness, as well as individually. Furthermore, creating a training and education program can address many of the gaps currently existing within the Residence Life staff’s knowledge. Literature indicates that colleges are most prepared for disasters that have happened previously to it (Bruxvoort 2012; Mitroff et al. 2006). Since the FGCU area has not been struck by a major hurricane since 2004 and was not directly hit in that strike, training programs could close that gap and remain prepared and diligent without the experience.
4.4.1 Confidence and Concerns with FGCU

Another important aspect to determine is the confidence and concerns RAs/RDs have regarding FGCU’s ability to aid in their preparation for hurricanes, maintain their safety, and provide assistance towards recovery. Questions in section D provide a more detailed look into their attitudes and thoughts specifically related to FGCU. These sections asked RAs/RDs to provide a response to statements with a numbered response varying from 1 to 5, with 1 being strongly disagree and 5 being strongly agree. Question D-2 states, “I feel confident that the knowledge FGCU has provided me will prepare me for this hurricane season.” Table 19 provides the frequencies in responses. 32% of RAs/RDs did not feel confident that FGCU provided the necessary knowledge to aid them in their preparedness. The mean score among the participants was 2.92, indicating an overall lack of confidence in the knowledge given to them by FGCU.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree (1)</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Somewhat Disagree (2)</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Neither Agree nor Disagree (3)</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Somewhat Agree (4)</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Strongly Agree (5)</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Question D-6 states, “I feel FGCU has assured me of my safety during a hurricane.” The mean for this question was slightly higher than that of question D-2 (3.22). Table 20 provides frequency of responses from the RAs/RDs 40% of respondents agreed with the statement. RAs/RDs are most confident in FGCU’s ability to maintain their safety. Question D-7 states, “I feel reassured that FGCU will help with any reconstruction/restoration after a hurricane.” The
mean for this score is 3.14. 38% of responses agreed that they are confident that FGCU will provide assistance towards recovery (Table 21).

**Table 20. Frequency of Responses for Question D-6**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Somewhat Disagree (2)</td>
<td>7</td>
</tr>
<tr>
<td>Neither Agree nor Disagree (3)</td>
<td>19</td>
</tr>
<tr>
<td>Somewhat Agree (4)</td>
<td>13</td>
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<tr>
<td>Strongly Agree (5)</td>
<td>7</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

**Table 21. Frequency of Responses for Question D-7**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
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<td>5</td>
</tr>
<tr>
<td>Somewhat Disagree (2)</td>
<td>10</td>
</tr>
<tr>
<td>Neither Agree nor Disagree (3)</td>
<td>16</td>
</tr>
<tr>
<td>Somewhat Agree (4)</td>
<td>11</td>
</tr>
<tr>
<td>Strongly Agree (5)</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

Overall these statistics suggest that students are more confident in FGCU regarding their safety during a hurricane and their recovery afterwards rather than their ability to provide information that would aid in preparing for a hurricane. Studies among students conclude that providing assistance in a student’s recovery through financial means and aid with resources can help reduce stress during their recovery period (McCarthy & Butler 2003). RAs/RDs at FGCU are more confident in FGCU’s ability to assist following a disaster than during the preparedness phase. Their concerns regarding FGCU’s ability to aid in preparedness could be due to the lack of communication in the roles RAs/RDs are expected to play as an emergency response team member.
Chapter 5. Conclusion

5.1 Study Findings

Conducting this study at FGCU made it possible to expand on research concerning student vulnerabilities, preparedness of student employees (specifically housing employees), and effective campus emergency management. Using surveys and statistical software, this study found that females were more likely have a higher level of knowledge and experience with hurricanes and that the Resident Life staff member’s preparedness confidence was an influential element in determining their knowledge of preparedness procedures. Furthermore, this study noted a strong positive relationship between preparedness confidence and preparedness. This study was able to determine the effectiveness of the preparedness procedures set by FGCU and OHRL by comparing Residence Life staff’s answers to recommendations made from universities who had a traumatic experience with hurricanes. And finally, this study was able to provide information on the feelings RAs/RDs have relating to FGCU’s ability to aid in their preparedness, maintain safety during a hurricane event and provide assistance during recovery.

Overall, this study supports existing literature suggesting that students have a sense of overconfidence in their preparations. This is likely due to the “buffer” of perceived safety that a university atmosphere creates (Willigen et al. 2005). Although being confident is important when managing through a crisis, being overconfident can be a detriment to the system in place if student housing employees are not knowledgeable on preparedness procedures. However, the relationship indicates that with a higher level of knowledge of preparedness procedures, so is the
likelihood of a higher level of preparedness confidence. Therefore, university systems can become more effective by supporting students in their confidence, but also remaining diligent that the preparedness procedures are known by the Residence Life staff to avoid a sense of overconfidence. Throughout a hurricane season, it would be beneficial for OHRL to continually send out updates on possible hurricane threats for their employees to track and be aware of, send reminders about important preparedness information that should be communicated to their residents and used personally, and sending gentle reminders regarding hurricane preparedness procedures that are important for staff to know.

In this study, the survey indicates that gaps exist between communication of expectations and evacuation procedures, as well as the methods of communication used by FGCU and OHRL to communicate important severe weather alerts. It was not clear to 50% of participants if they were considered “essential personnel” in the event of severe weather. This can be problematic in determining what further roles are expected of them, such as the tasks to be performed at the evacuation shelter. It was also unclear when evacuations would be performed and how residents were to be transported to the on-campus shelter. Also, there was confusion on how information regarding severe weather was issued by FGCU. This is important information that needs to be further communicated to their residents and therefore, FGCU communications as well as OHRL communications on severe weather should be monitored by Residence Life staff.

Furthermore, this lack of communication extends to the confidence RAs and RDs have with FGCU regarding their ability to prepare. Providing training and disaster education for RAs/RDs could increase the confidence they have in FGCU to provide support in their ability to be prepared. Their confidence can be further increased through better communication of the roles they are expected to play during the procedures.
5.2 Study Weaknesses and Suggestions for Future Research

Although this study was able to provide valuable information and utilize statistics to expand literature on students, student employees, and campus emergency management, the study also has limitations and weaknesses. One limitation affecting the research is the number of participants tested. More surveys and participants could have provided more data that would have been beneficial during analysis and would have been a more representative sample. Another limitation concerning the number of participants were the number of RDs in the sample. Five RDs participated in this study. Because there were very few RDs that participated in the study, RDs and RDs could not be compared on a statistical level. Therefore, they were assessed as one group of participants throughout the study.

Another limitation in this study is the coding utilized for the personality characteristics section of the survey. Questions were scored depending on a personal bias that existed when assessing which group each question belonged to between procrastination, detail-oriented, organized and anxious personalities. Because the personal bias led to a certain scoring method for questions, these questions may have been affected and did not fit into a factor during analysis. For example question G-12, “I plan my schoolwork ahead of time,” could have been scored for either procrastination or detail-oriented. This question was ultimately forward scored for being detail-oriented. If question G-12 was included in the procrastination grouping, it would have been reverse scored. Therefore, this limited the success of the personality questions as test questions.

