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Responding to Haiti's Earthquake: Volunteer Health and Community Relationships

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Responding to Haiti's Earthquake: Volunteer Health and Community Relationships

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DEDICATION

I dedicate this thesis to my parents, Fred and Ernie Nelan, for supporting me throughout my studies. Their support was especially important to me in my travels and through my volunteer service in Haiti. The lessons that they have taught me through my life helped me to cope with the culture shock and the conditions in Haiti for the month that I lived there, as well as to see the realities of international aid work.

I also dedicate this thesis to my sister Nina, who traveled with me to Haiti. With her help I was able to see the reality of the international NGO presence in Haiti and the necessary steps that must be taken to protect the volunteers and the Haitian people.

Responding to Haiti's Earthquake: Volunteer Health and Community Relationships

by

Mary Nelan

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ABSTRACT

Disaster volunteers are an important group of workers on the ground after a disaster. International volunteers have not been the subject of much research in the past. Following the January 12, 2010 earthquake in Haiti, an American-based NGO set up a base in Leogane, the epicenter of the earthquake. The purpose of this research is to further understand the disaster volunteer population and help inform international NGOs who respond to disasters. This thesis focuses on the volunteers who worked with that organization during 2010. As a volunteer, I witnessed the situations that inspired this research through my own experiences for one month during the summer of 2010 in Leogane, Haiti. The foci of this thesis are the volunteer characteristics, their health (i.e. protective behaviors, physical health, mental health, and risk behaviors), and their interactions both with their host community (the people of Leogane, Haiti) and within the international volunteer community of the organization. 90 volunteers responded to an online social survey during January and February 2011. The survey was open for one month. The data are presented in descriptive statistics, OLS and logistic regression models, paired sample t-tests and an ANOVA. I found that the volunteer population was primarily made up of single young adults with a high level of education. Volunteers engaged in various protective behaviors, and women were more likely than men to use of bug repellent and sunscreen more frequently. Few volunteers scored high enough on the PTSD checklist (PCL) to qualify as having PTSD. Being younger was found to be a predictor of risk behaviors (specifically consuming moonshine and marijuana in Haiti). Finally, age was also a predictor of the frequency of interactions with the Haitian host community as the younger adult volunteers interacted more often with Haitians.

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CHAPTER 1

INTRODUCTION

Haiti was devastated by an earthquake registering at 7.0 on the Richter scale on January 12, 2010 at 4:53 PM Pacific time. The epicenter of the earthquake was 15 miles west-southwest of Haiti's Capital, Port-Au-Prince, in the city of Leogane (U.S. Department of the Interior, 2010; Millar, 2010). It is estimated that 2 million people lived in areas where there was heavy to moderate structural damage. The exact number of those who died as a result of the earthquake continues to be unknown, with estimates reported anywhere from 200,000 to 300,000 depending on the source (Committee on Foreign Relations, 2010; Dupuy, 2010; Central Intelligence Agency, 2010; Telegraph.co.uk, 2010). In addition, over 1 million people have become homeless and millions have been displaced as a result of the earthquake (Telegraph.co.uk, 2010; Committee on Foreign Relations, 2010).

My thesis focuses on the volunteers responding to the devastation following the January earthquake in Haiti. To do so, I created an online social survey that was disseminated by a US-based NGO (non-governmental organization) to their Haiti volunteer database. I looked at who the volunteers were both demographically and based on previous volunteer experience, their perspectives of Haiti before arrival, and their own personal connections to the country. Second, I studied the health of the volunteers, specifically protective behaviors, physical illnesses, mental health and risky behaviors during their volunteer service. Finally, I focused on assessing the strength of the relationships between the international volunteer community and the local Haitian community. These three foci stem from my experiences as a volunteer in Haiti after the earthquake (May-June 2010), as well as from a review of the literature, and they are addressed through a quantitative analysis of survey data.

I identified five research goals related to the volunteer characteristics, their health and health behaviors, and their community interactions. Through the use of descriptive statistics, paired sample t-tests, both OLS and logistic regression models and an ANOVA, I analyzed the survey data. My own experiences in Haiti were used to enrich the data with first hand stories.

1.1 HAITI: BEFORE AND AFTER THE EARTHQUAKE

History of Haiti

In order to understand the current situation in Haiti, one must look to the country's history. Christopher Columbus made land on Haiti in December of 1492, when it was just a small settlement of native people on the Island of Hispaniola. The indigenous people were wiped out by disease, leaving the colonists without a workforce, which initiated the transportation of slaves from Africa to the island of Hispaniola. The slaves were brought in to build structures but also to help foster the newly introduced sugar cane crop, an industry in Haiti that survives today (Farmer, 1994).

By the early 18th century, Haiti was controlled by the French and called Saint-Domingue. More slaves were imported from many different tribes in Africa, and Creole, an official language in Haiti today, was created. In 1802, Haiti became the first independent country in Latin America, the first black republic of the modern world, and the first instance of an enslaved people throwing off their oppressors with military force and becoming a free nation (Farmer, 1994).

In more recent history, Haiti has been plagued with dictators, corrupt military leaders, and a low position in the global economic hierarchy, which have helped to fuel exploitation and the escalating poverty (Farmer, 1994; Dupuy, 2010; Farmer, 2005). The coup d'état of President Aristide in 1991 caused upheaval, an exodus of Aristide supporters trying to emigrate to the United States, and fear of the military among the people (Farmer, 2005). The United

States has had significant influence over both the internal politics of Haiti and their position in the world system (Farmer, 1994; Farmer, 2005).

Before the Earthquake

While Haitian leaders had known that the possibility of an earthquake existed and would be ruinous, very few preventative measures were taken (Dupuy, 2010). The overcrowding in Port-Au-Prince, and the precarious nature of the building conditions for homes on hillsides and ravines created conditions for mass devastation in the event of a significant earthquake (Maguire, 2010). Overcrowding in Port-Au-Prince has been the product of industry jobs being centralized in the capital and few economic opportunities in rural areas. This migration to Port-Au-Prince to find employment has caused the city to swell beyond its capacity. More than 2 million people resided in Port-Au-Prince, a city that could support 100,000 people, at the time of the quake (Dupuy, 2010). Services, such as healthcare, electricity, schools, potable water, sanitation (including garbage and solid waste removal), and zoning or construction regulations are few and primarily serve the wealthy (Dupuy, 2010). Prior to the earthquake, about 28 percent of Haitians had access to healthcare, 50 percent could access clean potable water (whether at home or through public access points) and fewer than 30 percent could access electricity, many of those users illegally connecting to the national grid (Dupuy, 2010; Committee on Foreign Relations, 2010).

Prior to the January 2010 earthquake, Haiti had been recognized as having the second largest income gap in the world. Reported in 2007, 78 percent of the population of Haiti lived on \$2.00 a day or less, while the wealthiest 20 percent made 68 percent of the total national income (Maguire, 2010). As stated by an official in a report by the U.S. Senate Committee on Foreign Relations related to conditions after the earthquake, "it is hard to separate what is due to the poverty levels that predated the earthquake and what is due to the earthquake itself." (Committee on Foreign Relations, 2010, p. 2)

After the Earthquake

The earthquake was severe in Haiti because of the social conditions. As reported on June 22, 2010 by the Senate Committee on Foreign Relations (2010), with homes and buildings collapsed and reduced to rubble. Individuals and families that have become homeless and displaced following the earthquake moved into tent cities, sprouting up in open and precarious locations given the onset of hurricane season. An estimated 500,000 people progressively left Port-Au-Prince following the earthquake. Individuals mostly moved back to rural areas and communities where they had migrated from and where they have family ties. However, there is concern that this mass exodus to smaller communities is straining those communities as they have little or no services for the influx of people in need (O'Neill, 2010; Maguire, 2010).

The earthquake caused a medical crisis (Lacey, 2010). During the first week, vodka was being used to sterilize wounds due to lack of adequate supplies and the General Hospital in Port-Au-Prince was running without water or power. Furthermore, airplanes carrying medical supplies were not given clearance to land by American military forces in the first week following the earthquake (Lacey, 2010).

The weight of the responsibility to provide services to Haiti has long been on the shoulders of international agencies. Prior to the earthquake, 70 percent of healthcare in Haiti was provided by NGOs (Lacey, 2010). Following the earthquake, there was a huge outpouring of support; 50 percent of US households made a contribution of some sort and fundraisers have taken place all over the world (O'Neill, 2010). However, the aid may not be as organized as it needs to be. There is a lack of cooperation between international agencies and a propensity for each of them to do "their own thing," as Dr. Paul Farmer stated in the New York Times (Lacey, 2010).

1.2 INTERNATIONAL AID IN HAITI

Prior to the earthquake, Haiti had more operating NGOs per capita than any other country in the world. Following the earthquake, the Haitians are relying primarily on help from international organizations and governments (Dupuy, 2010). The aid was slow to arrive and was met with desperation and sometimes violence when there was not enough or it was not dispensed quickly enough. Two Dominican aid workers were shot when police tried to disperse the crowd by firing bullets in the air (Millar, 2010). Protests arose in Port-Au-Prince in early February, and 200 individuals crowded the US embassy protesting the slowness of food and aid delivery (Renois, 2010). However, these reports must be taken in context and also looked at critically in terms of reporting. Golash-Boza (2010) reported calmness in Port-Au-Prince when she arrived January 25, 2010. In her article she draws attention to the fact that while civil unrest is not a common response to a disaster, it is widely reported by the media (Golash-Boza, 2010).

This reported desperation is not hard to understand, as of Wednesday, January 20, 2010 (eight days after the earthquake), the World Food Programme reported that 200,000 people had received food, but that it could take a month before they reached the more than 2 million people in need (Lacey, 2010; World Food Programme, 2010). Six months after the earthquake the World Food Programme reported that between 4 and 5 million people had received food aid (World Food Programme, 2010). At this time, the World Food Programme has changed its mission from emergency food supplies and is working towards helping Haiti to develop a long-term food strategy (World Food Programme, 2011).

The World Food Programme reported in September 2010 that, while conditions have improved, international agencies for aid are still taking a great amount of responsibility for recovery. The mission has changed in those 8 months from relief work to recovery and rebuilding (World Food Programme, 2010). There are differing opinions on whether to provide more services to those living in these tent cities, such as more latrines, better security, food and schools. Some who are against providing more services fear that this will draw more families

into the communities instead of encouraging people to relocate back on their land (Committee on Foreign Relations, 2010).

After the earthquake Haiti was in need of international aid, especially due to their reliance on NGOs prior to the earthquake. They were in need of rescue teams, food, health care and general relief. Their infrastructure collapsed, and volunteers from all regions of the world came to help. I enrolled with an American-based NGO and arrived in Haiti four months after the earthquake.

The next chapter will discuss my experiences in Haiti and how they shaped my research. Then, in Chapter 3 I will introduce the previous literature on volunteer characteristics, the health of the volunteers and community interactions involving the international volunteer population and the host community. In Chapter 4, I will discuss the research methods followed by Chapter 5, which will cover the results of the social survey. Finally, in Chapter 6 I will offer a discussion of the results, in comparison with the results of previous studies, and Chapter 7 will conclude my thesis.

CHAPTER 2

REFLECTIONS OF A DISASTER VOLUNTEER

After the earthquake on January 12, 2010, numerous NGOs began looking for skilled labor. There was a need for health care professionals, individuals with experience in emergency rescue situations, and long-term construction and demolition professionals. Haiti was reliant upon NGOs prior to the earthquake, so it was no surprise that they required help from the international community. In addition to NGOs looking for particular types of skilled labor, there was a need for people to provide less skilled labor. I volunteered with an American-based NGO that recruited unskilled labor to clear rubble sites and pick up any jobs that needed to be done.

I arrived in Haiti on the morning of May 20, 2010, which was about four months after the earthquake. My purpose in Haiti was to volunteer with an American-based NGO (non-governmental organization), whose work was centered in Leogane, Haiti, the epicenter of the earthquake. I lived in Haiti for one month, working to remove rubble from destroyed buildings, building an organic garden, and constructing a composting toilet.

My experience framed my research, in that the behaviors that I witnessed and the international volunteers' interactions with the host community made me critical of international aid and passionate about doing what I can to help make these programs more efficient and effective. I noticed that the health behaviors of the volunteers were not consistent; some individuals were prepared for the living conditions that we found ourselves in and some were not. Also, the volume of drinking, smoking and sex that some volunteers were engaging in was interesting to me. Lastly, there appeared to be a barrier between the volunteers and the host community that was exacerbated by obstacles, both of the organization's and of the volunteers' making. Following are the experiences that I had during my month volunteering in Haiti (based on a blog that I wrote while in Haiti) as they relate to this thesis.

2.1 VOLUNTEER LIFE

We lived in an unfinished nightclub in Leogane, Haiti, either sleeping in bunk beds or tents. There was a roof over the bunk beds; however the roof on the building was unfinished, which provided an open air courtyard. Our base was a secure building, meaning the curfew was at 10 o'clock each night, at which time the door was locked and the power was turned off.

During my volunteer service, there were approximately 115 volunteers on base. We used potable water that was pumped up from a ground water well do our laundry, wash our hands, and take bucket showers. Toilets were flushed using grey water. Our drinking water was delivered daily from a water treatment facility.

While in Haiti, the volunteers accepted that we all were less concerned with social conventions associated with cleanliness. This was predictable, in my opinion, considering our living conditions. Concrete floors were always covered with a layer of dirt and constantly sweating because of the heat. Our showers were wooden framed stalls with blue tarps as walls. We were given half a bucket of water a day to wash ourselves, and after the showers, I still had a thin film of concrete or dirt on my skin. Body odor was common, and many women were not shaving their legs.

The volunteer community was filled with an international population, from the US, Canada, the United Kingdom, Australia and other countries. We were our own little isolated community within a devastated Haiti. While our living situations were not what I was used to in the United States, they were still significantly better than many of the Haitian people, especially those who were living in tent cities under tarps held up by sticks.

The nightly activities consisted of a beer after work at any number of bars in town, talent shows at Joe's (the bar 100 feet from our base), drinking, and dancing. One could go out to mingle with young Haitian men and women at the bars, or stay in the base and play board games, watch movies, play guitar and sing, take a yoga class, or just sit around and talk. While

there was no alcohol allowed on base, some snuck it in, sat on the roof and talked until later into the night.

2.2 THE HEALTH OF THE VOLUNTEERS

Throughout my time in Haiti, I was aware of the health risks and health precautions taken by volunteers. The main concerns were tetanus, STIs, dehydration, and stomach problems. The central health problem I experienced was dehydration. In the hot climate and the humidity, it was common to become dehydrated.

On my first day removing rubble from a home site I was instructed to pace myself and not be a hero. While others were able to work for 30 minutes then take a water break, I stopped every 15 minutes or so. The heat was almost debilitating, and the amount of sweat that I was producing was uncommon for me. New volunteers, especially during their first day of work, were instructed by team leaders to take care of themselves and not push too hard. In the past volunteers had been sent to the hospital on their first day due to extreme dehydration. Even long-term volunteers suffered from dehydration regularly, although not necessarily to a degree that would require them to be hospitalized. Staying hydrated while doing physical labor in the heat was a constant catch up.

Sun exposure was also a serious issue, which was not always given much thought. Many long-term volunteers on the base did not use sun block, either because they believed they no longer needed it, or they had run out of their supply. I generally applied sun block whenever I could, however even with my dark skin tone and meticulous application practices I was burned on my shoulders.

In my opinion, a dangerous health risk that the volunteers faced was mosquitoes. Many of the volunteers were on anti-malarial pills, although there were those who opted out due to concerns about the side effects, especially among the longer-term volunteers. There were some

volunteers of the opinion that many Haitians neither had the pills nor the nets and that was their justification for opting out of both.

There were many illnesses going around base. I experienced a sore throat about a week after arriving. This was a common ailment among the volunteers, either because of a contagious virus going through the group, and/or because of breathing in rubble dust and concrete dust. I had been working with concrete the days prior to this without a mask, however, several days later I was told that it was a virus by a visiting doctor at the hospital.

Prior to visiting the hospital, I relied on a nurse (another volunteer) staying at the base to diagnose me. The general consensus among the staff was that we should not go to the hospital unless it was necessary. I went to this nurse and she saw white pustules on the back of my throat, so I stayed in "sickbay" (essentially just a day off confined to the base) and took Ibuprofen 800mg that I had brought with me. After a few days, my stock of Ibuprofen ran low, and I had to visit the hospital to get a new prescription.

This was a harsh reality of being a volunteer; sometimes we needed to use medicine that could have been used by the Haitian people instead. Several individuals that I knew required tetanus shots while in Haiti, because they were out of date and had not updated their vaccination before traveling. The shots had been sent to Haiti for the Haitian people, and had the volunteers been properly prepared, they would not have needed them. Staff members made announcements during meetings about volunteers going to the hospital asking for birth control and Plan B, an emergency contraception pill, and asked volunteers not to go to the hospital without the permission of the staff. The fact that volunteers going to the hospital for contraception was frustrating because the base provided condoms; however, individuals were not using the condoms, the condoms were breaking, and/or they had not brought contraception with them from home.

There were extreme instances when volunteers required hospitalization in emergencies. One such emergency occurred when a young woman stepped on a sea urchin on a Sunday

when she was at the beach. Sea urchins are poisonous, and she was immediately taken the hospital to have the spines removed. After an overnight stay at the hospital she was released, and she left Haiti the following day, as she had been scheduled to do prior to her injury.

Another instance occurred when a male volunteer vomited to the point where he could no longer stand and had to be hospitalized for extreme dehydration.

Injuries were common while working, due to the intensity and danger of some of the tasks, however, there were also many injuries incurred outside of work. One man tore his ACL playing soccer with other international volunteers, and a few weeks later got drunk and fell off of a roof, breaking his jaw. This second injury sent him home. In an environment like Haiti, it is possible to injure one's self simply walking down the street. I myself ran into a piece of rebar in the street and cut my leg.

If any volunteer cut himself or herself, infection was a serious concern. Regularly, in the evening, someone would be walking around with a packet of anti-biotic ointment they had opened to see if anyone needed the rest, not wanting to waste it. Bandages did not stay on well with the humidity and the sweat from working, making it difficult to keep a cut clean. A small cut on the hand generally meant that the entire hand had to be taped up to keep the bandage in place.

The health of the volunteers was a direct result of their surroundings and their own behaviors. Bumps and bruises were common; however living in close quarters with dozens of other people, there is a concern for viruses and infections. This was a serious aspect of our work in Haiti, and while many were careful and concerned about their health, some were not taking preventative measures that are necessary in those surroundings.

2.3 VOLUNTEERS' COMMUNITY RELATIONSHIPS

International Volunteers

The international volunteer base felt like a summer camp for individuals ranging from 18 to 65 years old. The population consisted of primarily the younger backpacking crowd. They were internationally traveled, socially conscious individuals. The first night that I was living in this base, some volunteers stripped down to their underwear for a public shower in the rain. Many of the volunteers built very strong friendships, as they had been in Haiti for months and planned to continue on for many months after. Upon returning from Haiti, I acquired over 70 friends on Facebook in one week (fellow volunteers from Haiti), all of us trying to grab onto people who we had met, trying to keep the feelings and memories of Haiti alive.