Furthermore, individual bias from participants could have affected their scores for measures of confidence, anxiety and personality characteristics. The data, although checked,
could have been input incorrectly into the statistical software and statistical tests could have been subject to type II error.

This survey used was adapted from a study at LSU; however, this study introduced a new measure that could not be retested to determine the validity of the measure due to time constraints with the study. As a result, the personality questions were used as test questions to determine if further tests could be conducted using this measure.

If future tests are conducted to determine student vulnerabilities and buffers that exist due to their student status and institutional influences, using on-campus residents would give researchers a larger sample size and would have been a more representative sample for the students at FGCU, rather than the more specific population of student housing employees. The sample size conducted from Residence Life staff was a small population and was a subpopulation that could have their own unique vulnerabilities not found in the student population. Surveys in this case would need to be adapted to meet the needs of all students.

For future studies relating to campus emergency management, it would be more effective to survey all levels of staff, not only student RAs and Resident Directors that have the most contact with residents. Surveys could also be issued to those who OHRL collaborates with during evacuations to determine the effectiveness of their overall evacuation procedures. Surveys would need to be adapted to include only information regarding evacuation procedures.

Personality characteristics could be used in future studies if scoring was adjusted. If questions were structured in a way that all items could be forward scored, it could provide insight into how being organized, being detail-oriented, and procrastination play a role in preparedness. These aspects could be interesting to uncover for the student population.
This study can also be adapted to other organizations that have preparedness procedures and how leadership is able to effectively follow those procedures. This can also be adapted to schools, such as elementary, middle and high schools, concerning a teacher’s ability to know procedures for the safety of their students. Survey questions can be adjusted to include several types of disasters and significant disruptions from natural hazards, such as earthquakes, tornadoes, and fires.
References


Bruxvoort, D., 2012: Disaster preparedness for colleges and universities, Texas Library Journal, 100-104.


Appendices
Appendix A. Survey

An Evaluation of Hurricane Preparedness by Florida Gulf Coast University’s Residence Life Staff Members

Page 1

Informed Consent Form

Please read through the entire informed consent form. If you still wish to participate, please select yes below. If you select yes, you will be brought to the survey instructions. If you do not wish to participate in this study and do not consent, please select no at the bottom of the page.
Do you wish to participate in this study? *

Answering yes means you understand and agree to the above consent form and wish to continue on to the survey. You will be brought to the survey instructions and information screen. If you select no, please do not answer any further questions in the survey and we thank you for your time.

☐ yes
☐ no

Page 2

Spring 2014

As part of a Master's degree research project, this survey has been distributed to assess the preparatory measures taken by the Florida Gulf Coast Residential Staff, including the Resident Assistants (RAs) and Resident Directors (RDs), in the event of a threatening hurricane to the Fort Myers location. When answering the questions below, when you do not know the answer, please select “Do not know” instead of guessing. Both right and wrong answers provide helpful information.

This survey asks about your general hurricane knowledge, personal experience with hurricanes, hurricane preparedness at FGCU, your hurricane preparedness attitude, your thoughts on incoming hurricanes, and general questions about you.

Any questions can be directed towards Erin Floto (efloto@mail.usf.edu) or Dr. Jennifer Collins with the University of South Florida (813-974-4242).

Please do not put any identification on the survey as the information is completely confidential.
Your job title: *

If your selection is neither, please do not proceed. If you have selected RA or RD please continue on to A-1.

- Resident Assistant (RA)
- Resident Director (RD)
- Neither

Page 4

A. GENERAL HURRICANE KNOWLEDGE

A-1. What month does hurricane season officially begin?

A-2. What month does hurricane season officially end?

A-3. The Saffir-Simpson Scale is used to measure and categorize hurricane intensity. *

A-3 a. What is the lowest numbered category on the scale?

A-3 b. What is the highest numbered category on the scale?

A-4. Which of the following is correct about the Saffir-Simpson scale?

Select ONE.

- Low numbered categories represent stronger hurricanes
- High numbered categories represent stronger hurricanes
- Do not know

A-5. What aspect of a hurricane does the Saffir-Simpson scale measure?

Select ONE.

- Potential rainfall
- Wind speed
- Potential storm surge
- Sea surface temperatures
- Do not know

A-6. In the Northern Hemisphere, which way do hurricanes rotate?

Select ONE.

- Clockwise
- Counter-clockwise
- Do not know
A-7. Which side of the hurricane is considered to be more dangerous?
Select ONE.
- Left (west)
- Right (east)
- Do not know

A-8. Where are winds highest in the structure of a hurricane?
Select ONE.
- Inside the eye
- In the eye wall
- In the outer rain bands
- Do not know

A-9. What form of money is best to have before a storm makes landfall?
Select ONE.
- Cash
- Credit card
- Debit card
- Checks
- Do not know

A-10. What other damaging elements can be produced by a hurricane?
Select ALL that apply.
- Tomatoes
- Floods
- Tsunami
- Storm surge
- None of the above
- Do not know

A-11. What supplies should be on hand in the event of a hurricane?
Select ALL that apply.
- Weather radio
- Water supply
- Food
- Cell phone
- Identification
- Batteries
- Battery-operated lights
- Do not know

Please proceed to Section B
Page 5

B. PERSONAL EXPERIENCE WITH HURRICANES

B-1. Were you ever a resident of a location while that location was struck by a hurricane?
- yes
- no

B-2. Have you ever had to evacuate due to a hurricane?
- yes
- no

If no, please proceed to B-3.

B-2 a. When was the last time you were evacuated?
Select only ONE.
- Less than 1 year ago
- 1-3 years ago
- 3-5 years ago
- 5-10 years ago
- 10+ years ago

B-3. Have you ever stayed in your place of residence when a hurricane has struck?
- yes
- no

B-4. Has the power in your home gone out during a hurricane?
- yes
- no

If no, please proceed to B-5.

B-4 a. What was the longest power outage you’ve experienced due to a hurricane?
Select only ONE.
- Less than 1 hour
- 1-5 hours
- 5-12 hours
- 12-24 hours
- 24+ hours
B-5. How long has it been since you last tuned into media coverage on a hurricane?
Select only ONE.
- Less than 1 year ago
- 1-3 years ago
- 3-5 years ago
- 5-10 years ago
- 10+ years ago
- Have never tuned in

B-6. Have you ever donated money to help with hurricane relief?
- yes
- no

B-7. Have you ever donated goods to help with hurricane relief?
- yes
- no

B-8. Have you ever traveled to an area that was struck by a hurricane to help with relief efforts?
- yes
- no

B-9. Have you ever traveled to an area that was struck by a hurricane and seen damage?
- yes
- no

B-10. Have you or has someone you've known suffered a loss of any kind (i.e. loss of life, loss of property, damage to personal items, etc.) from a hurricane?
If no, please proceed to B-11.
- yes
- no

B-10 a. If yes, please explain.

B-11. Have you or has someone you've known suffered bodily injury from a hurricane?
If no, please proceed to Section C.
- yes
- no
B-11 a. If yes, please explain.

Please proceed to Section C

Page 6

C. YOUR HURRICANE PREPAREDNESS AS AN RA/RD

C-1. How many residents are you responsible for?