The isolation of the international volunteers was pleasant while I was in the situation, but in the end, it was detrimental for me. We not only isolated ourselves from the host population, but also from our lives back home. Towards the end of my time in Haiti I started to recognize the downside to living in this community. We were having fun. It sounds horrible considering the situation we were living in the middle of, but I don't know if the work could be done had we not been having fun. Our ability to enjoy the work and each other helped to insulate us from the horrible conditions surrounding us. However, that level of enjoyment sometimes allowed us to forget why we were there and what was waiting for us at home.

I had the opportunity to visit a local volunteer's home, and meet his family. His mother had twelve children, the youngest an infant girl who she was pregnant with during the earthquake. Their home was simple and we stayed on the porch during our visit. His older sister was bathing the baby, and after putting the baby in a fancy dress she handed the infant to me. It was a good experience, seeing a family at home, smiling and laughing at our broken Creole. However, it was also jarring as their poverty was apparent. They offered me some of

their meal that they were cooking, which I declined since I could buy my own food easily and did not want to take anything from them.

The bubble that we lived in served as a blinder to things outside of the walls of our base. We could play Jenga or Scrabble, or go to the bar next door and have some beers and dance, even take a yoga class. On Monday mornings, we had pancakes. Our living situations were not ideal for many of us, but they were superior to many of the Haitians living in tents and under tarps. We had stashes of food and candy, mp3 players and laptops, air mattresses, and access to treated water. Within this secure base, we had the ability to forget we were in Haiti.

When I realized that I was able to forget about the living conditions outside of our secure base, I became very critical of it. As volunteers, we were there to help, however we could shut out the reality of the world outside our walls and eventually leave this country and return to our comfortable lives elsewhere. The Haitians could not escape their reality in the same way, and many of them had no hope of leaving. This made leaving Haiti very hard, and I was instilled with guilt once I returned home.

With the Community of Leogane

At the beginning of my trip, when I was still painfully aware of where I was and the misfortunes of the Haitian population, I had little contact with them. There seemed to be many individuals that were happy for our being there, waving to the tap tap (the mode of transportation in Haiti, a pickup truck with benches in the back) and children running after us yelling, "Hey you!" During the beginning of my trip, it was the children that helped me to cope with what I was witnessing, because I saw how they still had the capacity to smile and venture out.

One reason why we were so isolated and why it was so hard to make a connection with the host community during that first week was because of the obvious physical segregation of the international volunteers and the host community, as well as the language barrier. The only

members of the local Haitian community who were allowed within the walls of our base were the hired staff (i.e. translators, cooks, those who washed our clothes, night guards and our drivers). The justification provided by the NGO staff for keeping specifically the local volunteers separated from the international volunteers was the fear that something would be stolen, being that there were some local volunteers that NGO staff did not know well.

The individuals from the surrounding community that we did get to know were generally educated, interested, and able to work to better their immediate community and the country of Haiti. The local volunteers were all young men, many of whom spoke English at varying levels of proficiency. Those who did not have much knowledge of English could not communicate with international volunteers unable to speak French or Creole. The language barrier was addressed by the organization; they began offering a one-hour Creole class once a week in order to bring together the host community and the international volunteers. We also had contact with many children; however there were few local women that I came into contact with, unless they worked for the NGO. A team of Haitian women cooked our food, and a Haitian woman did our laundry as well.

Another barrier that occurred between the people of Leogane and international population was in response to the way that the Haitian men treated international women. I had several problems with this, as some men would make gestures, rude remarks, grab at me, and in one incident, a man dropped his pants in the street as I walked by. This was a common complaint among the international women volunteers during my time at Leogane, and because of this, the women would generally not leave the base alone, causing further segregation and isolation.

During work there were also problems for the female international volunteers. The Haitian men would take the tools out of their hands and do the work. This happened to me repeatedly and was hard for me to come to terms with. As a woman, it was hard to reconcile the idea of relinquishing my work to the Haitian men, when their attitudes made me feel as

though they believed I was not doing the work well or correctly. Having feminist ideals, this was offensive. However, as a cultural difference, I worked towards accepting this aspect of the work. The consensus was that we wanted the Haitians to do the work too, and to feel connected to the NGO's relief effort. In the end, many of the women, including myself gave in and allowed them to take the tools.

There was a very definite power differential between the local staff and the international volunteers. The local volunteers were treated like children many times. They were not empowered by the organization to take control of their own program, but were subjected to the organization's decisions from above.

On one afternoon, an international volunteer organized an event with the local volunteers where they would share their experiences from the day of the earthquake. It was an important event because it helped the international volunteers to reconnect with why they are working in Haiti, and it allowed the local volunteers to share their experiences and bond with the international volunteers. One of the hired translators interpreted the stories into English for the volunteers. There were many international volunteers crying and laughing as the stories were conveyed, and it felt as though this afternoon helped to bring the two communities closer.

There were bright moments like these when it appeared that people from Leogane and the international volunteers were interacting and connecting. The collective work done by both groups was another activity where both communities interacted. However, the segregation and cultural differences were considerable barriers. The volunteers, whether consciously or not, managed to isolate themselves from the people of Leogane by staying within the secured walls, or only venturing out to bars and the market. Even though there were some encouraging moments, it was unfortunate that the international volunteers were not interacting more with the community of Leogane and vice versa.

The organization put an emphasis on making the international volunteers comfortable during their time in Haiti; they provided a packing list laying out what items volunteers may need

for their comfort. We also had priority over the host population in terms of medicine and access to doctors when we needed them. This might not have been as important, had the volunteers been more prepared for the environment in which we worked.

For our comfort, we were given a secured based, where it was easy to forget where we were and what we were doing there. Our bubble was comfortable and helped us forget the abject poverty beyond our walls. When we did interact with the people of Leogane, it was generally in a bar, dancing, or with men who were out in the bar, many of these men were either aggressive towards women, educated business owners or younger male volunteers. Our access to the women was really only with staff members or market vendors. More of an effort could have been made both by the organization and the international volunteers to make this isolation less pronounced.

My experiences influenced my research goals and the survey presented in this thesis, as did the scholarly literature. The earthquake in Haiti is a current and relevant subject that will help to shape understanding of disaster volunteers in developing nations. The literature on the subject of disaster volunteers, health of volunteers and community interactions follows.

CHAPTER 3

LITERATURE REVIEW

Considering my experiences in Haiti and information gleaned from reviewing the literature after I returned, I decided to focus on three themes: volunteer characteristics, health of the volunteers and community interactions. In what follows, I will discuss each of these three themes using relevant literature. After each theme is introduced, I will list the research goals that I will address with my social survey of volunteers, to be introduced in more detail in the methods section.

3.1 VOLUNTEER CHARACTERISTICS

There have been many studies on the motivations for volunteering (Steffen & Fothergill, 2009; Unger, 1991; Batson & Shaw, 1991; Kanaisty & Norris, 1995; Plummer, et al., 2008; Penner & Finkelstein, 1998; Beyerlein & Sikkink, 2008; Levine & Thompson, 2004). This study will not look at the motivations or the altruism of volunteers, but rather the demographics and perspectives of relief volunteers following the January 12, 2010 earthquake in Haiti.

Volunteers are defined by the United States Department of Labor as “persons who did unpaid work (except for expenses) through or for an organization.” (USDL, 2010, p. 1) Between September 2008 and September 2009, volunteering in the United States rose to about 27% of the population, which is about 63 million people (USDL, 2010). Previous literature has been primarily focused on volunteer work in general, and this thesis adds to the literature that is specific to international volunteering and disaster relief work. The demographics on which I concentrate, based on previous studies, are age, sex, race/ethnicity, socioeconomic status, educational attainment, religious affiliations, occupation, marital status, children, previous volunteer experience, and connection to volunteer site (in this case, Haiti).

While previous studies have shown typical U.S. volunteers to be older, disaster volunteers have been found to be younger. The age groups with the lowest rate of general

volunteerism (not disaster volunteerism) are people in their early 20s and the group that has the highest rate are ages 30 to 50 (USDL, 2010; Greeley, 1997; Independent Sector, 2002). Once individuals reach the retirement age and beyond, they become less likely to volunteer (Wilson & Musick, 1998). Volunteer work following a disaster has shown differences in the associations between age and probability of providing support. There is evidence that immediate relief work after a disaster is taken on by a younger adult population of volunteers. These younger individuals are able to take on the physically laborious work that is directly called for (Wenger & James, 1994).

Along with variations in age, both time spent and type of support given varies depending on sex. In Kaniasty and Norris' (1995) study of volunteerism and support in the aftermath of Hurricane Hugo, findings illustrated that while both men and women volunteers (responding to the hurricane) provided similar quantities of general support, women were more likely to provide emotional and informational assistance than were men (Kanaisty & Norris, 1995). Following the earthquake in Mexico City in 1985, men were more likely to volunteer in search and rescue attempts and women were more likely to be involved with supplies (Wenger & James, 1994). More recently and not specific to disasters, U.S. women were found more likely to volunteer than men, with a rate of 30.1 percent in 2009, compared to men at 23.3 percent. Women's rate of volunteering was found to be higher regardless of age and educational attainment (USDL, 2010).

Among general volunteers in the United States, higher socioeconomic status has been shown to have a positive relationship with rate of volunteerism (Kanaisty & Norris, 1995). Higher levels of socioeconomic status predict a higher probability that in general individuals will donate money and professional services (St. John & Fuchs, 2002; Tomeh, 1981). Lower socioeconomic status has been shown to predict a higher participation rate in search and rescue operations immediately following a disaster (Wenger & James, 1994).

While higher socioeconomic status has been reported to have a positive relationship with volunteerism (Kanaisty & Norris, 1995), individuals with higher levels of education attainment and occupational prestige may be less likely to feel useful in a disaster situation. Business skills used in an office situation may not be immediately useful in disaster situations. After 9/11/2001, Steffen and Fothergill (2009) reported that two women with MBAs felt unskilled for the work required after the disaster. There is a higher incidence of volunteer work among part-time workers than those with a full-time job; however, the lowest rates are found among those who are not employed (Wilson, 2000; Independent Sector, 2002).

In terms of education, an individual's probability of volunteering is heightened as his/her level of educational attainment rises (Plummer, et al., 2008; Greeley, 1997; USDL, 2010; Wilson & Musick, 1998). When measuring individuals over the age of 25 in the US, it was found that "42.8 percent of college graduates volunteered, compared with 18.8 percent of high school graduates and 8.6 percent of those with less than a high school diploma." (USDL, 2010, pp. 1-3) Persons with a higher education attainment are also more likely to volunteer for multiple organizations.

Previous experience as a volunteer generally predicts an increased likelihood of someone volunteering both time and services in a disaster relief effort (St. John & Fuchs, 2002). This was found after 9/11 (Beyerlein & Sikkink, 2008) and after Hurricane Katrina (Plummer et al., 2008). By having previous experiences as a volunteer, it may be that those who continue to volunteer are fulfilling an expression of their perceived self (Hitlin, 2003; Steffen & Fothergill, 2009).

Marital status can be another factor in determining the probability of volunteerism. Individuals who are married have a higher rate of general volunteering than those who identify under a different status (such as those who are cohabitating, divorced, widowed, or single) (Independent Sector, 2002; USDL, 2010). This could prove different in an international relief

effort, especially in longer-term commitments to volunteer work, but this has not yet been studied, suggesting the need for further research in this area.

Due to extensive media coverage of the disaster in Haiti, volunteers are likely to come into the country with preconceived perceptions of the situation, the country and the Haitian people. The media's sources for this information are generally "authoritative" sources, such as police and local officials (Goltz, 1984). Specifically looking at Hurricane Katrina, Stock (2007) found that the media described the city of New Orleans as "on the brink of anarchy" and a "war zone" specifically describing rape, murder, shootings and mob/gang violence (pp. 714). To assess the awareness of disaster myths dispensed through the media, Wenger, Dykes and Sebok (1975) conducted interviews with residents of New Castle County, Delaware. They found that 51% of respondents agreed that the crime rate rose after a disaster, 84% believed there was mass panic, and 54.4% of respondents believed that the news media accurately portrayed the devastation (Wenger, Dykes, & Sebok, 1975). Quarantelli and Dynes (1972) made the observation that the media was not very accurate when accounting for disorder following a disaster. I hypothesize that incoming volunteers will have preconceived notions about what they will see and this could affect their volunteer service.

Volunteer-related Research Goal

The first research goal (RG1) of this study is to characterize the volunteers on the dimensions of their age, sex, income, educational attainment, employment status, marital status, previous volunteer experience and their incoming perceptions of Haiti. Some of these demographic variables will also be used as variables in regression models investigating the health of the volunteers and the community relationships between the international and host communities.

To the best of my knowledge, previous research done on demographics of volunteers has focused primarily on international humanitarian aid, domestic volunteering, and domestic

disaster relief (e.g., Kanaisty & Norris, 1995; St. John & Fuchs, 2002). This research will specifically focus on an international relief effort by volunteers, which may yield different results and thereby add to the literature. The health of the volunteers, to be discussed next, is important in understanding how to help protect individuals in these situations, and also facilitates an understanding of volunteer behavior in disaster zones.

3.2 THE HEALTH OF VOLUNTEERS

While a lot attention is often directed at the health of victims of disaster (Bailey & Deshazo, 2008; Chambers, Campion, Courtenay, Crozier, & New, 2006; Currier, King, Wofford, Daniel, & deShazo, 2006), the volunteers can also face health challenges, although this has been studied to a lesser degree. Physical health hazards among volunteers became apparent following 9/11 because more research was done on the health effects of the work done by volunteers (Levin, et al., 2004; Swygard & Stafford, 2009). Volunteers come to disaster sites not always knowing the health risks associated with those areas (Swygard & Stafford, 2009). Individuals who respond to natural or technological disasters are vulnerable to health effects, both physically and mentally (Perrin, DiGrande, Wheeler, Thorpe, Farfel, & Brackbill, 2007). The majority of previous research on the health of volunteers in disaster areas has focused on mental health (Fullerton, Ursano, & Wage, 2004; Dolce & Ricciardi, 2007; Perrin et al., 2007; Smith, et al., 2004; Guo, Chen, Lu, Tan, Lee, & Wang, 2004). In what follows, I will look specifically at four domains related to volunteer health: protective health measures, physical health problems, mental health, and risky behaviors.

Protective measures

Volunteers are usually responsible for their own preventative health measures when traveling to disaster areas. Swygard and Stafford (2009) studied the health of volunteer health care workers responding to Hurricane Katrina. They surveyed health care professionals and

researched the protective health measures taken before and during their volunteer work, what the volunteers may have been exposed to during their work, and their mental and physical health during and following their work (Swygard & Stafford, 2009). The protective measures that Swygard and Stafford (2009) concentrated on were sunscreen, insect repellent and hydration. The findings among the healthcare professionals were that 68.5% of those surveyed after Katrina used sunscreen and 45.5% used insect repellent. Over 40% reported they were bitten by insects (Swygard & Stafford, 2009). My study on primarily non-health care volunteers may yield different results.

In disaster areas, there is a higher prevalence of younger volunteers because of the physically arduous work demands (Wenger & James, 1994). Therefore, information on student health behaviors while traveling abroad could be applicable to young disaster volunteers. In a study done on U.S. University students studying abroad in a malaria-risk region, only 24% acquired prescription medicine for their trip, including anti-malaria pills and gastrointestinal medication (Hartjes, Baumann, & Henriques, 2009).

Moving on from the younger volunteers, Voluntary Services Overseas (VSO) has been researched about the health of their volunteers (Bhatta, Simkhada, van Teijlingen, & Maybin, 2009). VSO is an organization that, according to their website, “works through volunteers to fight poverty in developing countries” (Voluntary Services Overseas, 2010). Seventy-one percent (71.1%) of workers with VSO who were in high malaria-risk areas reported that they slept under a mosquito net. VSO volunteers who reported not taking anti-malarials listed concerns about “side effects and long-term use.” (Bhatta et al., 2009, p. 334)

Physical Health Problems

While working in a disaster area physical health problems can arise. Among volunteers working in developing countries, gastrointestinal problems are common. Among individuals working with VSO, 79.9% of those surveyed reported diarrhea while in their country of service.

When tested, the cause of the diarrhea was diagnosed as *Giardia lamblia*, food poisoning, dysentery, or worms (Bhatta et al., 2009). Very little research has been done of the health of volunteers in disaster areas; so more research in this area is greatly needed.

Mental Health

In contrast to physical health problems, many studies have focused on mental health. Posttraumatic stress disorder (PTSD), acute stress disorder, and other psychological symptoms have been found repeatedly amongst relief workers after a disaster (Swygard & Stafford, 2009; Guo, Chen, Lu, Tan, Lee, & Wang, 2004; Fullerton, Ursano, & Wage, 2004; Dolce & Ricciardi, 2007; Smith, et al., 2004). The exposure of these volunteer workers to dead bodies, mass destruction and situations where they are susceptible to injury and death are causes for these psychological problems (Guo et al., 2004). Symptoms of psychological problems among disaster volunteers may include, “nightmares, hyper-vigilance, avoidance, and detachment” (Swygard & Stafford, 2009, p. 751). Psychological support helps volunteers understand their response to events and lowers the risk of psychological impairment (Dolce & Ricciardi, 2007).

Volunteers’ age and previous experience in disaster work have been found to produce differences in psychological problems. Age is negatively associated with the risk of acute stress disorder, which means that younger volunteers are more likely to develop a stress disorder (Fullerton, Ursano, & Wage, 2004). The risk of PTSD is lower among those who have prior disaster experience or are professional disaster workers (Guo et al., 2004; Swygard & Stafford, 2009; Fullerton et al., 2004; Dolce & Ricciardi, 2007).

The quality of life and mental health of volunteers can be positively impacted by a strong sense of community while in a disaster area (Cicognani, Pietrantonio, Palestini, & Prati, 2009). An emotional connection to a community after a disaster can help to shield disaster workers from failed attempts and casualties. This connection can allow workers to see the successful outcomes and progress of their work (Cicognani et al., 2009).

Risk Behavior

Risk behavior has not been generally studied when looking at disaster volunteers. However, studies done on risk taking by volunteers in developing countries (Dahlgren, DeRoo, Avril, Bise, & Loutan, 2009; Bhatta, Simkhada, van Teijlingen, & Maybin, 2009) and among students studying abroad (Hartjes, Baumann, & Henriques, 2009) may be relevant. Important risk-taking behaviors to consider include sexual behavior, as well as drug and alcohol consumption. These behaviors have been shown to be more likely to occur among international volunteers who are male, single, and under the age of 30. Explanations given for engaging in risky activities by international volunteers included a freedom associated with international volunteer work and that the difficult work and living environment (Dahlgren et al., 2009).

Regarding the sexual risk behaviors among humanitarian workers, especially in developing countries, STIs (sexually transmitted infection) are a serious health problem (European Commission ECHO, 2004; WHO, 2001). Bhatta et al.'s (2009) study concerning those working for the VSO in developing countries reported that 11.1% showed concern that they were at risk for STIs or HIV, and practicing unsafe sex was the most often given reason. VSO volunteers between the ages of 26-45 years had a higher probability of engaging in high-risk sexual behavior than those older than 45 (Bhatta et al., 2009). Aid workers from The International Committee of Red Cross (ICRC) aged 50 and over were 55% less likely to engage in sexually risky behavior than those younger than 49 (Dahlgren et al., 2009). 64% of those surveyed reported always using a condom while 25% reported sometimes or never using condoms, and 12% admitted to engaging in sexually risky behavior that could result in an STI (sexually transmitted infection) that they would not have engaged in at home (Dahlgren et al., 2009).

Increase in tobacco and alcohol consumption is another documented risk behavior that aid workers engage in when deployed internationally. Among expatriates working with the

ICRC, 14% of respondents reported an increase in alcohol consumption (Dahlgren et al., 2009). Self-reported smokers during the mission made up 41%, with 43% of those reporting an increase in their smoking and another 43% having no change in the amount they smoked. Additionally, 10% began smoking during their missions.

Health-related Research Goals

The health of disaster volunteers is an important avenue for research, because of the risk associated with volunteering in a disaster zone. A volunteer's ability to stay healthy, both physically and mentally is imperative because of the laborious work that they must carry out. Previous research has not looked in depth at the health behaviors and physical health of volunteers in disaster areas and this study will work towards filling in gaps.

The second research goal (RG2) of this study is to characterize the 4 domains identified that related to the volunteer's health (i.e., protective measures, physical health problems, psychological problems and risk behaviors) for this group of international volunteers in Haiti. In fulfilling this goal, this study will add to the limited amount of research previously done on the overall health and behaviors of volunteers. After describing the four domains for RG2, the third research goal (RG3) is to then analyze important predictors of protective measures taken, physical health problems, psychological problems and risk behaviors of the volunteers. Details on the specific predictors are discussed in the methods section. There has been one previous study looking at the protective measures taken by volunteers during the Hurricane Katrina relief effort, however, it looked specifically at health care professionals (Swygard & Stafford, 2009) as opposed to disaster volunteers.

The issue of risky behavior among the volunteers must also be acknowledged in an effort to ensure that the volunteers are safe and aware of the consequences of their actions. I have cited many previous studies done on humanitarian aid workers as well as individuals studying abroad related to risky behaviors (Dahlgren, DeRoo, Avril, Bise, & Loutan, 2009;

Bhatta, Simkhada, van Teijlingen, & Maybin, 2009; Hartjes, Baumann, & Henriques, 2009), but there is little work on the risk behaviors of disaster volunteers.

Related specifically to RG3, I did not find previous research focusing on the predictors of protective measures and physical health problems, unlike research done on mental health and risky behaviors, which has been studied (e.g., Dahlgren et al., 2009; Cicognani et al., 2009). By identifying predictors of all four domains in this study, this research will add to the existing literature on the subject.

Based on my experiences in Haiti, I believe that a strong determinant of the safety and risky actions of volunteers is the relationship with the host community. A strong relationship between the volunteers and the people of Leogane may be necessary for the success of the relief effort. The community relationships, to be discussed next, may also be vital to the success of the volunteer's mission.

3.3 COMMUNITY INTERACTIONS

After the 2010 earthquake in Haiti, there was an influx of NGOs as well as government associations coming to help. With this arrival of foreigners, one must think about the impact of a large foreign community on the local residents, as well as the impact that the host communities have on the international community. The relationships that are built between the people of Leogane and the international volunteers may influence the outcome of the relief work.

The connection between international volunteers and the host community has not been examined much in previous disaster research; however, there has been research into "volunteer tourism" and host communities (Stoddart & Rogerson, 2004; Raymond & Hall, 2008; Simpson, 2004; McGehee & Santos, 2005; McBride, Brav, Menon, & Sherraden, 2006). Volunteer tourism is defined by Wearing (2001) as individuals who "undertake holidays that might involve aiding or alleviating the material poverty of some groups in society, the restoration of certain environments or research into aspects of society or environment." (p. 1) I would argue that this

includes disaster volunteers, as their service may fit as a “holiday” (i.e., a vacation or trip) and they are engaging in activities which are working to alleviate poverty and restore environments.

Research studying volunteer tourism has mainly been focused on the “gap year” taken by young Europeans, defined by Raymond & Hall (2008) as “a year taken out between high school and university, or post-university which often includes an element of voluntary work.” (p. 531) Organizations will advertise and try to seduce gap year individuals to volunteer with them. They may romanticise poverty, emphasizing the developing world and the marginalized population, and further entrenching the volunteers’ belief in the ‘them and us’ ideology (Simpson, 2004). In this way, volunteers embark on their service differentiating between themselves and the host community.

Language can prove to be a barrier to interactions between the majority of the host community and the international volunteers. The westernized elite population of the host community are usually the individuals who interact most with the international volunteers and organizations (Cohn & Wood, 1985), contributing to a divide between the general surrounding population and the international volunteers. Language differences create a barrier between the volunteers and the general population, as the monolingual international volunteers can only interact with elite local people.

The power differentials that exist between host communities and international organizations are, in some cases, perpetuated by the organizations. Organizations may focus primarily on their volunteers (i.e. qualifications, education, recruiting more volunteers), which may lead them to neglect of the host communities, and continue the inequalities inherent in these systems. The ways of the organization are seen as dominant and correct, showing an elitist ideology among the organization and its volunteers (McBride et al, 2006). Volunteers may not be required to have previous experience or skills, however, they may still take on the roles of the teacher or supervisor of local volunteers and staff (Raymond & Hall, 2008).

Raymond and Hall (2008) argued that international NGOs should promote programs that integrate local staff and people with the international volunteers, in an effort to create a more equal work situation. They also suggested the creation of events that would allow occasions for the international population to interact with the host community. These ties between international volunteers and local staff/people may also be beneficial to the relief effort. A study which focused on everyday emergency workers (i.e. Fire fighters, Civil Protection, Emergency Intervention Services, Red Cross), looked at how a strong sense of community helped emergency workers cope and positively impacted their abilities to deal with stressful situations (Cicognani, Pietrantonio, Palestini, & Prati, 2009). In my own observations while in Haiti after the earthquake, the relationship between the international community and the people of Leogane was important for the productivity of programs and the well being of the volunteers.

Individuals who volunteer abroad semi-permanently may be more easily incorporated into the host community than those just on vacation because there are fewer barriers, as they are living and working in local conditions (Palmer, 2002; Devereux, 2008). This allows volunteers to understand the host community, through their informal relationships, and can help to facilitate more effective programs (Devereux, 2008). A study done in Nepal in 1999 showed that the common local perception was that UN volunteers provided services that the affected population could not have executed (Devereux, 2008). A close relationship between international volunteers and the host community will also influence the way that work is carried out, such as how the work is done and how the host community thinks about the work (Devereux, 2008).

There are two community relationships for international aid workers following a disaster: 1) the relationships between the international volunteers and the host community, and 2) the relationships within the international volunteer community. Generally, international volunteers live amongst themselves, although strong friendships between international workers and the host community may develop (Stirrat, 2008). Raymond & Hall (2008) highlighted a volunteer

tourist who likened her experience to 'boarding school' because she was surrounded by individuals of the same age, nationality and background. McGehee & Santos (2005) believed that like-minded individuals are brought together in international volunteer situations, even from geographically different areas. They found that volunteers created bonds that crossed both racial and cultural boundaries, and many continued friendships beyond their volunteer service. Being surrounded by like-minded individuals can create a comfortable atmosphere and allow volunteers to isolate themselves. This creates two societies for volunteers, one of international volunteers and one in which the volunteers interact with the host community.

Community-related Research Goals

Relationships between the host community and the international community and among the international community are an important aspect that has not been closely researched following disasters. I believe that by looking into this connection we can see the effect that healthy community relationships have on mental health and general well-being of the volunteers and the proclivity for risky behaviors among international volunteers.

The following goals focus on further understanding the community relationships and their connections to other variables. The fourth research goal (RG4) of this study is to characterize the reported strength of community relationships, as well as the frequency of interactions between the local and the international volunteer community. Then, for the fifth research goal (RG5), I analyze important predictors of the frequency of interactions with the people of Leogane and analyze predictors of how volunteers rated the quality of relationships with community members in Leogane. Both of these variables are analyzed using the same suite of independent variables, including sex, age, income, and previous disaster experience. This will allow me to determine the relative importance of each variable, controlling for the others.

A greater understanding of the disaster volunteer community will help to make relief efforts in these areas more efficient. Related to RG4, there has not been previous quantitative

research, to my knowledge, measuring the frequency of interactions between the international and host communities from the volunteer's perspective. This is an important avenue of research because it has been stated that more effective programs can be produced with a strong relationship (Devereux, 2008).

Related to RG5, there has not been previous research that I could find focusing on the association between the predictors (sex, age, income and previous disaster experience) and community interactions. This study will fill in that gap in the literature. This subject is important because the relationship between the international and host communities is important to the success of relief efforts.

CHAPTER 4

METHODS

4.1 PARTICIPANTS

The participants in this study are individuals who volunteered with one US-based NGO following the earthquake. The US-based NGO is an organization that opened their current project in Haiti on February 15, 2010, and it is still open at the writing of this thesis (May 2011). This organization has responded to 14 disasters since their inception in 2004 following the tsunami in Thailand. Their base in Haiti is located in Leogane, the epicenter of the earthquake.

4.2 PROCEDURE

My survey procedure is adapted from Hartjes, Baumann and Henriques (2009) who conducted a similarly structured study related to their research on risk perceptions and prevention behaviors among US study abroad students. My survey was piloted among 8 students at the University of Texas at El Paso to verify that the language was easily understood, that there were not multiple interpretations to any questions, and that the questions were applicable to the study, and then revised.

An online survey through Survey Monkey was made available to the NGO's volunteers that served in Haiti for a minimum of one week between January and December, 2010. The organization disseminated the survey link to 660 volunteers through their newsletter. The volunteers were emailed the link twice, once at the opening of the survey and once 1 week before it closed (it was included in a newsletter both times). The cover letter, accessed by clicking a link, explained the study and the protections in place to safeguard the privacy of those participating. Their completion of the survey served as informed consent (as per Fiala, D'Abundo, & Mariano, 2010). Both the cover letter and the survey were approved by UTEP's Institutional Review Board (IRB) and the NGO, and are included in Appendix A and Appendix B, respectively.

The survey was open for a four-week period and 90 individuals responded to the survey. The response rate can be conservatively estimated at 14%; it is not possible to calculate an exact response rate as I do not know how many newsletters were returned as undeliverable or filtered by spam and how many volunteers never opened the emailed newsletter. The survey was designed both with close-ended questions as well as the opportunity for more open-ended write-in answers when appropriate. The respondents had the option of anonymity, or they had the ability to release their name and contact information for possible follow-up research. The survey focuses on the social demographics of the volunteers and two themes, the health of the volunteers and their interactions with the community of Leogane. These themes were identified through my own experiences as a volunteer and through the literature on the subject. In constructing the survey, I used the following survey resources: United States Department of Health and Human Services (2008) survey; United States Department of Health and Human Services (1994) survey; Plummer et al.'s (2008) survey; and the survey for the Study of Experiences of People Affected by the 2006 Floods in El Paso, TX. All measures used in this thesis are summarized in Tables 1A, 1B, and 1C and described in the following three sections (4.3, 4.4 and 4.5).

4.3 VOLUNTEER CHARACTERISTICS

The questions addressing volunteer characteristics addressed the following: age, sex, educational attainment, nationality, previous disaster volunteer experience, income of the volunteers and their parents (if the volunteer was under 25 and received assistance), employment, and marital status. Volunteers were also asked about their perceptions of Haiti prior to their arrival and what they experienced and witnessed after their volunteer service. The specific perceptions addressed were: violence, resilience, disease, extreme poverty, strength/courage, hunger, heroes, low sanitation, sadness among the Haitians, local community rebuilding, injuries, sense of humor among the Haitians, and aggressive men. The volunteers

were asked if they believed they would see any of these behaviors and situations prior to their service and then if they did indeed witness these behaviors and situations during their service.

4.4 HEALTH OF THE VOLUNTEERS

The questions focusing on health are concerned with protective measures taken, physical health, mental health, and risky behaviors. Protective health measures taken was covered in the survey with questions asking about the frequency of use of bug repellent, frequency of sunscreen applications, hydration, and the frequency with which they used condoms and other protective measures against STIs, whether they brought prescriptions with them to Haiti, and the use of masks while working on rubble sites. The physical health of the volunteer was measured by the self-reporting of illnesses suffered while in Haiti. Volunteers were specifically asked about gastro-intestinal illness, a cough, if they were diagnosed with any STIs while in Haiti, and any other illnesses they may have had.

Using the survey for the Study of Experiences of People Affected by the 2006 Floods in El Paso, TX (Principle Investigator: Tim Collins) as a reference, the level of PTSD of the volunteers is measured using the PTSD Checklist (PCL) (Ruggiero, Del Ben, Scotti, & Rabalais, 2003; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). The question for the volunteers was, "Once you returned home or were away from Haiti for at least a month, how much were you bothered by..." after which there is a list of events such as dreams, anxiety, feeling distant and irritability. Following the PCL scale, I asked about depression before their arrival in Haiti, during their time in Haiti and a month after they returned.

The risky behaviors of the volunteer was addressed in the survey by asking about sexual health (number of partners, frequency of sexual encounters, protective measures against STIs and their perception of the risky of contracting and STI), alcohol consumption (how much the volunteer drank in Haiti, if that amount increased in relation to home, and if they drank moonshine), tobacco (if they used tobacco products, how many cigarettes they smoke per day,

and if that amount increased in relation to home), and drug usage (their usage of marijuana, frequency of drug use, what other drugs they used, and if their drug use increased in relation to home). In this section of the survey, I referenced the following surveys: United States Department of Health and Human Services (2008) and United States Department of Health and Human Services (1994).

4.5 COMMUNITY INTERACTIONS

This section of the survey consists of questions measuring the relationship and interactions between individual volunteers and the host community. Specifically, volunteers were asked about their ability to speak Haitian Creole and French, the languages most spoken by Haitians. They were also asked about how they characterized the quality of their relationships with the local volunteers and surrounding community, and how often they interacted with the people of Leogane and what those interactions entailed. Also included were questions about the participation of the people of Leogane in the relief effort and the equality of the relief effort in terms of international volunteers versus people from Leogane. Volunteers were asked about their perception of the importance of strong relationships between themselves and the surrounding community in the success of the relief effort. Lastly, the volunteers were asked if there were any obstacles that they perceived causing a barrier between themselves and the people of Leogane.

Table 1A – Analysis variables for Volunteer Characteristics: metrics and descriptive statistics

<u>Variable</u>	<u>Metric</u>	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Range</u>
Sex	0=Female, 1=Male	1.41	1		1
Age	2=20-24, 7=60+	3.49	3	1.44	5
Education	1=Grade 12 or GED - 4=Post Graduate	3.07	3	.77	3
Volunteer at home	0=No, 1=Yes	.63	1		1
How often volunteer at home	1=Never - 6=Multiple times a week	3.79	4	1.34	4
Disaster experience	0=No, 1=Yes	.35	0		1
Number of disaster areas	1=1 - 6=6+	2.11	1	1.45	5
Income	1=Less than \$1,999 - 14=\$150,000+	6.36	5	3.59	13
Financial Assistance	0=No, 1=Yes	.37	0		1
Employed	0=No, 1=Yes	.81	1		1

Table 1B – Analysis variables for the Health of the Volunteers: metrics and descriptive statistics

<u>Variable</u>	<u>Metric</u>	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Range</u>
Anti-malaria pill	0=No, 1=Yes	.60	1		1
Brought Cipro from home	0=No, 1=Yes	.53	1		1
Prescribed Cipro in Haiti	0=No, 1=Yes	.05	0		1
Used Cipro in Haiti	0=No, 1=Yes	.22	0		1
Removed rubble	0=No, 1=Yes	.96	1		1
Wore mask	1=Never - 5=Always	1.53	1	.86	4
Mosquito Net/Tent	1=Never, 5=Always	4.75	5	.71	4
Bug Repellent	1=Never, 5=Always	3.81	4	1.36	4
Sunscreen (twice a day)	1=Never, 5=Always	3.67	4	1.35	4
Often bitten by mosquitoes	1=Never, 5=Always	3.24	3	1.27	4
Illness/Injury	0=No, 1=Yes	.58	1		1
Cough	1=Never - 5=Always	1.94	2	1.14	4
Flashbacks	1=Not at all - 4=Very Much	1.81	2	.95	3
Distressing dreams	1=Not at all, 4=Very Much	1.49	1	.95	3
Intrusive recollect	1=Not at all, 4=Very Much	1.67	1	.95	3
Upset by reminders	1=Not at all, 4=Very Much	1.86	2	.93	3
Physical reactions	1=Not at all, 4=Very Much	1.18	1	.56	3
Avoid thoughts	1=Not at all, 4=Very Much	1.38	1	.81	3
Avoid reminders	1=Not at all, 4=Very Much	1.25	1	.58	3
Psychogenic Amnesia	1=Not at all, 4=Very Much	1.25	1	.58	3

<u>Variable</u>	<u>Metric</u>	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Range</u>
Anhedonia	1=Not at all, 4=Very Much	1.57	1	.82	3
Estrangement from others	1=Not at all, 4=Very Much	1.86	2	.92	3
Psychic numbing	1=Not at all, 4=Very Much	1.36	1	.78	3
Foreshortened future	1=Not at all, 4=Very Much	1.19	1	.57	3
Sleep difficulty	1=Not at all, 4=Very Much	1.35	1	.73	3
Irritability/Anger	1=Not at all, 4=Very Much	1.27	1	.61	3
Concentration impaired					
	1=Not at all, 4=Very Much	1.47	1	.76	3
Hypervigilant	1=Not at all, 4=Very Much	1.31	1	.61	3
Exaggerated startle	1=Not at all, 4=Very Much	1.23	1	.50	3
Depressed before	1=None of the time, 5=All of the time	1.52	1	.86	3
Depressed in Haiti	1=None of the time, 5=All of the time	1.53	1	.73	2
Depressed after	1=None of the time, 5=All of the time	1.96	1	.98	3
Tobacco in Haiti	0=No, 1=Yes	.30	0		1
How often smoked in Haiti	1=Once a month or less, 5=Everyday	4.36	5	1.25	4
Cigarettes per day	1=Don't Know, 1=1 cigarette, 5=More than a pack a day	3.00	3		4
Increase in tobacco	1=Much less, 5=Much more	4.36	5	.86	3
Alcohol in Haiti	0=No, 1=Yes	.87	1	.34	1
How often drank alcohol in Haiti	1=Once a month or less, 5=Everyday	2.76	2	1.27	4
Drank moonshine	0=No, 1=Yes	.27	0		1
Increase in alcohol	1=Much less, 5=Much more	2.96	3	1.21	4
Marijuana in Haiti	0=No, 1=Yes	.14	0		1
How often smoke marijuana in Haiti	1=Once a month or less, 5=Everyday	2.25	2	1.29	3
Increase in marijuana					
	1=Much less, 5=Much more	2.25	1.5	1.48	4
Had sex	0=No, 1=Yes	.23	0		1
No. of partners	1=1 to 2, 2=3 to 5, 3=6 to 8, 4=9 or more	1.11	1	.32	1
Frequency with each partner	1=1 to 2 times, 2=3 to 5 times, 3= 6 to 8 times, 4=9 or more times	2.05	2	1.13	3
Vaginal or anal sex without a condom	0=Never, 5=All the time	1.71	1	1.71	5
Oral sex without protection	0=Never, 5=All the time	2.17	1	2.14	5
High risk of catching STI within volunteers	1=Strongly Disagree, 5=Strongly Agree	3.56	4	.92	3
High risk of catching STI with local community	1=Strongly Disagree, 5=Strongly Agree	3.91	4	.82	3

Table 1C – Analysis variables for Community Interactions: metrics and descriptive statistics

<u>Variable</u>	<u>Metric</u>	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Range</u>
Creole skills before	1=Not at all, 2=Know some words, 3=Hold basic conversation, 4=Fluent	1.23	1	.55	3
Creole skills after	1=Not at all, 2=Know some words, 3=Hold basic conversation, 4=Fluent	2.19	2	.61	3
French skills before	1=Not at all, 2=Know some words, 3=Hold basic conversation, 4=Fluent	1.91	2	1.02	3
French skills after	1=Not at all, 2=Know some words, 3=Hold basic conversation, 4=Fluent	2.13	2	.95	3
Relationship with Haitian volunteers and staff	1=Very poor, 5=Very good	4.24	4	.76	3
Relationship with Haitian community members	1=Very poor, 5=Very good	3.45	4	.74	3
Time spent with local volunteers compared to other international	1=Much less time, 5=Much more time	2.49	2	.98	4
Conversed with Haitians	1=Never, 5=Multiple times a day	4.56	5	.85	4
Played with Haitian children	1=Never, 5=Multiple times a day	3.63	4	1.26	4
Worked with Haitians	1=Never, 5=Multiple times a day	4.63	5	.84	4
Shared meal with Haitians	1=Never, 5=Multiple times a day	3.49	4	1.34	4
Purchased food from Haitians	1=Never, 5=Multiple times a day	3.38	3	1.13	4
Bought souvenirs	1=Never, 5=Multiple times a day	1.69	1	.94	4
Drank alcohol with Haitians	1=Never, 5=Multiple times a day	2.70	3	1.11	4
Interaction with locals not significant to volunteer work	1=Strongly Agree, 5=Strongly Disagree	3.55	4	1.34	3
How often Haitians involved in work	1=Never, 5=Always	3.62	4	.95	3

<u>Variable</u>	<u>Metric</u>	<u>Mean</u>	<u>Median</u>	<u>SD</u>	<u>Range</u>
Haitians could not do work without international help	1=Strongly Disagree, 5=Strongly Agree	3.32	4	1.23	4
Relief effort equal between volunteers and host community	1=Strongly Disagree, 5=Strongly Agree	2.24	2	1.01	4
Obstacles between volunteers and host community	0=No, 1=Yes	.66	1	.48	1
Strong relationship between locals and volunteers important	1=Strongly Disagree, 5=Strongly Agree	4.70	5	.61	3

4.6 DATA ANALYSIS

The data gathered through the online survey were entered into SPSS. The following are the five research goals and how each was analyzed.