C-2. Have you signed up for the weather-related text messages given by the FGCU Alert System?
- [ ] Yes
- [ ] No
- [ ] Did not know about this service

C-3. Do you know the emergency procedures for your residence hall?
- [ ] Yes
- [ ] No

C-4. Does OHRL consider you “essential personnel” in the event of a hurricane?
- [ ] Yes
- [ ] No
- [ ] Do not know

C-5. What “phase” do you have to evacuate according to the severe weather procedures document?

Select ONE:
- [ ] Phase One
- [ ] Phase Two
- [ ] Phase Three
- [ ] Phase Four
- [ ] Phase Five
- [ ] Phase Six
- [ ] Phase Seven
- [ ] Do not know

C-6. RAs are responsible for contacting each resident to learn of their plans for evacuation.
- [ ] True
- [ ] False
C-7. What FGCU shelter do residents get evacuated to?

C-8. Staff may provide assistance while at the shelter by assisting with food distribution.

- Yes
- No
- Do not know

C-9. While at the shelter during an evacuation, OHRL is responsible for providing the following:

Select ALL that apply:

- Assist on behavior issues
- Manage rosters for evacuated residents
- Refuel generators
- Check in residents and shelter inhabitants
- Communicate shelter status to Vice President
- Create damage checklist
- Coordinate with Red Cross
- Do not know

C-10. FGCU uses a tone alert in building on-capus to warn of severe weather.

- Yes
- No
- Do not know

C-11. FGCU issues instructions on how to remain safe during severe weather.

- Yes
- No
- Do not know

C-12. Is FGCU responsible for any damage to personal belongings in the event of a hurricane?

- Yes
- No
- Do not know

C-13. Residents remaining at FGCU for an evacuation are instructed to do the following:

Select ALL that apply:

- Travel to the designated evacuation shelter
- Secure dorm rooms
- Dispose of all perishables
- Prepare for potential power outages
- Pack bag with essential sleeping items, toiletries, medication and identification
- Do not know
Page 7

D. YOUR HURRICANE PREPAREDNESS ATTITUDE

On a scale of 1 to 5, with 1 being strongly disagree, 2 being somewhat disagree, 3 being neither agree nor disagree, 4 being somewhat agree, and 5 being strongly agree, please respond to the following statements:

Please respond to the following statements:

<table>
<thead>
<tr>
<th></th>
<th>1 Strongly Disagree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-1. As a Resident Assistant (or RD), I feel well-prepared for this hurricane season.</td>
<td></td>
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<td>D-2. I feel confident that the knowledge FGCU has provided will prepare me for this hurricane season.</td>
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<td>D-3. I am confident that my hurricane preparation knowledge will contribute to keeping my residents safe in the event of a hurricane.</td>
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<td>D-4. I feel that I have adequate resources to acquire important supplies for a hurricane emergency (stocking up on food, gas, batteries, water, etc.).</td>
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<tr>
<td>D-5. I feel confident in my ability to answer any hurricane preparedness questions for my residents.</td>
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<tr>
<td>D-6. I feel FGCU has assured me of my safety during a hurricane.</td>
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<td>D-7. I feel reassured that FGCU will help with any reconstruction/restoration after a hurricane.</td>
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</tbody>
</table>

Please proceed to Section E

Page 8

E. YOUR THOUGHTS ABOUT INCOMING HURRICANES

On a scale of 1 to 5, with 1 being strongly disagree, 2 being somewhat disagree, 3 being neither agree nor disagree, 4 being somewhat agree and 5 being strongly agree, please respond to the following statements:
Please respond to the following statements:

1 Strongly Disagree  2  3  4  5 Strongly Agree

E-1. I worry about a hurricane coming to my residence.

E-2. I have thoughts that I will have nowhere to live in Fort Myers if a hurricane came through.

E-3. I find myself thinking about costs to replace damaged belongings after a hurricane.

E-4. I worry that I will experience bodily harm from a hurricane.

E-5. I worry that friends, loved ones, or residents will experience harm from a hurricane.

E-6. I am concerned about my job following a hurricane.

E-7. I worry that a hurricane will result in a long power outage.

Please proceed to Section F

Page 9

F. BACKGROUND DEMOGRAPHICS

F-1. Gender:

Please choose...

F-2. What year were you born?

F-3. Are you an international student?

- yes
- no

F-4. What would you consider your race or ethnicity?

- Black
- Hispanic
- Native American
- Pacific Islander
- White (Non-Hispanic)

- Other (please describe)
F-5. Where is your primary home located?

City: 
State: 
Country: 

F-6. How long have you lived in Fort Myers?

Please state in years and months. For example, if you have lived in Fort Myers for 1.5 years, please write "1 year" and "6 months".

Year(s) 
Month(s) 

F-7. Do you personally own a motor vehicle that is located in Fort Myers?

- yes
- no

Please proceed to Section G

Page 10

G. GENERAL CHARACTERISTIC STATEMENTS

Read each statement and provide a value between 1 and 5, with 1 being strongly disagree, 2 being somewhat disagree, 3 being neither agree nor disagree, 4 being somewhat agree and 5 being strongly agree, for each statement. There are no right or wrong answers.
Describe how you generally feel for each statement.

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<thead>
<tr>
<th></th>
<th>1 Strongly Disagree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-1. I find myself to be detail-oriented.</td>
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<td>G-2. I find myself procrastinating in my schoolwork.</td>
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<td>G-3. I am an anxious person.</td>
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<td>G-4. I am punctual.</td>
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<td>G-5. I am messy.</td>
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<td>G-6. I am an organized person.</td>
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<td>G-7. I am often prepared.</td>
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<td>G-8. I keep my living area cluttered.</td>
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<td>G-10. I find myself doing work ahead of due dates.</td>
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<td>G-11. I find myself to be a worried person.</td>
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<td>G-12. I plan my coursework schedule ahead of time.</td>
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<td>G-13. I keep a to-do list.</td>
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<td>G-14. I often submit my class assignments after the due date.</td>
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<td>G-15. I am a nervous person.</td>
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</tbody>
</table>

Page 11

Thank you for your participation in this survey! If you have reached this screen, you have completed the survey. Thank you for your time and patience while answering these survey questions. Your participation in this survey has been extremely helpful.

Following this page, you will be redirected to an advertising screen for this survey website. This is not part of the survey and is not required for you to create an account or survey to participate in this study.

Thank you again. If you have any questions, please inform the Pi with the contact information given in the introductory screen.
Appendix B. Survey Scoring and Justifications

Section A. General Hurricane Knowledge

Section A for this survey gauges the knowledge that the RAs and RDs have on hurricanes. General hurricane knowledge is an important aspect in the determination of how to prepare for a hurricane strike. This information can be considered common knowledge in the general population. The survey includes questions on the information regarding the Saffir-Simpson scale, hurricane season beginning and ending dates, intensity of winds, and preparation for a hurricane strike. RAs/RDs can receive a maximum of 12 points in this section. Those with a higher level of knowledge of hurricanes, determined by the correctness of their answers, will have a higher score in this section.

A-1 and A-2 (2 points)

A-1. What month does hurricane season begin?

A-2. What month does hurricane season end?

Each question is worth 1 point. These questions are open-ended for the survey-taker. They inquire about the official beginning and ending month for hurricane season. The answer that will receive 1 point for A-1 is June; any other answer will receive a score of 0. The answer that will receive 1 point of A-2 is November; any other answer will receive a score of 0.

A-3 (2 points)

A-3. The Saffir-Simpson scale is used to measure and categorize hurricane intensity.

A-3 a. What is the lowest numbered category on the scale?

A-3 b. What is the highest numbered category on the scale?
This question will be split up into A-3 a. and A-3 b. These questions gauge the RAs’ or RDs’ knowledge on the Saffir-Simpson scale categories to determine hurricane intensity. A-3 a. asks the lowest numbered category on the Saffir-Simpson scale. The answer “1” will receive a score of 1; any other response will be given a score of 0. A-3 b. asks the highest numbered category on the Saffir-Simpson scale. The answer “5” will receive a score of 1; any other response will receive a score of 0.

A-4 (1 point)

A-4. Which of the following is correct about the Saffir-Simpson scale?

This question continues to gauge the responder’s knowledge on the Saffir-Simpson scale and is important in specific preparations to be taken based on the intensity of the hurricane. Those with the response “High numbered categories represent stronger hurricanes” will receive a score of 1; any other answer will receive a score of 0.

A-5 (1 point)

A-5. What aspect of a hurricane does the Saffir-Simpson scale measure?

This question continues to test the RA or RD on the Saffir-Simpson scale, this question will be used to determine if they are knowledgeable about how strength is considered by the Saffir-Simpson scale. Respondents will receive a score of 1 for the answer “Wind speed.” Any other answer will receive a score of 0.

A-6 (1 point)

A-6. In the Northern Hemisphere, which way do hurricanes rotate?

This question gauge’s their basic knowledge of hurricanes including the hurricane’s rotation. “Counter-clockwise” rotation will be given a score of 1; any other answer will receive a score of 0.
A-7 (1 point)

A-7. Which side of the hurricane is considered to be more dangerous?

Those who respond with the answer “Right (east)” for the more dangerous side of the hurricane will receive a score of 1; any other answer will receive a score of 0. This is important to understand the asymmetry of a hurricane and the level of preparation that must be taken depending on what side of the hurricane your location is on.

A-8 (1 point)

A-8. Where are winds highest in the structure of a hurricane?

Those who answer “In the eye wall” will receive one point for their knowledge on where the winds are most intense and may cause the most damage during a hurricane strike. All other answers will not receive a point.

A-9 (1 point)

A-9. What form of money is best to have before a storm makes landfall?

If respondents answer “Cash” they will receive 1 point and all other answers will not receive a point. This answer assesses their knowledge on how hurricanes can effect electronic applications.

A-10 (1 point)

A-10. What other damaging elements can be produced by a hurricane?

This information is important to know because the other preparations that must be taken to ensure safety and damage that can be produced during a hurricane. The answers “Tornadoes,” “Floods, and “Storm surge” each receive 1/3 of a point if selected; any other answers do not receive any points.

A-11 (1 point)
A-11. What supplies should be on hand in the event of a hurricane?

RAAs and RDs are asked to choose items from the list that are helpful during a hurricane. This is important in the amount of preparation a person takes and how knowledgeable they are on preparatory measures that are taken. The options “Weather radio,” “Water supply,” “Food,” “Identification,” “Batteries,” and “Battery-operated lights” are each worth 1/6 of a point. The responses “Cell phone” and “Do not know” will not receive any points.

Section B. Personal Experience with Hurricanes

Section B determines the extent of the personal experience an RA or RD has with previous hurricanes. Past experiences in this survey include hurricane strikes, evacuations, power outages, relief and donations, and injuries or loss sustained due to a hurricane. Past experiences, as noted earlier, can shape future preparations taken. Section B has a maximum point value of 13 points assessed. A higher score in this section is associated with a more personal experience with hurricanes. A low score in this section means the individual has less experience with hurricanes.

B-1 (1 point)

B-1. Were you ever a resident of a location while that location was struck by a hurricane?

Those who responded, “Yes” will receive one point for this question; those who answered with “No” received a score of 0. If one has been located where a hurricane has struck, they likely gained knowledge on necessary preparations. This knowledge that is gained can contribute to a greater level of preparedness during future hurricanes.
B-2 and B-2 a (2 points)

B-2. Have you ever had to evacuate due to a hurricane?

    B-2 a. When was the last time you were evacuated?

For those who had been through the evacuation process, they are likely to be more prepared in future evacuation events. If they have evacuated before, they will receive 1 point. If they have not, no points will be given for questions B-2 or B-2 a. Furthermore, the amount of time from their last evacuation will likely impact their level of preparation. Those that have evacuated more recently will be assessed with a higher score. “Less than 1 year ago” will receive the full 1 point, “1-3 years ago” will receive 4/5 of a point, “3-5 years ago” will receive 3/5 of a point, “5-10 years ago” will receive 2/5 of a point, and “10+ years ago” will receive 1/5 of a point.

B-3 (1 point)

B-3. Have you ever stayed in your place of residence when a hurricane has struck?

Those who have stayed in their home while a hurricane has hit will understand necessary items needed during the strike and the effects of the hurricane. Their experience may influence future preparations taken. If respondents answer, “Yes” they will receive 1 point. “No” will not receive any points.

B-4 and B-4 a (2 points)

B-4. Has the power in your home gone out during a hurricane?

    B-4 a. What was the longest power outage you’ve experienced due to a hurricane?

The inability to use electronics may factor into future preparations taken including purchasing necessities or in their future decisions to evacuate. Those who answer with
“Yes” will receive a point. Answering “No” will not receive any points for B-4 or B-4 a. The time period is relevant to the extent of inconvenience one experienced. Therefore the longer time period will be given a higher score. “24+ hours” will receive 1 point, “12-24 hours” will receive 4/5 of a point, “5-12 hours” will receive 3/5 of a point, “1-5 hours” will receive 2/5 of a point, and “Less than 1 hour” will receive 1/5 of a point.

B-5 (1 point)

B-5. How long has it been since you last tuned into media coverage on a hurricane?

Media coverage on hurricanes provides a virtual type of experience that educates viewers on hurricane paths, possible destruction, and suggested preparations that can be taken. Scoring is assessed with the most recent viewership earning the most points for experience. “Less than 1 year ago” will receive 1 point, “1-3 years ago” will receive 4/5 of a point, “3-5 years ago” will receive 3/5 of a point, “5-10 years ago” will receive 2/5 of a point and “10+ years ago” will receive 1/5 of a point. No points will be given for “Have never tuned in”.

B-6 and B-7 (2 points)

B-6. Have you ever donated money to help with hurricane relief?

B-7. Have you ever donated goods to help with hurricane relief?

Those who have donated from hurricane relief effort are likely to have heard news on the disaster and have shown sympathy through donations. Money and goods are assessed separately because each act towards hurricane relief efforts are considered to be separate experiences. If one sends both types of assistance, it will be weighted more than only participating in one type. For B-6, if they responded with, “Yes” a point will be given. No
points will be given for “No”. For B-7, “Yes” will also receive a point and “No” will receive no points.