RG1: Characterize the volunteers on the dimensions of age, sex, income level, educational attainment, employment status, marital status, disaster experience, and their incoming perceptions of Haiti.

RG1 Analysis

The named variables (See Table 1A) are illustrated through descriptive statistics (e.g., mean and median). Incoming perceptions of Haiti were measured as a 0-1 variable (No-Yes) based on what the volunteers believed they would see in Haiti prior to their arrival and what they actually witnessed while in Haiti. Specifically, volunteers are asked about violence, resilience, disease, extreme poverty, strength and courage, hunger, heroes (people making a difference), low sanitation, sadness among Haitians, the local community rebuilding, injuries, sense of humor among the Haitians, and aggressive men. Their answers were analyzed in comparison to what the volunteers actually witnessed in Haiti using a paired sample t-test.

RG2: Characterize the levels of each of the following four domains, protective behaviors, physical health problems, mental health, and risk behaviors.

RG2 Analysis

The protective behaviors variables that are characterized are, bring prescriptions to Haiti, wearing a mask during rubble work, using a mosquito net, using bug repellent, and using sunscreen (See Table 1B). The physical health problems are characterized by looking at illness, injuries, and cough. Mental health is characterized through symptoms of distress found in the PCL scale (i.e. flashbacks, distressing dreams, intrusive recollect, upset by reminders, physical reactions, avoid thoughts, avoid reminders, psychogenic amnesia, anhedonia, estrangement from others, psychic numbing, foreshortened future, sleep difficulty, irritability/anger, concentration impaired, hypervigilance, and exaggerated startle). Risk behaviors are characterized through sexual behaviors, tobacco usage, alcohol consumption and drug usage. These variables (See Table 1B) are illustrated through descriptive statistics (e.g., mean and median).

In terms of creating usable variables from the PCL scale, first, I identified if any volunteers suffered from PTSD using Blanchard et al's (1996) method of summing the PCL scale (17 item scale measuring PTSD). Specifically, certain items (i.e. items 1, 2, 9, 10, 12, and 15) in the PCL scale were given a cut off score of 4 ("very much"), and the remaining 11 items were given a cutoff of 3 or higher ("moderately"). I used three different cutoffs, and individuals scoring over 44 (Blanchard et al., 1996), 38 (Dobie, et al., 2002), and 30 (Walker, Newman, Dobie, Ciechanowski, & Katon, 2002) are reported as suffering from PTSD based on different cutoff requirements. Blanchard et al. (2002) suggests a cutoff of 44 for civilians, Dobie et al. (2002) used a cutoff of 38 for female veterans, and Walker et al. (2002) used a cutoff of 30 for female HMO patients. Second, I identified the symptoms from the scale with the greatest frequency (10 or more volunteers identifying a symptom "moderately" to "much of the time") to use in analysis.

RG3: Analyze important predictors of protective measures taken, physical health problems, mental health and risk behaviors of the volunteers.

RG3 Analysis

Important predictors (to be discussed below) of the four domains were analyzed through multivariate regression models and correlations. I used the regression to understand the strength of each independent variable as predictor of the dependent variable. In what follows, I will outline the dependent and independent variables associated with each domain.

Protective Behaviors

The dependent variables are: 1) frequency of use of bug repellent, 2) frequency of use of sunscreen, and 3) use of anti-malaria pills. The independent variables that were associated with the protective behaviors among volunteers are age, sex, income, and previous disaster experience. These were selected based on the literature (Swygard, 2009; Harris & Guten, 1979) and my experiences. Using these variables, I ran correlations, three OLS regression models (dependent variables 1-2 and one logistic regression (dependent variable 3).

Physical Health Problems

There is only one dependent variable addressing physical health problems, 1) illness/injury (1=had injury or illness, 0=did not have one) during their volunteer service. This was analyzed using correlations and logistic regression modeling. Volunteers addressed specific illnesses and injuries in open-ended questions in the online survey. These answers are addressed using descriptive statistics in the results. The independent variables are frequency of use of bug repellent, frequency of use of sunscreen, use of anti-malaria pills and the Risk Factor (i.e. a factor created by combining drug usage and consumption of moonshine while in Haiti; cronbach's alpha =.59). There are only two variables in the Risk Factor because

the other risk behavior variables did not load into the factor. To the best of my knowledge, there are no previous studies that address the prediction of physical health of volunteers based on their protective behaviors and their risk behaviors. I believe that not adhering to recommended protective behaviors or by engaging in risk behaviors, the likelihood of volunteers becoming ill or injured increases.

Mental Health

The dependent variables addressing mental health are: 1) a sum of the responses to the items in the PCL scale; 2) 5 symptoms of distress reported happening “moderately” or “much of the time” by 10 or more volunteers following their volunteer service. The independent variables used to predict these dependent variables were sex, age, income level, previous disaster experience and interactions with the surrounding community. I ran correlations and performed 6 OLS regressions to identify predictors of those symptoms. The independent variables were selected based on the literature (Fullerton, Ursano, & Wage, 2004; Dolce & Ricciardi, 2007; Cicognani et al., 2009).

Risk Behavior

The final dependent variable for health is a composite of risk behavior among volunteers (i.e. the drug use and consumption of moonshine factor previously described). The independent variables, which were used to predict this factor, are age, sex, volunteer income and the Interaction Frequency Factor (i.e. a factor created by combining the frequency of the following interactions with the community of Leogane: conversing, playing with children, sharing a meal, and working; cronbach’s alpha = .57). I ran correlations and 1 OLS regression model to explore the predictors of the Risk Factor. Age, sex, and socioeconomic status have been previously studied as predictors to risk behaviors (Dahlgren et al., 2009; Bhatta et al., 2009, Adler, et al., 1994; Lantzm, House, Lepkowski, Williams, Mero, & Chen, 1998; Reitman, St.

Lawrence, Jefferson, Alleyne, Brasfield, & Shirley, 1996). I have not found previous research that has studied the connection between community relationships and risk behaviors.

RG4: Characterize the community relationships between the international volunteer and the host communities.

RG4 Analysis

Using descriptive statistics (e.g., mean and median) (See Table 1C), I will describe community interactions, specifically looking at language skills, obstacles between international volunteers and the host community, the rating of relationships between the international volunteers and the Haitian staff and local volunteers, as well as the rating of the relationships between the international volunteers and Haitian community members. I will also characterize the perceptions that the volunteers have of the host community, as well as the significance of an importance of a strong relationship between the international volunteers and the community of Leogane. The specific variables included in the perceptions are: whether interactions between the host community and themselves was important to their work as volunteers, if a strong relationship is vital to the success of the relief effort, if the relief effort was equally combined between themselves and the Haitians, if the Haitians were involved in the relief effort, and if the Haitians could recover without international aid (See Table 1C complete information about these variables). These relationships were self-reported by the volunteers, based on their own perceptions of their relationships. I analyzed the language barrier by running a paired sample t-test on Creole and French language skills before arrival and after departure in Haiti.

RG5: Analyze important predictors of the strength of community relationships between volunteers and the host community.

RG5 Analysis

RG 5 involves 2 dependent variables. First, I created a composite variable (i.e. using factor analysis) using the frequency (See Table 1C) of the following interactions with the host population: conversing, playing with children, working with local volunteers or community members, and sharing a meal (cronbach's alpha = .57) called the Interaction Frequency Factor. The second dependent variable related to community is the volunteers' perception of the quality of their relationship with the people of Leogane. Those who characterized their relationship as OK to very good were give a score of 1, and poor and very poor were scored as 0 (See Table 1).

The following independent variables are used here: sex, age, volunteer income and previous disaster experience. The RG 5 analysis involves running correlations, one OLS regression model (the Interaction Frequency Factor) and one logistic regression model (rating of quality of relationship). I have not found previous research looking at demographics and a relationship between international disaster volunteers and host communities. I hypothesize that age, sex, and income will vary in relation to community interactions and reported strength of relationships based on my observations while in Haiti. Previous volunteer experience could have an impact on an individual's community relationships, in that they are more likely to connect with the people of Leogane, as they would have done this before in other disaster zones.

4.7 CHAPTER CONCLUSION

This research will make an effort to contribute to the previous literature pertaining to international aid workers and domestic disaster volunteers. Each of the themes and domains of the study will serve as an important addition to the literature. In understanding the volunteers' background and previous experiences, I can generate insight into the relief efforts and the individuals responsible for much of the work following disasters. The health of the volunteers is significant because of the laborious work that they do and by understanding their behaviors

related to health there could be a greater effort put forth towards efficiency and safety. Finally, the community interactions of disaster volunteers have not been studied quantitatively in the past, and this leaves a gap in the literature on the subject. I believe that understanding the relationships and the predictors of those relationships is valuable to the overall effectiveness of a relief effort. It is my hope that this research will help to influence a move towards more successful relief efforts.

CHAPTER 5

RESULTS/ANALYSIS

I attained my results by using multiple methods of statistical analysis. Below the data are presented using descriptive statistics, bi-variate and multi-variate techniques (as described). I analyzed the data from the survey using correlations, OLS regression, logistic regression, paired sample t-tests, and a repeated measures ANOVA test.

5.1 VOLUNTEER CHARACTERISTICS

The following results address RG 1. Descriptive statistics are used to address the first research goal. Also included is a paired sample t-test, which compares the incoming perceptions' of the volunteers and their experiences while working in Haiti. Of those who answered the survey (See Table 2), 59% identified themselves as female and 41% as male. The sample population was primarily young, with 59% being between the ages of 20-29; only 15% were between the ages of 40-65. The oldest volunteer to answer the questionnaire was 65 years old. The vast majority of the sample (i.e., 72%) was from the US, 9% were from the United Kingdom, 12% from Canada, 2% from Australia and 5% were of other nationalities. When asked about marital status, 69% identified as single and 16% were married.

The volunteers were a well-educated group. One hundred percent of those who reported their education were high school graduates and above. 52% of the sample was college graduates and 29% identified as post-graduates (See Table 2).

Table 2 – Descriptive statistics of volunteer demographics

Sex (N=85)	Percentage (N)
• Female	59% (50)
• Male	41% (35)
Age (N=84)	
• 20-24	27% (23)
• 25-29	32% (27)
• 30-39	25% (21)
• 40-65	15% (12)
Education (N=85)	
• Grade 12 or GED (High School Graduate)	4% (3)
• Some College (or Technical School)	15% (13)
• College Graduate	52% (44)
• Post-Graduate (e.g., MA, PhD, MD)	29% (25)
Nationality (N=85)	
• United States	72% (61)
• United Kingdom	9% (8)
• Canada	12% (10)
• Australia	2% (2)
• Other	5% (4)
Marital Status (N=84)	
• Single	69% (58)
• Cohabiting	11% (9)
• Married	16% (13)
• Divorced	2% (2)
• Other	2% (2)

The volunteers were generally people who also volunteered at home (See Table 3). Of the sample, 63% volunteered in their home community, however when asked about their frequency of volunteering 23% of those reported volunteering less than once a month and 13% reported volunteering multiple times a week. Only 35% of the sample had previous disaster volunteer experience, the largest percentage of those with experience (54%) had been in 1 disaster area prior to arrival in Haiti (See Table 3). The next largest percentage, 29%, reported volunteering in 2 to 3 disaster areas prior to Haiti, 15% has volunteered in 4 to 5 and 4% had volunteered in over 6 disaster areas prior to arrival in Haiti. 5% of those surveyed reported prior travel to Haiti, so very few volunteers had direct experience in Haiti prior to arrival, and only 7% of the volunteers has a personal connection to Haiti (see Table 3).

Table 3 – Descriptive statistics related to previous volunteer experience

Volunteer in Home Community (N=83)	Percentage (N)
<ul style="list-style-type: none"> • No • Yes 	37% (31) 63% (52)
How Often Volunteer in Home Community (of those who said yes to previous item) (N=53)	
<ul style="list-style-type: none"> • Less than once a month • Once a month • Multiple times a month • Once a week • Multiple times a week 	23% (12) 19% (10) 29% (15) 17% (9) 13% (7)
Disaster Experience (N=85)	
<ul style="list-style-type: none"> • No • Yes 	65% (55) 35%
Past times volunteered in disaster area (of those who said yes to previous item) (N=85)	
<ul style="list-style-type: none"> • 0 times in a Disaster Area • 1 • 2-3 • 4-5 • 6+ 	65% (55) 18% (15) 9% (8) 5% (4) 1% (1)
Personal ties to Haiti before volunteering (N=84)	
<ul style="list-style-type: none"> • No • Yes 	93% (78) 7% (6)
Been in Haiti Before (N=84)	
<ul style="list-style-type: none"> • No • Yes 	95% (80) 5% (4)

When asked about employment history before their volunteer service in Haiti (see Table 4), 81% reported being employed or a full-time student, with 63% of those working more than 30 paid hours per week. There was variation in volunteer income, with the largest percentage of the sample reporting an annual household income between \$10,000 and \$29,999. The majority of volunteers funded their own travel to Haiti, however 37% reported receiving financial assistance (See Table 4). For those respondents receiving financial assistance, they received it from the following sources: 64.5% from family, 58% from friends, 45% from donors and sponsors, 10% from their church or religious institution, and 6.5% reported receiving money from other sources, namely university or work grants (See Table 4).

Table 4 – Descriptive statistics of volunteer employment status and income

Employed Before Haiti (including full-time students) (N=83)	Percentage (N)
<ul style="list-style-type: none"> • No • Yes 	19% (16) 81% (67)
Employed Hours Worked (of those who said yes to previous item) (N=67)	
<ul style="list-style-type: none"> • None • 1-10 Hours • 11-20 Hours • 21-30 Hours • 31-40 Hours • 40+ 	3% (2) 8% (5) 8% (5) 18% (12) 32% (22) 31% (21)
Volunteer Income (N=77)	
<ul style="list-style-type: none"> • Less than \$1,999/year • \$2,000-4,999 • \$5,000-9,999 • \$10,000-19,999 • \$20,000-29,999 • \$30,000-39,999 • \$40,000-49,999 • \$50,000-59,999 • \$60,000-69,999 • \$70,000-79,999 • \$80,000-89,999 • \$90,000-99,999 • \$100,000-149,999 • \$150,000+ 	4% (3) 4% (3) 10% (8) 20% (15) 20% (15) 7% (5) 5% (4) 5% (4) 4% (3) 7% (5) 4% (3) 1% (1) 3% (2) 8% (6)
Financial Assistance (N=83)	
<ul style="list-style-type: none"> • No • Yes 	63% (52) 37% (31)

A focus of this study was the incoming perceptions of the volunteers, the reality that they witnessed while based in Haiti, and how those two sets of perceptions were related. By performing a paired sample t-test (See table 5), I tested for significant differences between reported viewpoints at these two time periods. There was not a significant difference reported between incoming perceptions and outgoing experiences when looking at violence, extreme poverty, strength and courage, hunger, seeing heroes or people making a difference, low sanitation, injuries and aggressive men. It is worth mentioning that strength and courage, hunger, heroes or people making a difference and injuries were nearly significant at $p < .2$. There were significant differences for resilience (witnessed more than they anticipated), disease (did not see as much as they anticipated), witnessing sadness among the Haitians (did not see as much as they anticipated), and a sense of humor among the Haitians (saw more than they

anticipated). Volunteers reported gaining their incoming perceptions from media outlets (86%), documentaries (29%), and books (30%) (See also Table 5)

Table 5 –Results of a paired-sample t-test for differences between incoming perceptions and actual experiences in Haiti

Categories of perceptions	% expecting to see before arrival Percentage (N)	% actually saw in Haiti Percentage (N)	Sig. (2-tailed)
• Violence (N=79)	47% (39)	37% (30)	.259
• Resilience (N=79)	90% (72)	100% (86)	.007
• Disease (N=80)	89% (74)	79% (65)	.045
• Extreme Poverty (N=87)	98% (85)	97% (84)	.567
• Strength/Courage (N=80)	91% (74)	96% (81)	.159
• Hunger (N=82)	95% (79)	89% (75)	.133
• Heroes/People making a difference (N=80)	88% (70)	93% (80)	.159
• Low Sanitation (N=86)	99% (86)	98% (84)	.320
• Sadness among Haitians (N=81)	92% (78)	70% (57)	.000
• Local community rebuilding (N=83)	96% (81)	86% (74)	.012
• Injuries (N=84)	90% (77)	82% (70)	.057
• Sense of humor among Haitians (N=78)	68% (53)	98% (85)	.000
• Aggressive men (N=79)	46% (38)	52% (43)	.223
Where information originated (N=87)	Percentage (N)		
• Media outlets	86% (75)		
• Documentaries	29% (25)		
• Books (textbooks, biographies, etc.)	30% (26)		

5.2 HEALTH OF THE VOLUNTEERS

Protective Behaviors

In this section, descriptive statistics are used to address RG 2 and illustrate the protective behaviors of the volunteers. I also identify predictors of those behaviors through correlations and multi-variate regressions, addressing RG 3. To review, there are four regression models that predict bug repellent usage, sunscreen usage and use of anti-malaria pills.