**B-8 (1 points)**

*B-8. Have you ever traveled to an area that was struck by a hurricane to help with relief efforts?*

Those who have traveled to an area to help with relief efforts are given a further point because their personal experience with those impacted by the hurricane will likely affect personal preparation measures taken in the future. “Yes” answers receive 1 point for this question. The answer “No” will not receive a point for this question.

**B-9 (1 point)**

*B-9. Have you ever traveled to an area that was struck by a hurricane and seen damage?*

For one to see the destructive aftermath of hurricane and slow rebuilding process creates a personal experience that will likely enhance preparations taken to reduce any future damages they may have. 1 point will be given for those responding with “Yes.” No points will be given for “No.”

**B-10 and B-10 a (1 point)**

*B-10. Have you or has someone you’ve known suffered a loss of any kind (i.e. loss of life, property, damage to personal items, etc.) from a hurricane?*

*B-10 a. If yes, please explain.*

Suffering or seeing someone suffer from loss due to a hurricane creates a personal experience with a hurricane. The answer “Yes” will be assessed with 1 point and “No” will not receive any points. B-10 a will not be utilized for statistical purpose as to the personal experience and will only be used as a potential discussion point within the study.
B-11 and B-11 a (1 point)

B-11, Have you or has someone you’ve known sufferance bodily injury from a hurricane?

B-11 a. If yes, please explain.

These questions will be assessed similarly to B-10 and B-10 a. Bodily injury can provide additional struggles considered to be a personal experience with hurricanes. The answer “Yes” for B-11 will receive 1 point. Answering “No” will not be given any points. B-11 a will not be used for statistical purposes and only for potential use within a discussion.

Section C. Your Hurricane Preparedness as an RA or RD

Section C will be assessed in the overall correctness in answers provided by each RA or RD. This section will help determine their knowledge on FGCU procedures for severe weather as dictated by the OHRL. Responsibilities identified in OHRL’s severe weather procedures, FGCU shelter and evacuation information, and FGCU severe weather warning system are all tested in this section. These questions are derived from various severe weather and evacuation procedure documents. Higher scores in this section are associated with a higher level of knowledge on preparedness measures and procedures set by FGCU and OHRL. Low scores are associated with a lower knowledge on procedures and lower level of preparedness as an RA/RD. RAs/RDs can earn up to 12 points in this section.

C-1 (no score)

C-1. How many residents are you responsible for?

This question will be used within discussion to determine the impact an RA’s or RD’s level of preparation is and how many are directly affected. It will ultimately help
conclude the importance of the role an RA or RD plays for the residents and within the severe weather procedures for OHRL.

**C-2 (1 point)**

*C-2. Have you signed up for the weather-related text messages given by the FGCU Alert System?*

FGCU provides severe weather alerts through a text messaging alert program. This program can be helpful for additional information the RAs and RDs may need in the event of a hurricane that should be communicated to their residents. Ultimately, this will be helpful for their overall preparedness. If respondents answer, “Yes” they will receive 1 point. Any other answer will not receive any points.

**C-3 (1 point)**

*C-3. Do you know the emergency procedures for your residence hall?*

Knowing the specific procedures for their hall is essential for RAs and RDs to carry out an effective emergency management plan set by the OHRL and is problematic for student safety. Answering, “Yes” will give the respondent 1 point. No points will be administered for the answer “No.”

**C-4 (1 point)**

*C-4. Does OHRL consider you “essential personnel” in the event of a hurricane?*

Because “essential personnel” are given additional duties and expect to evacuate to the on-campus shelter and assist with OHRL duties in the shelter, it is important for one to know if they are considered “essential personnel.” 1 point will be given for answer “Yes.” No points will be given for any other answer.

**C-5 (1 point)**
C-5. What “phase” do you have to evacuate, according to the severe weather procedures document?

Evacuation is an important factor in the FGCU severe weather procedures and should be known by all Residence Life staff and directors. “Phase 4” will be given 1 point; any other answer will not receive any points.

C-6 (1 point)

C-6. RAs are responsible for contacting each resident to learn of their plans for evacuation.

FGCU has evacuation rules for those who live within a certain radius of the university and must evacuate off-campus. However, if they are outside of that radius, they are expected to evacuate to the on-campus shelter provided by FGCU. Knowing this information is important to know each student’s status and for the shelter check-in procedures. “True” will be given 1 point and “False” will not be given any points.

C-7 (1 point)

C-7. What FGCU shelter do residents get evacuated to?

This open-ended question is to gauge their knowledge on evacuation procedures. Those who answer “Aleco Arena” or a similar name to their basketball arena will be given 1 point. Any other answer will not receive a point.

C-8 (1 point)

C-8. Staff may provide assistance while at the shelter by assisting with food distribution.

Staff members should know responsibilities they may be expected to participate in to help inhabitants and residents that are in the shelter, including food distribution. The response “Yes” will receive 1 point. Any other response will not receive any points.
C-9 (1 point)

C-9. While at the shelter during an evacuation, OHRL is responsible for providing the following:

It is important to know what the expectations are for OHRL as a whole while at the shelter. Staff may be helpful in many of the responsibilities OHRL has. Each of the following responses will receive 1/5 of a point if selected: “Assist on behavior issues,” “Manage rosters for evacuated residents,” “Check in residents and shelter inhabitants,” “Communicate shelter status to Vice President,” and “Coordinate with Red Cross.” All other responses will not be given any points.

C-10 and C-11 (2 points)

C-10. FGCU uses a tone alert in buildings on-campus to warn of severe weather.

C-11. FGCU issues instructions on how to remain safe during severe weather.

RAs and RDs will be expected to know how FGCU aids students and faculty in the event of severe weather, including the use of a tone alert and instructions. For C-10, “Yes” will receive 1 point and “No” will not be given a point. For C-11, “Yes” will receive 1 point and “No” will not be given a point.

C-12 (1 point)

C-12. Is FGCU responsible for any damage to personal belongings in the event of a hurricane?

RAs and RDs must be aware of the responsibility FGCU has in the event of damages. This is important information to be given to their residents and also for their own personal preparedness. Responding with the answer “No” will be assessed with 1 point. Any other answer will not be given points.
C-13 (1 point)

*C-13. Residents remaining at FGCU for an evacuation are instructed to do the following:*

The preparations tested in this question must be taken personally by the RAs and RDs and should also be communicated to their residents. ¼ of a point will be given for each response selected by the survey-taker: “Secure dorm rooms,” “Dispose of all perishables,” “Prepare for potential power outages,” and “Pack back with essential sleeping items, toiletries, medication and identification.” Any other selection will not receive any points.

Section D. Your Hurricane Preparedness Attitude

Section D uses the Likert-scale to measure attitude on hurricane preparedness. Statements will be assessed by the RA/RD and given a measure from 1 to 5 with 1 being strongly disagree, 2 being somewhat disagree, 3 being neither agree nor disagree, 4 being somewhat agree and 5 being strongly agree. Using this scale, points will be distributed to determine their confidence in their hurricane preparedness. Higher scores are considered more confident, while lower scores are considered to be less confident in their hurricane preparedness. RAs/RDs can earn up to 35 points in this section of the survey.

D-1 (5 points)

*D-1. As a Resident Assistant (or RD), I feel well prepared for this hurricane season*

This statement is used to gauge the overall feeling of preparedness by the RA/RD. Points are distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

D-2 (5 points)
D-2. I feel confident that the knowledge FGCU has provided will prepare me for this hurricane season.

This statement is used to determine the role in which FGCU has played in the RAs/RDs training for hurricane season and if that has made them more confident in their ability to carry out FGCU severe weather procedures. Scoring will be assessed the same as D-1 with points distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

D-3 (5 points)

D-3. I am confident that my hurricane preparation knowledge will contribute to keeping my residents safe in the event of a hurricane.

This statement helps determine if the RA/RD feels the university has benefitted their overall confidence in their preparedness. Scoring will be assessed the same as D-1 with points distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

D-4 (5 points)

D-4. I feel that I have adequate resources to acquire important supplies for a hurricane emergency (stocking up on food, gas, batteries, water, etc.)

This statement assess the RA’s/RD’s confidence in the ability to gather necessary items during a hurricane that would lead them to a higher overall level of preparedness. Scoring will be assessed the same as D-1 with points distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

D-5 (5 points)
D-5. *I feel confident in my ability to answer any hurricane preparedness questions for my residents.*

This statement aids in determining their confidence in their knowledge of procedures and the ability to communicate that knowledge effectively for their residents. Scoring will be assessed the same as D-1 with points distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

**D-6 (5 points)**

*D-6. I feel FGCU has assured me of my safety during a hurricane.*

The response to this statement helps determine their confidence in FGCU to maintain safety that is important for their own safety as well as their residents. Scoring will be assessed the same as D-1 with points distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

**D-7 (5 points)**

*D-7. I feel reassured that FGCU will help with any reconstruction/restoration after a hurricane.*

This statement helps determine the RA’s/RD’s confidence in FGCU during the post-disaster period. Confidence in their university may increase their overall resiliency. Scoring will be assessed the same as D-1 with points distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

Section E. *Your Thoughts to an Incoming Hurricane*

Section E asks RAs/RDs to provide a response concerning the statements made about incoming hurricanes. They are asked to respond on a scale of 1 to 5, with 1 being strongly
disagree, 2 being somewhat disagree, 3 being neither agree nor disagree, 4 being somewhat agree and 5 being strongly agree to the listed statements. The statements determine their worries and thoughts on property damage, bodily harm, job security, power outage, and living arrangements in the event of a hurricane strike in or around Fort Myers. Overall, this is a measure of the RAs/RDs anxiety thoughts on hurricanes. Higher scores determine a higher anxiety level of hurricane strikes and lower scores are associated with less anxious individuals. RAs/RDs can be assessed up to 35 points in this sections based on their responses.

E-1 (5 points)

E-1. I worry about a hurricane coming to my residence

This statement provides useful information to determine their level of worry or anxiety about an impending hurricane strike to the Fort Myers area. These statements will be assessed similar to those in section D. Points are distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

E-2 (5 points)

E-2. I have thoughts that I will have nowhere to live in Fort Myers if a hurricane came through.

This statement determines how anxious an individual is on their living situation following a hurricane strike. Strongly agreeing with this statement determines they are more anxious about their living situation versus those who strongly disagree. Points are distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

E-3 (5 points)

E-3. I find myself thinking about costs to replace damaged belongings after a hurricane.
Those who strongly agree with this statement have anxiety related to their financial situation because of costly damage done due to a hurricane. It is important to determine this anxiety because costs are particularly important factors for students. Points are distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

E-4 (5 points)

E-4. I worry that I will experience bodily harm from a hurricane.

Those who strongly agree with statement have anxiety concerning how a hurricane can affect their health. Points are distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

E-5 (5 points)

E-5. I worry that friends, loved ones, or residents will experience harm from a hurricane.

Those strongly agreeing with this statement will answer with a “5” and will receive a score of 5 because they have a higher level of anxiety about harm that can be done to others due to a hurricane. Points are distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

E-6 (5 points)

E-6. I am concerned about my job following a hurricane.

This statement determines how anxious an individual is about their job security and financial security following a hurricane strike. Those responding to strongly agree are considered to have a higher level of anxiety about these factors. Points are distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

E-7 (5 points)
**E-7. I worry that a hurricane will result in a long power outage.**

This statement gauges their anxiety about living in a power outage and their ability to cope without everyday items that run on electricity. Those that respond with “5” as strongly agreeing with this statement are considered to have a higher anxiety level on living in a power outage than those who respond with “1” as strongly disagree. Points are distributed 1 through 5 with 1 point given to strongly disagree and 5 points given to strongly agree.

**Section F. Background Demographics**

Section F asks demographic information for each individual including his or her gender, age, race, and residence information. This information will be used to determine trends in preparedness among different demographics. Some information gained in this section will be utilized statistically through dummy coding.

**F-1 (no score)**

*F-1. Gender: Male ________ Female ___________*

This question will be utilized to determine if gender plays a role in level of preparedness by an RA/RD and their anxiety and thoughts about incoming hurricanes. This question will be dummy coded for statistical purposes.

**F-2 (no score)**

*F-2. What year were you born?*

This question will be utilized to determine if variations in age play a role in level of preparedness by an RA/RD and their anxiety and thoughts about incoming hurricanes. This question will be dummy coded for statistical purposes.
F-3 (no score)

F-3. Are you an international student?

This question will be utilized to determine if their international student status plays a role in level of preparedness by an RA/RD and their anxiety and thoughts about incoming hurricanes. This question will be dummy coded for statistical purposes.

F-4 (no score)

F-4. What would you consider your race or ethnicity?

This question will be utilized to determine if their race or ethnicity plays a role in level of preparedness by an RA/RD and their anxiety and thoughts about incoming hurricanes. This question will be dummy coded for statistical purposes.

F-5 (no score)

F-5. Where is your primary home located?

This question helps determine the distance their primary home is located from the coast. This information will be used to determine if those who’s primary home is located closer to the coast have a higher level of preparedness as an RA/RD and their anxiety level regarding thoughts about incoming hurricanes. Dummy coding will be used for statistical purposes.

F-6 (no score)

F-6. How long have you lived in Fort Myers? Please state in years and months.

This question will be used to determine if the length of time has an impact on the level of preparedness they have as an RA/RD or the level of anxiety they have concerning their thoughts about incoming hurricanes.

F-7 (no score)

F-7. Do you personally own a motor vehicle that is located in Fort Myers?
This question will be assessed solely concerning their anxiety on thoughts about hurricanes and if owning a vehicle has an impact. This question will be dummy coded for statistical purposes.