Those surveyed were asked about their protective measures to prevent health problems while based in Haiti (see Table 6). Volunteers were questioned about the prescriptions they used and did not use while based in Haiti. 39.5% reported that they did not take anti-malaria pills while in Haiti, with concerns about the side effects being listed as the number one reason

for not taking the medication. 53% reported bringing a prescription of Cipro (or its equivalent) with them from home, and 5% received a prescription for gastro-intestinal antibiotics in Haiti.

Table 6 – Descriptive statistics of protective behaviors - medications

	Percentage (N)
Anti-Malaria Pill (N=86)	
• No	39.5% (34)
• Yes	60.5% (52)
Prescription for Cipro from home (N=85)	
• No	47% (40)
• Yes	53% (45)
Received prescription for Cipro in Haiti (N=85)	
• No	95% (81)
• Yes	5% (4)
Took Cipro in Haiti (N=85)	
• No	78% (66)
• Yes	22% (19)

The protective measures taken by volunteers also included preventative behaviors (see Table 7). For instance, while 41.5% of volunteers reported bringing a mask to use while removing rubble (which is an activity that involves removing collapsed building materials and can result in the inhalation of concrete dust), only 33% of those bringing a mask with them wore the mask. The masks were uncomfortable to wear in the heat of summer when I was a volunteer in Haiti, so discomfort may have contributed to the low usage of the masks.

Table 7 – Descriptive statistics of protective behaviors - preventative

Removed Rubble (N=85)	Percentage (N)
• No	3.5% (3)
• Yes	96.5% (82)
Brought protective face mask to Haiti (N=82)	
• No	58.5% (48)
• Yes	41.5% (34)
Wore Mask (N=34)	
• Never	68% (23)
• Rarely	15% (5)
• Sometimes	15% (5)
• Often	3% (1)

Another concern when traveling to Haiti is mosquito-borne illnesses, such as malaria and dengue. Only 1% of those surveyed reported that they had never used a mosquito net or tent while in Haiti, and 85% always used either a net or tent. 22% of the sample “rarely” or “never” used bug repellent, and 41% always did. The strength of the sun was also a risk associated with primarily working outside. 18% of those surveyed reported “rarely” or “never” applying sunscreen at least two times daily, with 39% always doing so (See Table 8).

Table 8 – Descriptive statistics of protective behaviors – mosquitoes and sunscreen

Used Mosquito Net or Tent (N=85)	Percentage (N)
• Never	1% (1)
• Rarely	2% (2)
• Sometimes	1% (1)
• Often	11% (9)
• Always	85% (72)
Used Bug Repellent (M=85)	
• Never	11% (9)
• Rarely	11% (9)
• Sometimes	7% (6)
• Often	31% (26)
• Always	41% (35)
Applied Sunscreen 2 or more times daily (N=85)	
• Never	11% (9)
• Rarely	9% (8)
• Sometimes	21% (18)
• Often	20% (17)
• Always	39% (33)
Bitten by mosquitoes (N=85)	
• Never	7% (6)
• Rarely	27% (23)
• Sometimes	24% (20)
• Often	20% (17)
• Always	22% (19)

Table 9– Results of correlations between sex, age, income and disaster experience and three protective behaviors

		bug repellent	sunscreen	anti-malaria pill
Sex	Pearson Correlation	-.344(**)	-.274(*)	.029
	Sig. (2-tailed)	.001	.011	.793
	N	85	85	85
Age	Pearson Correlation	.008	.013	.002
	Sig. (2-tailed)	.942	.904	.987
	N	84	84	84
Volunteer Income	Pearson Correlation	-.113	.093	.054
	Sig. (2-tailed)	.328	.419	.639
	N	77	77	77
Disaster Experience	Pearson Correlation	.085	-.148	-.270(*)
	Sig. (2-tailed)	.441	.176	.012
	N	85	85	85

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 10 – Results for regression models predicting protective behaviors (frequency of use of bug repellent and frequency of use of sunscreen) – OLS Regression Models

	Bug Repellent N = 85 R ² = .098 F Sig=.023			Sunscreen N = 85 R ² = .078 F Sig=.045		
	Beta	Beta	Beta	Beta	SE	Sig
Sex	-.360	-.360	-.360	-.318	.317	.008
Age	.168	.168	.168	.033	.126	.806
Volunteer Income	-.132	-.132	-.132	.154	.050	.246
Disaster Experience	.071	.071	.071	-.167	.315	.139

In the correlation analysis, age, volunteer income and disaster experience had no significant correlation with use of bug repellent (see Table 9). I then predicted frequency of use of bug repellent using an OLS regression (See Table 10) using the same suite of independent variables. Volunteer sex was a significant predictor of bug repellent usage, when controlling for age, volunteer income and disaster experience and females were more likely than males to use bug repellent regularly.

Sex was highly correlated with sunscreen usage, while age and volunteer income were not (See Table 9). Disaster experience has a negative correlation with sunscreen usage, although it was not significant ($p=.176$) (See Table 9). Similar to the finding for bug repellent, there was also a significant negative relationship between sex and the frequency of use of sunscreen (rated using a Likert scale), using the same control variables (see Table 11). This means that females are more likely to regularly apply sunscreen than males.

Table 11 – Results for logistic regression models predicting protective behaviors (usage of anti-malaria pills)

	Anti-Malarial N= 85 Cox & Snell R ² = .041 Nagelkerke R ² = .055		
	Exp	SE	Sig
Sex	1.259	.533	.666
Age	.882	.217	.562
Volunteer Income	1.060	.085	.495
Disaster Experience	.311	.506	.021

The usage of anti-malarial pills had a significant correlation with disaster experience (less likely to be taking the pill if had previous experience), but no other independent variables did (see Table 9). In the logistic regression predicting the use of anti-malaria pills, there was a significant negative relationship between the usage of anti-malaria pills and disaster experience, when controlling for age, sex and volunteer income (see Table 11). Therefore, individuals with more prior disaster experience were 69% more likely to use anti-malaria pills.

Physical Health Problems

In the following section, I will address RG 2 by presenting the descriptive data pertaining to the physical health of the volunteers. Their health includes both illness and injuries incurred while in Haiti. In relation to RG 3, I use a logistic regression to investigate predictors of illness and injury among the volunteers.

The physical health of the volunteers in Haiti was a concern, both through illness and injury. The primary measure was whether the volunteers had experienced any illness or injury during their volunteer service. 58% reported having an illness or injury (See table 12), with the largest percentage of those (63%) reporting stomach or digestion problems. 22% of the total sample reported using Cipro or its equivalent while in Haiti. 14% had some form of a cold, fever or flu during their service. Of the total sample, 51% experienced a cough. There were 4% who reported having malaria and 4% who reported having dengue fever, both mosquito-borne illnesses. In terms of other bug or animal risks, 6% reported suffering from an animal-induced injury, most notably a tarantula bite and being stung by a poisonous sea urchin. Lastly, in terms of injuries, 18% identified as having some form of injury, from minor cuts to fractured bones. Some of these minor cuts, consequences of the work done by the volunteers, were the source of serious infections. 20% identified as having contracted some sort of skin infection and 10% having some form of rash or skin problem. There was also one case of MRSA (Methicillin-resistant *Staphylococcus aureus*) reported among someone with an infection.

Table 12 – Descriptive statistics for physical health

Experienced illness or injury (N=85)	Percentage (N)
• No	42% (36)
• Yes	58% (49)
Experienced cough (N=85)	
• No	49% (42)
• Yes	51% (43)

There were no significant correlations between volunteers reporting an illness or injury (coded 1 = Yes, 0 = No) and the independent variables of the usage of bug repellent, usage of sunscreen, the taking of anti-malaria pills and the Risk Factor composite variable (consumption of moonshine and marijuana in Haiti) (See Table 13). The Risk Factor however has a positive correlation coefficient that approached significance at $p = .127$, which shows a positive relationship with illness or injury. When predicting physical illness and injury (through a logistic

regression because it is a dichotomous variable) using usage of bug repellent, usage of sunscreen, the taking of anti-malaria pills and the Risk Factor composite variable (consumption of moonshine and marijuana in Haiti), none of the variables were significant (see Table 14). The Risk Factor was the closest to statistical significance ($p=.114$). When controlling for usage of bug repellent, usage of sunscreen and taking of anti-malaria pills, I found that when the Risk Factor increased one standard deviation, then individuals were 47% more likely to experience an illness or injury.

Table 13 – Results of correlations between usage of anti-malaria pill, frequency of use of bug repellent, frequency of use of sunscreen, the Risk Factor, and Illness/Injuries

		Illness injury
Took anti-malaria pill	Pearson Correlation	-.048
	Sig. (2-tailed)	.665
	N	85
bug repellent	Pearson Correlation	.074
	Sig. (2-tailed)	.498
	N	85
sunscreen	Pearson Correlation	.020
	Sig. (2-tailed)	.855
	N	85
Risk Factor - moonshine marijuana	Pearson Correlation	.167
	Sig. (2-tailed)	.127
	N	85

** Correlation is significant at the 0.01 level (2-tailed).

Table 14 – Results for Logistic regression model predicting illness and injury

	Illness/Injury N= 85 Cox & Snell R ² = .041 Nagelkerke R ² = .055		
	Exp	SE	Sig
Bug Repellent	1.129	.175	.488
Sunscreen	.1.074	.183	.695
Anti-Malarial	.736	.487	.530
Risk Factor – Moonshine and Marijuana	1.469	.244	.114

Mental Health

This section will focus on the mental health of the volunteers, specifically looking at levels of depression and distress. To examine predictors of psychological distress, relating to RG 3, I used six OLS regression models. I analyzed the volunteers' levels of depression at three separate times (before, during and after the volunteer service) using a repeated measures ANOVA.

I found that there were no significant correlations ($p < .05$) between the distress measure (i.e., sum of the PCL scale) and the independent variables: sex, age, volunteer income, disaster experience or the Interaction Frequency Factor (i.e. frequency of the following interactions with the surrounding community: conversing, playing with children, working and sharing a meal). Sex was the only variable close to significance in the correlation analysis, with $p = .2$ (See Table 15). There were no instances of PTSD when using the PCL (PTSD checklist) scale and Blanchard et al.'s (1996) method of analysis and cutoff of 44. There were 2 individuals who scored over 38 (Dobie et al., 2002), and 5 who scored over 30 (Walker et al., 2002). Using an OLS regression, there were no significant relationships between the distress variable (sum of all items in the PCL scale) and the independent variables (See Table 16). However, both sex and age approached statistical significance in this OLS model. The model suggested that there was a negative relationship between sex and distress: females were more likely to experience higher levels of distress than males. Age had a positive relationship with the distress variable when controlling for the other variables in the model, meaning that older volunteers were more likely to experience higher levels of distress, because a higher frequency means a higher score on the PTSD scale (See Table 16).

Table 15 – Results of correlations between sex, age, the Interaction Frequency Factor, disaster experience, and income and six mental health variables

		Distress (Sum of PCL Scale)	Flashbacks	Distressing Dreams	Intrusive recollect	Upset by reminders	Estrangement from others
Sex	Pearson Correlation	-.140	-.045	-.021	.062	.017	-.202
	Sig. (2-tailed)	.200	.689	.853	.583	.883	.070
	N	85	81	81	81	81	81
Age	Pearson Correlation	.061	.063	.028	.025	.028	-.192
	Sig. (2-tailed)	.579	.577	.804	.823	.804	.088
	N	84	80	80	80	80	80
Disaster experience	Pearson Correlation	.129	.055	.018	-.083	.019	-.153
	Sig. (2-tailed)	.241	.623	.870	.460	.867	.173
	N	85	81	81	81	81	81
Interaction Frequency Factor	Pearson Correlation	-.003	.214	.135	.029	.031	.165
	Sig. (2-tailed)	.976	.056	.229	.799	.782	.140
	N	90	81	81	81	81	81
Volunteer income	Pearson Correlation	.033	.158	.229	.152	-.073	-.121
	Sig. (2-tailed)	.773	.179	.050	.197	.539	.304
	N	77	74	74	74	74	74

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 16 – Results for OLS regression models predicting mental health (distress and flashbacks)

	Distress (Sum of PCL Scale) N = 79 R ² = -.008 F Sig = .496			Flashbacks N = 81 R ² = -.034 F Sig = .198		
	Beta	SE	Sig	Beta	SE	Sig
Sex	-.174	5.453	.164	-.122	.235	.329
Age	.216	2.403	.175	.130	.099	.385
Volunteer Income	-.059	.858	.678	.158	.036	.257
Disaster Experience	.098	5.491	.420	-.031	.233	.796
Interaction Frequency Factor	.027	2.920	.839	.266	.119	.041

The Interaction Frequency Factor had a positive correlation with flashbacks, and the independent variables sex, age, volunteer income and disaster experience showed no significant correlations (See Table 15). To further examine aspects of distress, I predicted specific symptoms (from the PCL scale) in which 10 or more respondents reported having moderately to all of the time: flashbacks, distressing dreams, intrusive recollect, upset by reminders, and estrangement from others. In Table 16, the Interaction Frequency Factor is a significant predictor of flashbacks, when controlling for sex, age, volunteer income and disaster experience. This means that those that had more frequent interactions with the community were more likely to experience flashbacks more often upon returning home.

Volunteer income was significantly correlated with distressing dreams, while sex, age and disaster experience were not (See Table 15). Volunteer income is also a significant predictor of more frequent distressing dreams, when controlling for sex, age, disaster experience and the Interaction Frequency Factor. This means that as volunteer income increases, individuals are more likely to experience distressing dreams more frequently following their volunteer service in Haiti (See Table 17).

Table 17 - Results for OLS regression models predicting mental health (distressing dreams and intrusive recollect)

	Distressing Dreams N = 81 R ² =-.043 F Sig= .161			Intrusive Recollect N= 81 R ² =-.018 F Sig= .595		
	Beta	SE	Sig	Beta	SE	Sig
Sex	-.042	.245	.732	.006	.239	.961
Age	-.094	.103	.530	-.016	.100	.916
Volunteer Income	.340	.038	.016	.200	.037	.164
Disaster Experience	-.086	.242	.469	-.151	.236	.220
Interaction Frequency Factor	.162	.124	.207	.026	.121	.843

None of the independent variables were significantly correlated with intrusive recollect (this is having physical reactions - that is, heart pounding, trouble breathing, sweating - when something reminded you of Haiti) (See Table 15). None of the variables (i.e., sex, age, disaster

experience, and the Interaction Frequency Factor) were significant predictors of intrusive recollect, however volunteer income has a p value of less than .2., and this was a positive relationship, meaning that as volunteer income increased, there was a higher incidence of intrusive recollect among the volunteers (See Table 17).

There were no independent variables correlated with being upset by reminders of Haiti (See Table 15). There were no significant relationships between the independent variables (sex, age, volunteer income, disaster experience and the Interaction Frequency Factor) and the dependent variable of upset by reminders of Haiti in the regression model (See Table 18). While the suite of independent variables was not significantly correlated with estrangement from others, the only variable that was not close to significance was volunteer income. Sex, age, disaster experience and the Interaction Frequency Factor all had a negative relationship with estrangement at a significance of $p < .2$ (See Table 15). There was a negative relationship between disaster experience and estrangement from others, when controlling for sex, age, volunteer income and the Interaction Frequency Factor. Therefore, volunteers with more disaster experience were less likely to feel distant from others following their volunteer service in Haiti (See Table 18).

Table 18 – Results for OLS regression models predicting mental health (upset by reminders and estrangement from others)

	Upset by reminders N = 81 R ² = .058 F Sig = .958			Estrangement from others N = 81 R ² = .047 F Sig = .146		
	Beta	SE	Sig	Beta	SE	Sig
Sex	.057	.248	.662	-.121	.233	.329
Age	.053	.104	.734	-.082	.098	.584
Volunteer Income	-.104	.038	.475	-.039	.036	.778
Disaster Experience	-.043	.245	.731	-.208	.230	.083
Interaction Frequency Factor	.081	.126	.544	.157	.118	.218

The volunteers were asked to rate their levels of depression prior to arriving in Haiti, while based in Haiti, and after returning home for one month. Using the ANOVA, I looked at the

differences between levels of depression before, during, and after deployment to Haiti as a disaster volunteer (See Table 19). Mauchy’s test shows that the assumption of sphericity was violated, $\chi^2(5)=10.5$, $p<.05$. To correct for the degrees of freedom, Greenhouse-Geisser estimates of sphericity were used ($\epsilon = .88$). The results show that there was a significant increase ($p=.000$) between before, during and after Haiti and levels of depression. I also ran a paired sample t-test and found that there was a significant difference ($p=.000$) between depression during and after, and a significant difference ($p=.002$) between before Haiti and after Haiti. There was not a significant difference in depression rates before and during service in Haiti (See Table 19).

Table 19 –Paired sample t-test for rates of depression

	Sig. (2-tailed)
Before & During	.545
During & After	.000
Before & After	.002

Risk Behaviors

Among the risk behaviors measured, the topics addressed were tobacco use, alcohol usage, drug usage and sexually risky behaviors. The data are presented using descriptive statistics, addressing RG 2. I also used an OLS regression to test the significance of predictors of the Risk Factor composite variable, which addresses RG 3.

30% of the sample reported the usage of tobacco products while in Haiti, and of those, 84% reported an increase in their usage of tobacco products. Among those who reported drinking alcohol in Haiti (87% of sample), 36% reported an increase in their alcohol consumption as compared to their use at home. Of the 87% who reported drinking in Haiti, 27% admitted to consuming moonshine during their volunteer service. Meanwhile, the smallest increase in use

in general, in Haiti as compared to home among the volunteers, was that of marijuana consumption. 14% of the sample admitted to using marijuana while in Haiti, and only 25% of those reported an increase in usage (See Table 20).

Table 20 – Descriptive statistics of risk behaviors – tobacco, alcohol & drugs

Smoked tobacco in Haiti (N=83)	Percentage (N)
<ul style="list-style-type: none"> • No • Yes 	70% (58) 30% (25)
How often smoked in Haiti (N=25)	
<ul style="list-style-type: none"> • Once a month or less • More than once a month • Once a week • More than once a week • Everyday 	8% (2) 4% (1) 4% (1) 12% (3) 72% (18)
Cigarettes per day (N=25)	
<ul style="list-style-type: none"> • Don't Know • One Cigarette • Less than a pack a day • A pack a day • More than a pack a day 	4% (1) 16% (4) 60% (15) 16% (4) 4% (1)
Increase in Smoking (N=25)	
<ul style="list-style-type: none"> • A little less • The same • A little more • Much more 	4% (1) 12% (3) 28% (7) 56% (14)
Drank alcohol in Haiti (N=84)	
<ul style="list-style-type: none"> • No • Yes 	13% (11) 87% (73)
How often drank in Haiti (N=72)	
<ul style="list-style-type: none"> • Once a month or less • More than once a month • Once a week • More than once a week • Everyday 	6% (4) 57% (41) 14% (10) 3% (2) 21% (15)
Moonshine (N=73)	
<ul style="list-style-type: none"> • No • Yes 	73% (53) 27% (20)
Increase in Alcohol (N=73)	
<ul style="list-style-type: none"> • Much less • A little less • The same • A little more • Much more 	12% (9) 26% (19) 26% (19) 25% (18) 11% (8)
Smoked marijuana in Haiti (M=84)	
<ul style="list-style-type: none"> • No • Yes 	86% (72) 14% (12)
How often smoke Marijuana in Haiti (N=12)	
<ul style="list-style-type: none"> • Once a month or less • More than once a month • Once a week • More than once a week 	42% (5) 17% (2) 17% (2) 25% (3)
Increase in Marijuana usage (N=12)	
<ul style="list-style-type: none"> • Much less • A little less • The same • A little more • Much more 	50% (6) 8% (1) 17% (2) 17% (2) 8% (1)

Risk behaviors in Haiti also included not using protective measures if the volunteer was having sexual intercourse (See Table 21). 23% of the sample had sexual intercourse (anal, vaginal or oral sex) while based in Haiti. Of those 23%, 89.5% had 1 to 2 partners and the remaining 10.5% had 3 to 5 partners. The majority (42%) had on average 1 to 2 sexual encounters with each partner, 26% reported 3 to 5 encounters, 16% reported 6 to 8 encounters, and 16% had over 9 encounters with each partner. Within the 23% who had sex, 29% of those had anal or vaginal sex without using a condom. Similarly, 37% reported having oral sex without the use of protection (e.g. condoms or dental dams) (See Table 21).