Section G. General Characteristic Statements

Section G asks for each respondent to use the Likert scale and assign a value to each characteristic question. These statements are meant to determine characteristics that can be attributed to the level of preparedness they may take in the event of a natural disaster. Personality characteristics assessed in this section include anxiety, procrastination, detail-oriented, and organized. Scoring will be broken up by each category. These variables are to be used as test questions to find if they are related to preparedness. Respondents will provide a value between 1 and 5, with 1 being strongly disagree, 2 being somewhat disagree, 3 being neither agree nor disagree, 4 being somewhat agree and 5 being strongly agree, for how they generally feel about each statement.

G-1 (5 points)

G-1. I find myself to be detail-oriented.

This response will aid in the measure of an individual’s detail-oriented personality characteristic. Those responding with “5” as strongly agree will be given 5 points because they are considered to be the most detail-oriented. Points will be distributed from 1-5 corresponding with their response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.

G-2 (5 points)

G-2. I find myself procrastinating in my schoolwork.
This response will aid in testing procrastination against an RA’s/RD’s level of preparedness. Those responding with strongly agree are considered to have a higher level of procrastination and will be scored with 5 points. Points will be distributed from 1-5 corresponding with their response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.

G-3 (5 points)

G-3. I am an anxious person.

This response will help gauge the overall anxiety level of the individual. Responses of strongly agree or “5” will be scored with a 5. Points will be distributed from 1-5 corresponding with their response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.

G-4 (5 points)

G-4. I am punctual.

This response will help determine the level of procrastination of an individual. Those who strongly disagree or assess their punctuality as “1” on the scale will be considered to have a higher level of procrastination. Scoring will be inversely related to their responses. Responding with “1” will give a score of 5, “2” a score of 4, “3” a score of 3, “4” a score of 2, and “5” a score of 1.

G-5 (5 points)

G-5. I am messy.

The response to this statement will help determine how organized an individual is. Those who consider themselves messy and respond with “5” or strongly agree will be assessed as unorganized. Therefore, the scoring will be inversely related to their response. Responding
with “1” will give a score of 5, “2” a score of 4, “3” a score of 3, “4” a score of 2, and “5” a score of 1.

G-6 (5 points)

G-6. I am an organized person.

This response will determine an individual’s level of organization. Responding with a “5” or strongly agree will consider them to be more organized and will be given 5 points for the response. Points will be distributed from 1-5 corresponding with their response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.

G-7 (5 points)

G-7. I am often prepared.

The response to this statement will help determine how organized an individual is. Responding with a “5” or strongly agree will consider them to be more organized and will be given 5 points for the response. Points will be distributed from 1-5 corresponding with their response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.

G-8 (5 points)

G-8. I keep my living area cluttered.

The response to this statement will help determine the how organized an individual is. Those who keep their living area cluttered and respond with “5” or strongly agree will be assessed as unorganized. Therefore, the scoring will be inversely related to their response. Responding with “1” will give a score of 5, “2” a score of 4, “3” a score of 3, “4” a score of 2, and “5” a score of 1.
G-9 (5 points)


Feeling prepared is different than often being prepared because it is mindset rather than a series of actions. Responding with a “5” or strongly agree will consider them to be more organized and will be given 5 points for the response. Points will be distributed from 1-5 corresponding with their response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.

G-10 (5 points)

G-10. I find myself doing work ahead of time.

This question will help gauge the level of procrastination in the participant. Those who respond with “1” or strongly disagree to this statement will receive a score of 5 for procrastination. Therefore, the scoring will be inversely related to their response. Responding with “1” will give a score of 5, “2” a score of 4, “3” a score of 3, “4” a score of 2, and “5” a score of 1.

G-11 (5 points)

G-11. I find myself to be a worried person.

This response will help determine the anxiety level of the individual. Responses of strongly agree or “5” will be scored with a 5. Points will be distributed from 1-5 corresponding with their response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.

G-12 (5 points)

G-12. I plan my schoolwork schedule ahead of time.
This question will help gauge how detail-oriented the participant is. Those who respond with “1” or strongly disagree to this statement will receive a score of 1 for detail-oriented. Therefore, the scoring will be inversely related to their response. Responding with “1” will give a score of 1, “2” a score of 2, “3” a score of 3, “4” a score of 4, and “5” a score of 5.

G-13 (5 points)

G-13. I keep a to-do list.

The response to this statement will help determine how detail-oriented the individual is. Responding with a “5” or strongly agree is assessed with a score of 5 because that individual will be considered more detail-oriented. Points will be distributed from 1-5 corresponding with their response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.

G-14 (5 points)

G-14. I often submit my class assignments after the due date.

Those who respond to this statement with “5” or strongly agree will be considered to have a higher level of procrastination than other individuals. Therefore, answering with “5” will be given 5 points. Points will be distributed from 1-5 corresponding with their response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.

G-15 (5 points)

G-15. I am a nervous person.

This response will help gauge the anxiety level of the individual. Responses of strongly agree or “5” will be scored with a 5. Points will be distributed from 1-5 corresponding with their
response, i.e. responding with “1” will receive a score of 1, responding with “2” will receive a score of 2, etc.
Appendix C. Informed Consent Form

Informed Consent to Participate in Research

Information to Consider Before Taking Part in this Research Study

IRB Study # Pro00016875

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. We encourage you to talk with your family and friends before you decide to take part in this research study. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

We are asking you to take part in a research study called:

"An Evaluation of Hurricane Preparedness by Florida Gulf Coast University’s Residence Life Staff Members"

The person who is in charge of this research study is Erin Floto. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Jennifer Collins, USF.

The research will be conducted at Florida Gulf Coast University.

Purpose of the study

The purpose of this study is to:

- This study hopes to address the concern on the effectiveness of the severe weather procedures as carried out by the Resident Assistants and Resident Directors. Research is needed to expose any gaps that exist within their current guidelines and hurricane preparedness training and provide recommendation based on those findings to create a more effective plan. This study hopes that these recommendations will reduce safety concerns for student residents on campus.
- This study is being conducted for USF Master’s Thesis.
Should you take part in this study?

Before you decide:

- Read this form and find out what the study is about.
- You may have questions this form does not answer. You do not have to guess at things you don’t understand. If you have questions ask the person in charge of the study or study staff as you go along. Ask them to explain things in a way you can understand.
- Take your time to think about it.

This form tells you about this research study. This form explains:

- Why this study is being done.
- What will happen during this study and what you will need to do.
- Whether there is any chance of benefits from being in this study.
- The risks involved in this study.
- How the information collected about you during this study will be used and with whom it may be shared.

Taking part in this research study is up to you. If you choose to be in the study, then you should sign this informed consent form. If you do not want to take part in this study, you should not sign this form.

Why is this research being done?

The purpose of this study is to find out how to more effectively train Resident Assistants and Resident Directors on severe weather and hurricane procedures. The objectives of this survey are to: a) examine and expose the gaps in training and understanding or preparedness procedures at FGCU, b) reveal factors that could be related to RA’s/RD’s ability to communicate the severe weather procedures effectively, c) provide information about demographics that may be utilized in training decisions concerning anxiety about hurricane-related issues, and d) provide information about personality characteristics that may be utilized in training decisions concerning level of preparedness. Using data collected from the survey, statistics will be used to assess the data and provide recommendations based on the gaps found.

Why are you being asked to take part?

We are asking you to take part in this study because participants for this study need to be employed by the Office of Housing and Residence Life as Resident Assistants and Resident Directors. We want to learn more about the factors influencing hurricane preparedness as an RA/RD.

What will happen during this study?

You will be asked to spend between 20 minutes and 1 hour on the survey for this study. Surveys will be administered by Assistant Director of the Office of Housing and Residence Life at FGCU.
and from that time, RAs/RDs will have 1 week to fill it out before the online survey will be closed for data analysis.

**Total Number of Participants**
About 112 individuals will take part in this study at Florida Gulf Coast University. A total of 112 individuals will participate in the study at all sites.

**Alternatives**
You do not have to participate in this research study.

**Benefits**
We are unsure if you will receive any benefits by taking part in this research study.

**Risks or Discomfort**
This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

**Compensation**
You will receive no payment or other compensation for taking part in this study.

**Cost**
There will be no additional costs to you as a result of being in this study.

**Authorization to Use and Disclose Protected Health Information**
Health information will not be used in this study.

**Your Rights:**
You can refuse to sign this form. If you do not sign this form you will not be able to take part in this research study and therefore not be able to receive the research related interventions. However, your health care outside of this study and benefits will not change.

**How Do I Withdraw Permission to Use My Information?**
You can revoke this form at any time by sending a letter clearly stating that you wish to withdraw your authorization to use of your health information in the research. If you revoke your permission:

- You will no longer be a participant in this research study;
• We will stop collecting new information about you;
• We will use the information collected prior to the revocation of your authorization. This information may already have been used or shared with other, or we may need it to complete and protect the validity of the research; and
• Staff may need to follow-up with you if there is a medical reason to do so.

To revoke this form, please write to:
Principal Investigator
For IRB Study # Pro00016875
4202 E. Fowler Ave, NES 222
Tampa, FL 33620

While we are conducting the research study, we cannot let you see or copy the research information we have about you. After the research is completed, you have a right to see the information about you, as allowed by USF policies.

Privacy and Confidentiality
We will keep your study records private and confidential. Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

• The research team, including the Principal Investigator, study coordinator, research nurses, and all other research staff.

• Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety.

• Any agency of the federal, state, or local government that regulates this research. This includes the Food and Drug Administration (FDA), Florida Department of Health, and the Department of Health and Human Services (DHHS) and the Office for Human Research Protection (OHRP).

• The USF Institutional Review Board (IRB) and its related staff who have oversight responsibilities for this study, staff in the USF Office of Research and Innovation, USF Division of Research Integrity and Compliance, and other USF offices who oversee this research.

We may publish what we learn from this study. If we do, we will not include your name. We will not publish anything that would let people know who you are.

Voluntary Participation / Withdrawal
You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at
any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Your decision to participate or not to participate will not affects your student or job status.

**New information about the study**

During the course of this study, we may find more information that could be important to you. This includes information that, once learned, might cause you to change your mind about being in the study. We will notify you as soon as possible if such information becomes available.

**What if you get sick or hurt while you are in the study?**

Getting sick or hurt while you are in the study related to the study are not applicable.

**Will I be compensated for research related injuries?**

Research related injuries are not applicable in this study.

**What happens if you decide not to take part in this study?**

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study to please the research staff. If you decide not to take part in the study you will not be in trouble or lose any rights you normally have.

You can decide after signing this informed consent document that you no longer want to take part in this study for any reason at any time. If you decide you want to stop taking part in the study, tell the study staff as soon as you can.

- We will tell you how to stop safely. We will tell you if there are any dangers if you stop suddenly.

Even if you want you to stay in the study, there may be reasons we will need to withdraw you from the study. You may be taken out of this study if we find out it is not safe for you to stay in the study or if you are not coming for the study visits when scheduled. We will let you know the reason for withdrawing you from this study.

**You can get the answers to your questions, concerns, or complaints.**

If you have any questions, concerns or complaints about this study, call Erin Floto at (321) 652-1296.

If you have questions about your rights, general questions, complaints, or issues as a person taking part in this study, call the USF IRB at (813) 974-5638.
Appendix D. Informational Letter for Potential Participants

USF Master’s Thesis:
An Evaluation of Hurricane Preparedness by
Florida Gulf Coast University’s Residence Life Staff Members

Principle Investigator: Erin Floto
Faculty Advisor: Jennifer Collins, PhD

Study Description

University students have a unique set of vulnerabilities associated with their ability to prepare and cope to natural disasters. Residence Life staff play a unique role in their residents’ lives. They serve as friends, mentors, and bosses that can provide essential information, instruction and comfort during a severe weather event, such as a hurricane. Due to these various roles, Resident Assistants and Resident Directors are essential to the effectiveness of FGCU’s severe weather procedures. Ultimately, the more prepared an RA/RD is with their knowledge on procedures, the more effective they will be during implementing those procedures. This is crucial for the safety of their residents. The survey aims to determine what factors have an impact on the level of preparedness by an RA/RD.

This survey is completely voluntary. However, the more responses given will provide a greater amount of statistical data that will allow for the PI to make recommendations based on her findings that could be beneficial to FGCU, as well as other universities. The information you are providing is classified and no names should be provided on a survey. The only time your name will be associated with this study is when you sign an “Informed Consent” form.

When filling out the survey, make sure answers and selections are made clear to the PI. Read through all of the beginning instructions before answering the survey questions. Please note that both right and wrong answers provide useful data for the study and questions should be answered to the best of your ability based on current knowledge.

These surveys are crucial to determining impacts on preparedness and can lead to recommendations for future severe weather trainings and procedures. Thank you for all those who volunteer to participate in this Master’s thesis study.
Appendix E. IRB Approval Form

4/28/2014

Erin Floto
USF School of Geosciences
4202 E. Fowler Ave
Tampa, FL 33667

RE: Exempt Certification
IRB#: Pro00015875
Title: An Evaluation of Hurricane Preparedness by Florida Gulf Coast University’s Residence Life Staff Members


Dear Ms. Floto:

On 4/28/2014, the Institutional Review Board (IRB) determined that your research meets USF requirements and Federal Exemption criteria as outlined in the federal regulations at 45CFR46.101(b):

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
   (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
   (ii) any disclosure of the human subjects’ responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, or reputation.

Approved Items:
Protocol Document(s):
Protocol Guidelines_Version 4

Consent/Assent Documents:
Informed Consent Form

As the principal investigator for this study, it is your responsibility to ensure that this research is conducted as outlined in your application and consistent with the ethical principles outlined in the Belmont Report and with USF IRB policies and procedures. Please note that changes to this protocol may disqualify it from exempt status. Please note that you are responsible for notifying the IRB prior to implementing any changes to the currently approved protocol.
The Institutional Review Board will maintain your exemption application for a period of five years from the date of this letter or for three years after a Final Progress Report is received, whichever is longer. If you wish to continue this protocol beyond five years, you will need to submit a new application at least 60 days prior to the end of your exemption approval period. Should you complete this study prior to the end of the five-year period, you must submit a request to close the study.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

John Schinka, Ph.D., Chairperson
USF Institutional Review Board