The argument can be made that the act of having sex while in Haiti was a risk behavior itself, based on the perception of risk among the sample: 51% of the respondents agreed that there was a high risk of catching STIs if engaging in sexual activity within the international volunteer community. While no respondents reported having a sexual relationship with Leogane's community members, there was also a perception of risk, with 67% agreeing that there was a high risk of contracting an STI by having a sex with a member of the host community (See Table 21).

Table 21 – Descriptive statistics of risk behaviors – sexual behavior

Had sex in Haiti (N=85)	Percentage (N)
<ul style="list-style-type: none"> • No • Yes 	77% (65) 23% (19)
Number of sexual partners (N=19)	
<ul style="list-style-type: none"> • 1-2 • 3-5 	89.5% (17) 10.5% (2)
Average number encounters with each partner (N=19)	
<ul style="list-style-type: none"> • 1-2 times • 3-5 times • 6-8 times • over 9 times 	42% (8) 26% (5) 16% (3) 16% (3)
Anal or vaginal sex without condom (of those that reported having some form of sex) (N=24)	
<ul style="list-style-type: none"> • Not applicable (did not have vaginal or anal sex) • No • Yes 	17% (4) 54% (13) 29% (7)
Oral sex without protection (of those that reported having some form of sex) (N=24)	
<ul style="list-style-type: none"> • Not applicable (did not have oral sex) • No • Yes 	25% (6) 37.5% (9) 37.5% (9)
Belief in high risk of catching STD among international volunteers (N=75)	
<ul style="list-style-type: none"> • Strongly Disagree • Disagree • Neutral • Agree • Strongly Agree 	3% (2) 5% (4) 41% (31) 35% (26) 16% (12)
Belief in high risk of catching STD when having sex with local community (N=75)	
<ul style="list-style-type: none"> • Disagree • Neutral • Agree • Strongly Agree 	3% (2) 31% (23) 40% (30) 27% (20)

I was interested in the relationship between the independent variables of volunteer age, sex, income and the Interaction Frequency Factor and the dependent variable of the composite Risk Factor (i.e., use of moonshine and marijuana). Age and volunteer income were highly correlated with the Risk Factor, while sex and the Interaction Frequency Factor were not (See Table 22). In the OLS regression model, there was a significant negative relationship between age and the Risk Factor, when controlling for sex, volunteer income and the Interaction

Frequency Factor. This means that as age increased, the likelihood of engaging in risky behavior (i.e. consuming moonshine and marijuana) in Haiti decreased (See Table 23).

Table 22 – Results of correlations between sex, age, the Interaction Frequency Factor, volunteer income and the Risk Factor

		Risk Factor - moonshine marijuana
Sex	Pearson Correlation	-.039
	Sig. (2-tailed)	.720
	N	85
Age	Pearson Correlation	-.337(**)
	Sig. (2-tailed)	.002
	N	84
Interaction Frequency Factor	Pearson Correlation	.078
	Sig. (2-tailed)	.463
	N	90
Volunteer Income	Pearson Correlation	-.248(*)
	Sig. (2-tailed)	.030
	N	77

** Correlation is significant at the 0.01 level (2-tailed).

Table 23 – Results for OLS regression model predicting the Risk Factor (consumption of moonshine and marijuana) - OLS Regression Model

Risk Factor (Moonshine & Marijuana) N= 90 R ² = .079 F Sig= .043			
	Beta	SE	Sig
Sex	.063	.233	.585
Age	-.336	.102	.025
Volunteer Income	-.093	.037	.482
Interaction Frequency Factor	-.073	.123	.558

5.3 COMMUNITY INTERACTIONS

Following my service as a disaster volunteer, I noticed the variability in the interactions and relationships between the people of Leogane, Haiti and the international volunteer

community. This final section will address RG 4 and illustrate the descriptive statistics relating to these relationships. RG 5 will also be addressed in this section with an OLS and a logistic regression related to community interactions.

66% of the sample believed that there were obstacles in place, which kept them from creating a strong relationship with the people of Leogane (See Table 24). For instance, 75% of those identified language as a barrier and 21% identified cultural barriers as a problem. Volunteers also identified concerns for safety (10%), and for 8%, aggressive men posed a threat. In terms of problems that may have arisen from the organization’s policies, 19% saw segregation occur between the international and host populations and 15% identified the rules and restrictions for the volunteers as an obstacle to forming relationships with residents in Leogane.

Table 24 – Descriptive statistics of community variables – obstacles

Obstacles between Internationals and locals (N=86)	Percentage (N)	
• No	34% (29)	
• Yes	66% (57)	
Knowledge of Creole	Before (N=86) Percentage (N)	After (N=85) Percentage (N)
• Not at all	81% (70)	9% (8)
• Know some words	15% (13)	64% (54)
• Can hold a basic conversation	2% (2)	26% (22)
• Fluent	1% (1)	1% (1)
Knowledge of French	Before (N=85)	After (N=85)
• Not at all	46% (39)	28% (24)
• Know some words	28% (24)	41% (35)
• Can hold a basic conversation	15% (13)	20% (17)
• Fluent	11% (9)	11% (9)

It seemed as if volunteers worked to address the language barrier by gaining language skills; I ran a paired sample t-test on reported Creole and French skills prior to arriving in Haiti and after leaving. I found a significant increase ($p=.000$) between volunteers’ Creole skills upon arrival and after leaving Haiti. Similarly, there was a significant increase ($p=.000$) between volunteers’ French skills upon arrival and after leaving Haiti (See Table 25).

Table 25 – Paired samples t-test for community variable – language skills

Language Skills	Sig. (2-tailed)
Creole skills – before & after	.000
French skills – before & after	.000

When asked to rate their relationship with the Haitian staff and volunteers within the organization (See Table 26), 84% rated their relationships “good” to “very good.” However, when rating their relationships with Haitian community members, 57% answered “good,” and no one characterized their relationships as “very good.” 51% of the respondents believed that they spent less time with the local volunteers in relation to other international volunteers. Further highlighting the disconnection between international volunteers and local volunteers, only 1 person said she/he relied on the local volunteers to help him/her deal with stress; the highest percentage (78%) reported leaning on their fellow international volunteers (See Table 26).

Table 26 – Descriptive statistics for Community Interactions

Rating of relationship with Haitian volunteers and staff (N=67)	Percentage (N)				
<ul style="list-style-type: none"> • Poor • Ok • Good • Very Good 	<ul style="list-style-type: none"> 2% (1) 15% (10) 42% (28) 42% (28) 				
Rating of relationship with Haitian community members (N=76)					
<ul style="list-style-type: none"> • Very Poor • Poor • Ok • Good 	<ul style="list-style-type: none"> 3% (2) 7% (5) 34% (26) 57% (43) 				
Dealt with Stress by relying on (N=86)					
<ul style="list-style-type: none"> • Haitian Volunteers • All Hands Staff • International Volunteers • Other 	<ul style="list-style-type: none"> 1% (1) 8% (7) 78% (67) 13% (11) 				
Time spent with local volunteers compared to others (N=86)					
<ul style="list-style-type: none"> • Much less time • Less time • The same amount of time • More time • Much more time 	<ul style="list-style-type: none"> 16% (14) 35% (30) 35% (30) 12% (10) 2% (2) 				
Time spent with local community	Percentage Never (N)	Percentage Once a week (N)	Percentage Several times a week (N)	Percentage Once a day (N)	Percentage Multiple times a day (N)
<ul style="list-style-type: none"> • Conversing (N=86) • Playing with children (N=86) • Working (N=85) • Sharing a meal (N=85) • Purchasing food (N=86) • Buying souvenirs (N=85) • Drinking alcohol (N=81) 	<ul style="list-style-type: none"> 1% (1) 5% (4) 2%(2) 11% (9) 8% (7) 54%(46) 19% (15) 	<ul style="list-style-type: none"> 2% (2) 19% (16) 0% 17% (14) 11% (9) 29%(25) 21% (17) 	<ul style="list-style-type: none"> 9% (8) 20% (17) 9% (8) 14% (12) 33% (28) 12%(10) 36% (29) 	<ul style="list-style-type: none"> 14% (12) 23% (20) 9% (8) 31% (26) 33% (28) 2%(2) 21% (17) 	<ul style="list-style-type: none"> 73% (63) 34% (29) 79% (67) 28% (24) 16% (14) 2% (2) 4% (3)

Volunteer perceptions of the host community are seen through the respondent answers to questions about the necessity of good relationships between themselves and the host population (See Table 27). When asked if interaction between themselves and the Leogane community was significant to their work as a volunteer, 37% said no, 12% remained neutral and 52% agreed that it was significant. However, when asked if a strong relationship is between the volunteers and people of Leogane in important to the success of the mission, 97% of the respondent agreed that it was important (See Table 27).

Table 27 – Descriptive statistics of perceptions of community

Interaction with local community not significant to work as a volunteer (N=85)	Percentage (N)
<ul style="list-style-type: none"> • Agree • Neutral • Disagree • Strongly Disagree 	37% (31) 12% (10) 12% (10) 40% (34)
A strong relationship between international and locals important (N=86)	
<ul style="list-style-type: none"> • Disagree • Neutral • Agree • Strongly Agree 	2% (2) 1% (1) 21% (18) 76% (65)
Haitians involved in relief effort (N=86)	
<ul style="list-style-type: none"> • Rarely • Sometimes • Often • Always 	11% (9) 38% (33) 29% (25) 22% (19)
Haitians could not do the work without international aid (N=84)	
<ul style="list-style-type: none"> • Strongly disagree • Disagree • Neutral • Agree • Strongly Agree 	8% (7) 21% (18) 18% (15) 34% (29) 18% (15)
Relief effort equally combine between internationals and locals (N=86)	
<ul style="list-style-type: none"> • Unequal • Somewhat unequal • Somewhat equal • Equal 	21% (18) 52% (45) 16% (8) 11% (9)

Respondents were also asked about their perceptions of local involvement in the relief effort. When asked if the Haitian people could recover from the earthquake without international aid, 52% said no. 22% of respondents reported that Haitians were always involved in the relief work while they were volunteering with the organization, with 29% answering that they often were, 38% responding sometimes and 11% stating never. Lastly, when asked if the work was an equally combined effort, 73% reported that it was “somewhat unequal” to “unequal” (See Table 27).

Volunteer age was negatively correlated with the Interaction Frequency Factor while sex, volunteer income, and disaster experience were not significantly correlated (See Table 28). For

RG 5, when predicting the Interaction Frequency Factor (which included frequency of time spent conversing, playing with children, working, sharing a meal with members of the host community) using sex, age, volunteer income and disaster experience, age was a significant predictor of frequency of interaction, having a negative relationship. This means that younger individuals were more likely to interact with the host community frequently. Although not significant, there was a positive relationship ($p < .2$) between disaster experience and the Interaction Frequency Factor, when controlling for age, sex and volunteer income. This means that males were more likely to engage in more frequent community interactions than were females. There was negative relationship between age and the Interaction Frequency Factor, when controlling for sex, volunteer income and disaster experience. Therefore, younger volunteers were more likely to interact more frequently with the host community than were older volunteers (See Table 29).

Table 28 – Results of correlations between sex, age, income, disaster experience and community variables (the Interaction Frequency Factor and Quality of Relationships)

		Interaction Frequency Factor	Quality of Relationships
Sex	Pearson Correlation	-.100	-.214
	Sig. (2-tailed)	.363	.063
	N	85	76
Age	Pearson Correlation	-.427(**)	-.268(*)
	Sig. (2-tailed)	.000	.020
	N	84	75
Volunteer Income	Pearson Correlation	-.146	-.303(*)
	Sig. (2-tailed)	.206	.010
	N	77	71
Disaster experience	Pearson Correlation	.111	-.078
	Sig. (2-tailed)	.311	.503
	N	85	76

*Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 29 – Results for OLS and Logistic regression models predicting Community (Interaction Frequency Factor and rating of relationship with community members)

	Interaction Frequency Factor N= 90 R ² = .170 F Sig=.002			Quality of Relationships N= 85 Cox & Snell R ² = .071 Nagelkerke R ² = .155		
	Beta	SE	Sig	Exp	SE	Sig
Sex	.016	.222	.887	.895	.985	.910
Age	-.503	.088	.000	1.083	.372	.831
Volunteer Income	.108	.035	.388	.773	.136	.058
Disaster Experience	.151	.220	.158	.868	.845	.866

Age and income are highly correlated to the rating of the quality of the relationship with the people of Leogane. Sex has a p value of .06, which approached significance. Therefore, women are more likely to have a better quality of relationship with community members in Leogane than men. Disaster experience was not significantly correlated with quality of relationship (See Table 28). When predicting perceptions of the quality of relationships with the people of Leogane (1=good, 0=poor), there is a negative relationship between volunteer income and how the volunteers' rated their relationship to the people of Leogane, when controlling for sex, age and disaster experience (See Table 29). This means that as volunteer income increases one income category, respondents were 23% less likely to believe they had a good quality relationship with the host community.

In this chapter I have presented the results of analysis from data collected through my online social survey. The following chapter will focus on discussing the data as well as comparing the data to previous literature on the subject. I will also integrate some of my own experiences as a volunteer to enrich the explanations for the results.

CHAPTER 6

DISCUSSION

The disaster volunteers responding to the earthquake in Haiti are an interesting population, because they are made up of many different nationalities and age groups working in a setting that is vastly different than where they are from, and there are significant inequalities between themselves and the Haitians in the community surrounding them. Their behaviors and interactions with the community are important because of the mission that they embarked upon when arriving in Haiti. In what follows I will discuss the results in the three themes, volunteer characteristics, the health of the volunteers and community interactions.

6.1 VOLUNTEER CHARACTERISTICS

The volunteers were primarily American, young, unattached, female, highly educated, and social justice-minded individuals. They had volunteered before, be it in their home neighborhood or a previous disaster area. The sample was largely from the United States, which is not surprising since the organization they worked with is based in the United States. These volunteer characteristics both conform to and conflict with previous findings when looking at volunteers.

The age of the Haiti disaster volunteers followed what had previous been reported by Wenger and James (1994) who studied the relief workers following the earthquake in Mexico City in 1985. This population of disaster volunteers in Haiti was primarily younger, with 59% falling under the age of 30. This corresponds with Wenger and James (1994) because they found that individuals working in disaster zones were generally younger adults. The work done by these volunteers was laborious; removing rubble from collapsed buildings (also called rubble), demolition, and constructing buildings (i.e. schools, composting toilets) were the top three activities. While the oldest respondent was age 65, the physical nature of the work may have attracted a younger population and been a deterrent to older potential volunteers.

It was unexpected that there were more female volunteers in my sample than male volunteers; however, women may have been more likely to take the survey although during my own time in Haiti there were more female volunteers than male volunteers. I did not survey the volunteers on their specific duties while in Haiti, which may have offered insights into if there were gendered patterns across work activities, as Kaniasty & Norris (1995) and Wegner & James (1985) found. Wegner and James (1985) in particular found that men were more likely to be involved in search and rescue operations after a disaster, and women were more likely to be involved in supplies. These findings were relevant to a time period directly following the disaster event, whereas my data was collected from individuals who began volunteering at least one month after the earthquake. Based on my own experiences, women were just as likely if not more likely to be engaged in traditionally masculine work on rubble and construction sites (e.g. using a sledgehammer or power saw).

The literature focusing on education and volunteering found that as educational attainment rises, so does the likelihood of volunteering (Plummer, et al., 2008; Greeley, 1997; USDL, 2010; Wilson & Musick, 1998). This relates to my findings as the volunteers in Haiti had a high level of education. All of the volunteers who participated in the survey had at least a high school degree or equivalent. Previous experience as a volunteer generally predicted an increased likelihood of someone volunteering both time and services in a disaster relief effort in other studies (St. John & Fuchs, 2002; Beyerlein & Sikkink, 2008; Plummer et al., 2008) and 35% of my sample had previous disaster volunteer experience and 63% reported volunteering in their home community.

I was anticipating that many of these volunteers would report large annual salaries because I thought that traveling to an international disaster area and living there for anywhere from one week to several months would require a large sum of money. However, the majority reported their salary as below \$30,000 a year. Due to lower incomes, financial assistance was important for many of the volunteers in finding their way to Haiti; many were funded through

family, friends, donors and sponsors and religious institutions. This allowed more individuals to take part in the volunteer effort without having to put up too much of their own funds.

I found that there were differences between how volunteers perceived the resilience, disease, sadness and sense of humor among the Haitian people before and after they arrived. After spending time working among the Haitian population, the volunteers' opinions of what they witnessed versus what they had originally believed they would see were significantly different. There was an increase in resilience and sense of humor, from what people believed they would see and what they actually witnessed. Fewer people witnessed disease and sadness among the Haitians than came to Haiti believing they would see both things. I was surprised that I did not find "aggressive men" among these categories, as this was a problem myself and other women I knew faced while there. 46% of volunteers reported that they expected to see aggressive men, while 52% admitted to experiencing aggressiveness from Haitian men. This theme will be discussed in more detail later when I discuss the obstacles the volunteers perceived between themselves and the Haitian population.

6.2 HEALTH OF THE VOLUNTEERS

Protective Behaviors

The volunteers were both well prepared in some areas and poorly prepared in others. Perhaps the most dangerous health risk that the volunteers faced was mosquito-borne illness. The majority of volunteers reported taking anti-malaria pills (i.e., 60.5%); these rates of use were much higher than reported by the Bhatta et al. (2009) among the volunteers of Voluntary Services Overseas (i.e., 18%). There were those in Haiti who opted out due to concerns about the side effects, especially among the longer-term volunteers. A 19-year-old woman, who was not on anti-malarial pills and slept without a mosquito net, believed that there was no point in taking the anti-malaria pills. She had lived in Africa for some time and, based on that experience, opted out. This example coincides with my findings that individuals who had been

to previous disaster areas (and who are presumably well-traveled) were less likely to use anti-malaria pills.

Sex was a predictor for both bug repellent usage and sunscreen usage; females were more likely in both cases to engage in protective behaviors than males. Higher sunscreen usage among women could be explained by the higher social expectation of women retaining their beauty, including skin health. Advertisements in the United States target women with sunscreen products. Women, on a whole, may be more likely to engage in protective behaviors for their health in general (Lonnquist, Weiss, & Larsen, 1992).

Swygard & Stafford (2009) found that, among volunteers responding to Hurricane Katrina, 45.5% reported using bug repellent and 68.5% reported using sun block. Among the volunteers I surveyed, 41% reported always using bug repellent, and 39% reported always applying sunscreen at least two times daily. The use of bug repellent should have been higher in Haiti than in New Orleans, especially due to the higher risk of mosquito-borne illnesses. However, those surveyed by Swygard and Stafford (2008) were health-care professionals, so it is not unexpected that the disaster volunteers in Haiti had a lower incidence of protective health behaviors.

Physical Health Problems

The physical health of the disaster volunteers is a topic that should be addressed by NGOs, especially overseas. The strenuous work involved requires individuals to be in good health, and if ill or injured, volunteers cannot carry out the work that they are there for. During my time as a volunteer, there were many illnesses going around the base.

Injuries were common, based on the work that the volunteers did. I was surprised by the incidence of animal induced injuries, especially the tarantula bite and sea urchin sting. Swygard and Stafford (2008) found that 43.8% reported insect bites and 2.7% reported animal bites.

This is the only study that I know of that looked at the incidence of animal and insect bites among disaster volunteers. Since Haiti is a tropical setting, this creates a new list of dangers and concerns for the volunteers.

Among the most common ailment reported by volunteers taking my survey were gastro-intestinal problems, which corresponds with the literature (Bhatta et al., 2009). Along with the injuries incurred by the volunteers came serious health problems, such as infections. One individual reported having MRSA, which is a dangerous diagnosis in a developed country, and would be more difficult in Haiti where treatment would be harder to find. During my time on base in Leogane, there were also reports of staph infections.

In the logistic regression model, I found that physical health problems were not predicted by protective behaviors. I believe that this could be a result of my small sample size. It is also possible that the types of illnesses or injuries experienced in Haiti could not have been prevented by bug repellent, sunscreen, anti-malaria pills, masks or taking protection against STIs.

The Risk Factor was a predictor of illness and injury. Therefore, as risk behaviors rise (i.e. consumption of moonshine and marijuana) so does the likelihood of contracting an illness or being injured. This finding makes sense given my experiences as a volunteer. There were drunken injuries among the volunteers, most notably after my service ended, a male volunteer got drunk and fell off a roof breaking his jaw. There were also individuals that suffered from hangovers (which included upset stomach and vomiting), and these volunteers could have reported them as gastro-intestinal problems on the survey.

Mental Health

The mental health of disaster relief workers has been previously studied (Swygard & Stafford, 2009; Guo, Chen, Lu, Tan, Lee, & Wang, 2004; Fullerton, Ursano, & Wage, 2004; Dolce & Ricciardi, 2007; Smith, et al., 2004) to a much greater degree than physical health.

While PTSD was not prevalent among the volunteers based on the PCL scale analysis method from Blanchard et al (1996) and three different cutoffs, there was a significant difference in depression levels before, during and after volunteers' time in Haiti. Feelings of depression increased significantly following their time in Haiti, leading to the conclusion that what they witnessed influenced their depression, or the transition from the rigorous work and living conditions to home life was difficult for many.

Few volunteers in my sample exhibited PTSD based on the results from the PCL screening tool, however there were specific categories in the PTSD scale that had a higher incidence than others. Specifically, I found that more volunteers suffered from flashbacks, distressing dreams, intrusive recollect, upset by reminders, and estrangement from others. I believe that these symptoms were more common than other symptoms of distress because they dealt directly with memories and feeling disconnected from others. In my own experience, it was difficult to leave Haiti, and it was constantly in my thoughts and dreams for months. Also, I had a feeling that no one at home quite understood what I had been through and the disconnection that I felt. Swygard & Stafford (2009) found similar symptoms of "nightmares, hyper-vigilance, avoidance, and detachment," the last symptom is similar to my 'estrangement from others' variable (p. 751).

Like Cicognani et al. (2009), I found a connection between community interactions and mental health, specifically as the frequency of interactions (i.e., the Interaction Frequency Factor) rose, there was a lower likelihood of having flashbacks. I believe that by building a stronger bond with the community through frequent interactions, the international volunteers had a low likelihood of experiencing repeated disturbing memories, thoughts or images of Haiti. By having a closer bond, they were able to cope with what they were witnessing in Haiti.

For these volunteers, income was a predictor of distressing dreams, which I did not find in the previous literature. The higher the income, the higher the incidence of distressing

dreams. Perhaps this had to do with a widening gap between the volunteers' own lifestyle versus that of the lifestyle in Haiti.

Risk Behaviors

My greatest concern, both while in Haiti as a volunteer and in retrospect, was the behaviors of the volunteers themselves. I felt the temptation to engage in behaviors that would not always be acceptable in the United States. Even behaviors that are acceptable in the US perhaps should not be in a devastated disaster zone. There should be more respect for the community located in the disaster zone when it comes to one's alcohol consumption, drug usage and sexual behavior. A "party" lifestyle seems inappropriate to me in a host country that is suffering. This subject was previously studied in relation to international aid work (Dahlgren, DeRoo, Avril, Bise, & Loutan, 2009; Bhatta, Simkhada, van Teijlingen, & Maybin, 2009).

Dahlgren et al. (2009) found that volunteers justified their risky activities by citing the freedom associated with volunteer work and the difficulty of the environment around them. Respondents to my survey listed boredom and peer pressure as their reasons for an increase in their sexual activity, alcohol consumption, and drug use. Boredom being a reason is telling, because it helps to illustrate the confinement of the volunteers and lack of engagement with the people of Leogane. Therefore, if the NGO made an effort to create stronger bonds between the host community and the international volunteers, it may create a safer environment for the volunteers.

Having sex while volunteering in Haiti can be construed as a risk, considering the overwhelming belief that there was a risk of contracting an STI if one was sexually involved with other international volunteers. It was interesting that no one in the sample reported having a sexual relationship with a member of the Leogane community. While based in Haiti there were a few individuals that I knew of who were involved in relationships with local volunteers and staff affiliated with the organization.

Of the sample, 23% reported having sexual intercourse (defined as vaginal, anal or oral sex) while based in Haiti. 29% of those admitted to have vaginal or anal sex without the use of a condom. This is comparable to Dahlgren et al.'s (2009) report that 25% of aid workers from The International Committee of Red Cross (ICRC) who were surveyed admitted to sometimes or never using a condom. To not assume heterosexuality among the volunteers, and further clarify sexual intercourse, I also included a question about oral sex without protection (i.e. condoms and dental dams). I found that 37% of those who admitted to having sex did not use protection when they engaged in oral sex. The other studies that I found looking at the sexual behaviors of aid workers and volunteers had not addressed protective behaviors in relation to oral sex.

Like Bhatta et al. (2009), I found a significant negative relationship between age and risk behaviors. Bhatta et al.'s (2009) study connected age with sexually risky behavior; however, in my study the risk behaviors related to age were drug usage and consumption of moonshine, based on my OLS regression. The younger the volunteer the more likely they will consume moonshine or marijuana while volunteering in Haiti. The younger volunteers may have been drawn to more risk behaviors because of the atmosphere of young volunteers and the inexpensive cost of such behaviors in Haiti. Also, there was little policing done of the international volunteers, so an increase in drug usage and the excitement attached to consuming moonshine could have been a contributing factor.

Perhaps the most telling part of the volunteer risk culture, which one respondent deemed "disaster junkie culture," within the organization was the proximity to a bar (less than 100 feet from the base). In a study of ICRC expatriates, Dahlgren et al (2009) reported that 14% had an increase in alcohol consumption while deployed. Of the volunteers that drank in Haiti, 87% of the total sample, 36% reported an increase in alcohol consumption. This could have been because of the young age of the volunteers, and also the proximity to a bar. Joe's, a bar which sold beer and rum to the volunteers, was located only about a hundred feet from the volunteer base. There were nightly parties in the bar, dance-offs and an ample supply of beer and rum,

and at times, moonshine. It was part of the volunteers' routine: finish work and have a beer, then have dinner, go to the meeting, take a bucket shower and head to the bar next door until the 10 o'clock curfew. While not everyone engaged in the alcohol consumption regularly, it was embedded in the volunteer culture for this organization.

Volunteers also noticed a significant increase in their tobacco consumption. 30% of the sample used tobacco products at home, and 84% of those individuals reported an increase in their consumption compared to home. Dahlgren et al. (2009) found that 41% of their sample reported smoking, with 43% of those noticing an increase. Like alcohol, smoking was part of the culture for the volunteers. Cigarettes were cheap, and the popular hangout area in the base was also the "smoking area." I spoke to several individuals who were planning on quitting smoking when they came to Haiti, but then instead increased their smoking, as well as individuals who did not smoke regularly at home but did in Haiti.

I believe that this issue needs to be seriously studied, as volunteers are the largest international population in disaster areas and their behaviors can affect the host community. Volunteers are in the disaster area to do a job. However, if they are hung-over, or suffering from a cough from tobacco usage or having to deal with an STI, it takes away from their purpose. Although no volunteers reported having a sexual relationship with individuals from Leogane, I know that there were a few instances during my time there. Had these interactions resulted in STIs or pregnancies, on either side, this would have been problematic for the relief mission. It was unfortunate that, to some, since they were in a foreign and developing country, they may have engaged in behaviors that they may not have otherwise. The power dynamics of the relationships between the host community and the volunteers are not fully understood. The freedom, difficulty of the situation and boredom seems to have lead a primarily young population to engage in risky behaviors, and this should be addressed.

6.3 COMMUNITY INTERACTIONS

This section of my research was inspired primarily by own experiences and service in Haiti. There were two facets to the community relationship dynamics, one being within the secluded international community and the second being the relationship between the international volunteers and the people of Leogane. A strong relationship with the host community in a disaster area, and a sense of community, has been shown to have an effect on a volunteer's ability to handle stressful situations (Cicognani, Pietrantonio, Palestini, & Prati, 2009). I found something similar. If the volunteers had more interactions (i.e., sharing a meal, playing with children, conversing and working with the people of Leogane [the Interaction Frequency Factor]), they were less likely to experience flashbacks of their time in Haiti, after one month at home.

Devereux (2008) found that local perception in Nepal, in 1999, was that the volunteers carried out work that the affected population could not have done themselves. When volunteers in Haiti were asked if the Haitians could recover from the earthquake without international aid, the majority of respondents also said no. The general belief amongst the volunteers was also that the relief effort was largely unequal, being mostly carried out by the international organizations. While Devereux (2008) asked the local population, my data came from the international volunteer population.

This belief that the relief effort was not equal illustrates the power dynamics taking place between the host community and the international volunteers. During my time in Haiti, the local volunteers were not given supervising positions, or empowered to take the lead in work situations. This would exemplify a situation where, whether purposefully or without intent, an elitist position is reinforced, as was highlighted by McBride et. al (2006). While international volunteers were generally unskilled, they were given the role of teachers and supervisors for the Haitian volunteers. This shows the 'us and them' dichotomy that was mentioned in previous literature (Simpson, 2004; Raymond & Hall, 2008). Many times, the Haitians had more

experience in areas where volunteers struggled, such as with masonry. However, the volunteers were still in the power positions during work situations.

Perhaps the most interesting result in this section relates to volunteers' opinions on whether a strong relationship with the host community was important to their work and the success of the relief effort. Two questions were asked on the survey. One asked if interaction between the people of Leogane and the volunteers was significant to their work, and 37% responded no. However, this conflicted with 97% of the sample who answered that a strong relationship was vital to the success of the relief effort. So, while the volunteers did not believe that their specific work tasks depended on a connection to the population of Leogane, they acknowledged that a connection was necessary in order for their work to be generally successful.

It is interesting that the volunteers did not find a relationship with the host community directly necessary in their work, however they admitted that a strong relationship would make the effort successful. Perhaps it was shyness, the language barrier, or the belief that they were not there long enough to make a lasting connection, but this may indicate that they believe it is the organization that should be responsible for that connection. This highlights the fact that many of the volunteers felt that the organization was also creating obstacles to their connecting with the people of Leogane.

I was surprised that younger volunteers were more likely to have more interactions with the host community. I was expecting to find that the older volunteers had a stronger relationship with the surrounding community. My belief was that the older individuals may be more comfortable or experienced in leaving the international community and interacting with the people of Leogane. Also, age was strongly correlated with income ($p=.000$). Therefore, it is interesting that while the younger volunteers, which would have had lower income, had stronger interactions, individuals with higher income were more likely to perceive stronger relationships with the host community.

The international volunteer population was generally separated into cliques, and it was very easy to not interact with the people of Leogane. The organizations must make an effort towards keeping the volunteers from isolating themselves and creating a bubble around the international volunteer community. The reality is, we were guests in Haiti, doing what we could to help. However, as guests we denied access to our living quarters to Haitians, unless they worked for us. It is not ideal, and yet at the moment it appears to be the “safest” answer reached by the organization; however, both the volunteers and the organization’s directors must give more respect to the affected populations. Respondents identified the segregation as an obstacle between themselves and the people of Leogane, identified but many of the survey participants as rules and restrictions set by the organization.

Cultural barriers were also significant obstacles, identified by 21% of respondents, and this could be expanded to include the 8% who identified aggressive men as an obstacle. I had a very hard time dealing with the gender role differences in Haiti, many times being grabbed, slapped on the arm, leg and back, or inappropriately addressed while working. It is hard to say if it was only the international women that were affected, however the consensus among the international volunteers was that it was easier to treat us this way than the Haitian women. This may have been an effort by the Haitian men to exert power over the international women as well, not as sexual aggression, but rather as a reaction to an uncomfortable power difference.

The most commonly listed barrier between the volunteers and the people of Leogane was the language barrier. While there was a significant change in both Creole and French skills among the volunteers before and after their service, it still created a problem. According to Cohn and Wood (1985), the volunteers’ inability to speak the local language likely inhibited the volunteers from meeting the needs of the greater host community. As they may have only had contact with what Cohn and Wood (1985) called the ‘westernized elite population’ then they were limited in their ability to communicate.

The disconnect between the people of Leogane and the international volunteers, captured in the survey findings, was disappointing from my perspective, and may continue to contribute dependency of the Haitian people on NGOs. Beigbeder (1991) emphasized the need for equality both between the international organization and volunteers, and the affected community because this will prevent dependency. 72% of my sample reported that the relief effort was unequal, illustrating that the NGO may not have done enough to involve the host community in the relief effort, or provide training for them. This increases the risk that the host community will be dependent upon the organization.

While I was there, the local volunteers were at times infantilized; they were not empowered to take control of their volunteer program and were subject to the organization's bureaucracy. This was disturbing as many of them were grown men, and they were reduced to tears at the thought of losing their unpaid position at the organization. If more of an emphasis was put on bridging this gap and creating a respect for the host community, I believe the relief effort would have much more success.

The behaviors and interactions of the international population affect the host community. The organizations effectiveness and efficiency come into question when looking at how they volunteers protect themselves, conduct themselves daily and engage with the host community. A greater understanding of this population and what improvements could be made is necessary.

CHAPTER 7

CONCLUSION

I have found through my survey research that volunteers mostly protected themselves from health risks prior to arriving and while living in Haiti. The vast majority of volunteers sampled did not score high enough on the PCL scale to indicate PTSD, however they did experience symptoms of distress. They did engage in risky behaviors. Lastly, their interactions were dependent upon their age and the majority of the volunteers encountered obstacles to interaction between themselves and the people of Leogane.

7.1 DIRECTIONS FOR FUTURE RESEARCH AND LIMITATIONS

As more disasters are occurring, and volunteers become more vital to the relief efforts following these disasters, more research must be done on this population. The health and behaviors of the volunteers should be focused on, specifically how volunteers are protecting themselves from risks in the field. More studies should focus on the sexual behavior of disaster volunteers, as this seems to be a part of the disaster response culture. In Haiti, the lack of policing and a younger population of volunteers led to risk behaviors, and an increase in smoking and alcohol usage. This may be different in a more developed country, such as Japan after their recent earthquake and tsunami. A comparative study focusing on the risk behaviors of volunteers in Haiti and those in Japan after the March 2011 earthquake and tsunami would be interesting.

The interactions between the volunteers and the people of their host community are of vital importance for future study. There was a strong belief among the international volunteers that a good relationship with the people of Leogane would help with the success of the mission, however there were obstacles in place isolating the international volunteers from the Haitian people. This aspect of volunteerism in disaster areas has not been studied in sociological studies. A longitudinal study done during a relief effort could provide insight into if community

relationships evolve, and could inform organizations about their volunteers' relationships with the surrounding community relatively quickly, allowing them to try and improve it.

There were limitations to this study; the first was the time gap between the disaster and the data collection. While there were only a few questions addressing the volunteers before, during and after their service in Haiti, some of the volunteers' answers could have been less accurate due to the length of time between volunteering and taking the survey. Future research may benefit from collecting data from volunteers closer to the disaster.

I was very interested in volunteers who engaged in irresponsible activities while in Haiti. It is possible that those individuals would have been less likely to participate in a 20 to 40 minute online survey and be less likely to discover the survey link, found in an e-newsletter they may be less likely to open and read. Therefore, there is the possibility of a higher incidence of risky behaviors than reported here, especially when referencing my own knowledge as a volunteer. During my month in Haiti, there were international volunteers engaging in sexual relationships with Haitian men and women; however, none were reported in this study. Therefore, the individuals taking the most risks while based in Haiti may not have answered the survey, and those that did answer the survey may not have answered accurately.

The survey was emailed to former volunteers of an American-based NGO through their volunteer newsletter. Due to spam filters and individuals not opening the newsletter, volunteers may not have received the link, and therefore did not have the opportunity to participate in the survey. This is a limitation of emailing an online survey through a newsletter but the NGO would not permit me to send the survey link in a separate email.

This study was not representative of the entire disaster volunteer community, as it only was emailed out to the former volunteers of one NGO. However, as of January 2011, approximately 660 volunteers had worked with this NGO in Haiti. This is a large NGO, which during the summer of 2010 sustained a population of over 100 volunteers at any given time for the summer months. To improve on this limitation, future research could include a comparative

component, done both through other organizations and in other disaster areas with this organization, using the same or a similar survey. In comparison to another disaster, the survey could again be disseminated to the NGO following a future disaster, to compare the volunteer population of that disaster and the volunteers in Haiti. It would be interesting to see if the behaviors that were reported by these volunteers would occur in a developed nation, such as Japan following the March 2011 earthquake and tsunami.

7.2 PRACTICAL IMPLICATIONS

As a result of this research, this NGO should focus on policies which promote the well-being and effectiveness of their volunteers. The NGO should promote preventative behaviors among their volunteers, such as explaining why bug repellent, anti-malaria sunscreen and hydration may be important in the disaster area. I do not believe they should require these behaviors, but focus more on educating the volunteers as to why these measures are important, which was not specifically done during my own volunteer service. Specifically, there needs to be more of a focus on the sexual behaviors of the volunteers. It was almost a joke among many of the long-term volunteers and the staff. The organization provided condoms, but they refrained from discussing sexual health and the implications of sexual relationships between international volunteers and the Haitians. During my month in Haiti, the only time this was addressed by the staff was during a meeting, because the hospital was being overrun with volunteers complaining of Urinary Tract Infections and requesting emergency contraception.

The NGO also needs to focus on creating a tighter bond between the affected population and international volunteers. There was a disconnection that was not addressed during my time there; however, after I left I believe there was a push to empower the people of Leogane by integrating them into supervising positions. As Raymond and Hall (2008) pointed out, there should be a focus on programs that integrate local staff and community members with the international volunteers. Another focus can be more events such as the session where the

local volunteers shared their experiences of the earthquake. This grounded the international volunteers, and reminded us of the purpose of our work, and also affirmed the local knowledge of the volunteers from Leogane. There needs to be less emphasis on the drinking culture to bring together the affected community and the international community, as this was the main activity for the majority of the volunteers each night. The NGO recently began a project where they will build a soccer field for Leogane and participate in a game with the host community. Continuing games among the volunteer population and the host community, not necessarily playing against each other but with each other, would be a good idea in building stronger relationships. More projects and events like this will create more equality and more of a connection.

My experience as a disaster volunteer in Haiti both made me critical and thankful for work done by relief organizations. While there is much room for improvement, there is work being done that helps and is rebuilding Haiti. In my opinion, much more work must be done in looking at the volunteer population among these organizations. In order to better understand the relief effort, we must understand the international volunteer role in disaster relief.

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APPENDIX A

Informed Consent Form for Study of Volunteers who Participated in Relief Effort in Haiti 2010

Principle Investigator: Maggie Nelan

University of Texas at El Paso, Sociology and Anthropology Department

Dear Volunteer:

You are being asked to voluntarily take part in the research project described below. ONLY adults (18 years or older) who volunteered in the relief effort in Haiti 2010 should participate in this study. Before taking part in this research study, it is important that you read this consent form that describes the study. Please take your time making a decision and feel free to discuss it with friends, family and colleagues.

I, Maggie Nelan, am a Master's candidate in the Department of Sociology & Anthropology at the University of Texas at El Paso (UTEP). I volunteered with [Organization] in Haiti for one month in May and June 2010. I request your participation in a research study on international disaster volunteers in Haiti. Volunteers who were in Haiti for more than one week are being asked to participate in this study. You are being asked to be in this study because of your work as a volunteer in Haiti. I am interested in your experiences, any health problems that you may have had, and your interactions with the local community.

If you decide to participate in this study, it will involve responding to the questionnaire, which will take about 20 to 40 minutes. If you agree to take part in this study, simply answer by filling out the items on the questionnaire. For most answers, choose the option that is most applicable to you, or fill in the blank.

There are no known risks associated with this research. The benefit of your participation is better knowledge of the disaster volunteer population, the health of disaster volunteers and the ties between the volunteers and the local community. This study may also help future organizations to better meet the needs of disaster victims in the future. You have the option not to take part in this study. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The information you provide will remain strictly confidential. There is no way to link your responses to your email address and name, unless you choose to provide them so that you can participate in a follow-up project.

Only I will have access to your information. I will assign an ID number to your information (whether you provide your name or not). The results of this research study may be presented at meetings or in publications, and to [Organization]; however, your identity or any identifying information will not be disclosed in those presentations.

If you have questions about the survey, please email me (Maggie Nelan) at dvresearchproject@gmail.com. If you have questions or concerns about your participation as a research subject, please contact the UTEP Institutional Review Board (IRB) at (915-747-8841) or irb.orsp@utep.edu.

Your response to the questionnaire will be considered your consent to participate.

Sincerely,
Maggie Nelan

Approved on: 12/14/2010
Expires on: 12/14/2011
Study Number: Nelan 199289-1

APPENDIX B

1. WHEN DID YOU START YOUR VOLUNTEER SERVICE IN HAITI? IF YOU DO NOT KNOW SPECIFIC DAY, PLEASE IDENTIFY THE MONTH AND YEAR. (FOR EXAMPLE, IF YOU BEGAN IN JUNE ENTER "06", IF YOU BEGAN IN OCTOBER ENTER "10" UNDER MONTH)

MM ____ DD ____ YYYY _____

2. DID YOU VOLUNTEER WITH ALL HANDS MORE THAN ONCE IN HAITI?

- No
- Yes

3. HOW MANY TIMES HAVE YOU VOLUNTEERED WITH ALL HANDS IN HAITI? _____

4. IF YOU HAVE ALREADY RETURNED HOME, HOW MANY WEEKS WAS YOUR TOTAL VOLUNTEER WORK IN HAITI? _____

5. IF YOU HAVE NOT YET RETURNED HOME, HOW MANY WEEKS TOTAL HAVE YOU BEEN VOLUNTEERING IN HAITI? _____

6. PRIOR TO YOUR ARRIVAL IN HAITI, WHICH OF THE FOLLOWING DID YOU BELIEVE YOU WOULD SEE WHILE VOLUNTEERING?

	Yes	No
Injuries (missing limbs, burns, etc.)		
Violence		
Resilient people		
Sadness among the Haitians		
Strength and courage		
The local community rebuilding		
Disease		
Aggressive men		
Low sanitation (no toilets, no clean water)		
Sense of humor among the local community		
Extreme poverty		
Heroes/people making a difference		
Hunger		

7. WHAT GAVE YOU THE IMPRESSION THAT YOU WOULD SEE THESE THINGS WHILE IN HAITI? (PLEASE CHOOSE ONE OR MORE)

- Media outlets (News shows, Newspapers, Internet, Magazines)
- Documentaries
- Books (Textbooks, biographies, etc.)
- Other (Please specify): _____

8. WHICH OF THE FOLLOWING DID YOU WITNESS DURING YOUR TIME VOLUNTEERING IN HAITI?

	YES	NO
Injuries (missing limbs, burns, etc.)		
Violence		
Resilient people		
Sadness among the Haitians		
Strength and courage		
The local community rebuilding		
Disease		
Aggressive men		
Low sanitation (no toilets, no clean water)		
Sense of humor among the local community		
Extreme poverty		
Heroes/people making a difference		
Hunger		

9. ABOUT HOW WELL DID YOU SPEAK HAITIAN CREOLE BEFORE AND AFTER YOUR TIME IN HAITI?

	Not at all	Know some words	Can hold a basic conversation	Fluent
Before Haiti				
After Haiti				

10. ABOUT HOW WELL DID YOU SPEAK FRENCH BEFORE AND AFTER YOUR TIME IN HAITI?

	Not at all	Know some words	Can hold a basic conversation	Fluent
Before Haiti				
After Haiti				

11. HOW WOULD YOU CHARACTERIZE YOUR PERSONAL RELATIONSHIP WITH THE FOLLOWING...?

	Very Good	Good	OK	Poor
HAITIAN STAFF AND VOLUNTEERS				
HAITIAN COMMUNITY MEMBERS (I.E. LOCAL BUSINESS OWNERS AND LOCAL INDIVIDUALS NOT AFFILIATED WITH ALL HANDS)				

12. WHEN DEALING WITH STRESS ASSOCIATED WITH YOUR WORK AS A VOLUNTEER OR LIVING IN A DEVELOPING COUNTRY, WHOM DID YOU RELY ON MOST FOR SUPPORT?

- Haitian Volunteers
- Haitian Staff
- Haitian Community members not working with the NGO
- Fellow International Volunteers
- NGO staff
- Other (please specify): _____

13. ON AVERAGE, HOW MUCH TIME DID YOU SPEND WITH THE LOCAL HAITIAN COMMUNITY (E.G. LOCAL VOLUNTEERS, STAFF, COMMUNITY MEMBERS) IN COMPARISON TO THE OTHER INTERNATIONAL VOLUNTEERS?

- Much more time
- More time
- The same amount of time
- Less time
- Much less time

14. ON AVERAGE, HOW OFTEN DID YOU ENGAGE IN THE FOLLOWING ACTIVITIES WITH THE LOCAL POPULATION?

	Multiple times a day	Once a day	Several times a week	Once a week
Converse				
Play with children				
Work				
Share a meal				
Purchase food				
Purchase souvenirs				
Drink alcohol				
Other (Please specify): _____				

15. PLEASE RATE HOW STRONGLY YOU AGREE WITH THIS STATEMENT: INTERACTING WITH THE LOCAL HAITIAN COMMUNITY WAS NOT A SIGNIFICANT PART OF MY WORK AS AN INTERNATIONAL VOLUNTEER.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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15. PLEASE RATE HOW STRONGLY YOU AGREE WITH THIS STATEMENT: INTERACTING WITH THE LOCAL HAITIAN COMMUNITY WAS NOT A SIGNIFICANT PART OF MY WORK AS AN INTERNATIONAL VOLUNTEER.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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16. FROM YOUR OWN EXPERIENCES, HOW OFTEN DID YOU SEE THE LOCAL HAITIAN COMMUNITY ACTIVELY INVOLVED IN THE RELIEF EFFORT?

Always	Often	Sometimes	Rarely	Never
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17. PLEASE RATE HOW STRONGLY YOU AGREE WITH THIS STATEMENT: FOLLOWING THE EARTHQUAKE, THE LOCAL HAITIAN COMMUNITY COULD NOT HAVE PERFORMED THE WORK DONE BY INTERNATIONAL VOLUNTEERS AND ORGANIZATIONS ON THEIR OWN.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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18. IN YOUR EXPERIENCE, WAS THE RELIEF EFFORT AN EQUALLY COMBINED EFFORT BETWEEN THE LOCAL HAITIAN COMMUNITY AND INTERNATIONAL VOLUNTEERS.

Very equal	Somewhat equal	Equal	Somewhat unequal	Very unequal
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19. DURING YOUR TIME IN HAITI DID YOU FEEL LIKE THERE WERE OBSTACLES KEEPING YOU FROM BUILDING CLOSER RELATIONSHIPS WITH THE LOCAL HAITIAN COMMUNITY?

- No
- Yes

20. PLEASE IDENTIFY THE OBSTACLE(S) THAT KEPT YOU FROM BUILDING A STRONGER RELATIONSHIP WITH THE LOCAL POPULATION. _____

21. PLEASE RATE HOW STRONGLY YOU AGREE WITH THIS STATEMENT: A STRONG RELATIONSHIP BETWEEN INTERNATIONAL VOLUNTEERS AND THE LOCAL COMMUNITY IS VERY IMPORTANT TO THE SUCCESS OF THE RELIEF EFFORT.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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22. PLEASE IDENTIFY WHICH VACCINATIONS YOU WERE UP TO DATE ON WHEN YOU WENT TO HAITI.

	Up to date	Do not know
Tetanus (or T-dap)		
Hepatitis – A		
Hepatitis – B		
Measles-Mumps-Rubella		
Typhoid		

23. WHILE IN HAITI, DID YOU TAKE ANTI-MALARIA PILLS

- No
- Yes

29. PLEASE IDENTIFY WHAT ILLNESS OR INJURIES YOU EXPERIENCED. (FOR EXAMPLE: STOMACH PROBLEMS, FEVER, SORE THROAT, VOMITING, BROKEN BONES, SPRAINED JOINTS ETC.)?

30. HOW OFTEN DID YOU EXPERIENCE A COUGH WHILE IN HAITI OR IMMEDIATELY FOLLOWING YOUR RETURN HOME?

All the time	Often	Sometimes	Rarely	Never
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31. DID YOU REMOVE RUBBLE WHILE VOLUNTEERING IN HAITI?

- No
- Yes

32. DID YOU BRING A PROTECTIVE FACE MASK WITH YOU TO HAITI?

- No
- Yes

33. WHAT TYPE OF MASK DID YOU BRING? _____

34. HOW OFTEN DID YOU WEAR A MASK WHILE WORKING WITH RUBBLE?

Always	Often	Sometimes	Rarely	Never

35. WHILE IN HAITI, HOW OFTEN DID YOU USE THE FOLLOWING?

	Always	Often	Sometimes	Rarely	Never
Mosquito Net or Tent					
Bug Repellent					

36. HOW OFTEN DID YOU APPLY SUNSCREEN TWO OR MORE TIMES DAILY?

Always	Often	Sometimes	Rarely	Never

37. WHILE IN HAITI, HOW OFTEN WERE YOU...

	Always	Often	Sometimes	Rarely	Never
Bitten by mosquitoes					
Sunburned					
Dehydrated					

38. ONCE YOU RETURNED HOME, OR WERE AWAY FROM HAITI FOR AT LEAST A MONTH, HOW MUCH WERE YOU BOTHERED BY:

	Not at all	A little bit	Moderately	Very much
Repeated disturbing memories, thoughts or images of Haiti				
Repeated disturbing dreams of Haiti				
Suddenly acting or feeling as if you were reliving your time in Haiti				
Feeling very upset when something reminded you of				

Haiti				
Having physical reactions - that is, heart pounding, trouble breathing, sweating - when something reminded you of Haiti				
Avoiding thinking about or talking about Haiti or having feelings related to it				
Avoiding activities or situations because they reminded you of Haiti				
Trouble remembering important parts of your time in Haiti				
Loss of interest in activities you used to enjoy				
Feeling distant or cut off from other people				
Feeling emotionally numb or being unable to have loving feelings for those close to you				
Feeling as if your future will somehow be cut short				
Trouble falling or staying asleep				
Feeling irritable or having angry outbursts				
Having difficulty concentrating				
Being "super-alert" or watchful or on guard				

Feeling jumpy or easily distracted				
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39. DID YOU FEEL DEPRESSED (LACK OF ENERGY, SADNESS, LESS ABILITY TO COMPLETE LIFE TASKS) DURING THESE THREE TIME PERIODS?

	Prior to leaving for Haiti	During your time in Haiti	One month after returning from Haiti
None of the time			
A little of the time			
Some of the time			
Most of the time			
All of the time			

40. WHAT IS YOUR SEX?

- Female
- Male

41. WHAT IS YOUR CURRENT AGE? _____

42. WHAT IS THE HIGHEST GRADE OR YEAR OF SCHOOL YOU COMPLETED?

- Never attended school or only attended kindergarten
- Grades 1 through 8 (Elementary)
- Grades 9 through 11 (Some high school)
- Grade 12 or GED (High school graduate)
- College 1 year to 3 years (Some college or technical school)
- College 4 years or more (College graduate)
- Post-Graduate (e.g. MA, PhD, MD)

43. WHAT IS YOUR NATIONALITY?

- United States
- United Kingdom
- Canada
- Australia
- Other (Please specify): _____

44. WHAT RACIAL/ETHNIC CATEGORY OR CATEGORIES BEST DESCRIBE YOU? (PLEASE CHOOSE ONE OR MORE)

- American Indian/Native American
- White (not of Hispanic origin)
- Asian or Pacific Islander
- Hispanic/Latino
- Black
- Other (Please specify): _____

45. WHAT IS YOUR RELIGIOUS OR SPIRITUAL PREFERENCE?

- Agnostic
- Atheist
- Bahai
- Buddhist
- Hindu
- Islamic
- Jewish
- Other (Please specify):

- Orthodox (Greek, Eastern, Russian)
- Protestant (Baptist, Lutheran, Methodist, Mormon, Presbyterian, Christian Science)
- Native American Religions and Spirituality
- Roman Catholic
- Unitarian
- No Preference

46. IN THE YEAR BEFORE YOU LEFT, HOW OFTEN DID YOU ATTEND CHURCH, TEMPLE, OR RELIGIOUS SERVICE?

Always	Often	Sometimes	Rarely	Never
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47. IN THE 6 MONTHS LEADING UP TO YOUR DEPARTURE FOR HAITI, DID YOU VOLUNTEER IN YOUR COMMUNITY AT HOME?

- No
- Yes

48. HOW OFTEN DID YOU VOLUNTEER?

- Multiple times a week
- Once a week
- Multiple times a month
- Once a Month
- Less than once a month
- Never

49. HAVE YOU VOLUNTEERED IN A DISASTER AREA PRIOR TO YOUR TIME IN HAITI?

- No
- Yes

50. WHAT IS THE NUMBER OF DISASTER AREAS THAT YOU HAVE VOLUNTEERED IN, EXCLUDING THIS RELIEF EFFORT IN HAITI? _____

51. PRIOR TO VOLUNTEERING, DID YOU HAVE ANY PERSONAL TIES TO HAITI (E.G. HAITIAN FRIEND, HAITIAN ANCESTRY)?

- No
- Yes

52. PLEASE SPECIFY YOUR PERSONAL TIES TO HAITI. _____

53. WHICH OF THE FOLLOWING BEST DESCRIBES TOTAL INCOME BEFORE TAXES PRIOR TO VOLUNTEERING IN HAITI? PLEASE INCLUDE INCOME AND INCOME FROM ANYONE ELSE IN YOUR HOUSEHOLD FROM JOBS, INVESTMENTS, PUBLIC ASSISTANCE, UNEMPLOYMENT INSURANCE, SOCIAL SECURITY, DISABILITY/PENSION FUNDS, AND ALL OTHER SOURCES. YOUR ESTIMATE IS FINE. IF YOU ARE UNDER 25 AND RECEIVED ASSISTANCE TO COME TO HAITI, PLEASE GIVE YOUR BEST ESTIMATE OF YOUR PARENTS' INCOME. (APPROX. 1.40 US DOLLARS IS EQUAL TO 1 EURO, APPROX. 1.50 US DOLLARS IS EQUAL TO THE BRITISH POUND STERLING) PLEASE ONLY IDENTIFY ONE CHOICE.

	Your income	If under 25 and you received assistance in traveling to Haiti, your Parents' income
Less than \$1,999 (Less than \$166/month)		
\$2,000 - \$4,999 US dollars (\$167 - \$416/month)		
\$5,000 - \$9,999 (\$417 - \$833/month)		
\$10,000 - \$19,999 (\$834 - \$1666/month)		
\$20,000 - \$29,999 (\$1667 - \$2500/month)		
\$30,000 - \$39,999 (\$2501 - \$3333/month)		
\$40,000 - \$49,999 (\$3334 - \$4166/month)		
\$50,000 - \$59,999 (\$4167 - \$5000/month)		
\$60,000 - \$69,999 (\$5001 - \$5833/month)		
\$70,000 - \$79,999 (\$5834 - \$6667/month)		
\$80,000 - \$89,999 (\$6668 - \$7500/month)		
\$90,000 - \$99,999 (\$7501 - \$8333 /month)		
\$100,000 - \$149,999 (\$8334 - \$12500/month)		
\$150,000 or more (\$12501 or more/month)		

54. DID YOU RECEIVE FINANCIAL ASSISTANCE TO HELP YOU PAY FOR YOUR TRIP TO HAITI?

- No
- Yes

55. WHO PROVIDED FINANCIAL ASSISTANCE FOR YOU? (PLEASE CHOOSE ALL THAT APPLY)

- Family
- Church
- Friends
- Donors/Sponsors
- Other (Please specify):

56. BEFORE YOU LEFT FOR YOUR VOLUNTEER EXPERIENCE (THE FIRST TIME, IF YOU WENT MORE THAN ONCE), HAD YOU EVER BEEN TO HAITI BEFORE?

- No
- Yes

57. ARE YOU CURRENTLY EMPLOYED OR A FULL-TIME STUDENT?

- No
- Yes

58. WHAT IS YOUR CURRENT OCCUPATION (INCLUDING FULL-TIME STUDENT)?

59. ON AVERAGE, HOW MANY HOURS DO YOU WORK IN PAID EMPLOYMENT PER WEEK?

- None
- 1 to 10 hours
- 11 to 20 hours
- 21 to 30 hours
- 31 to 40 hours
- more than 40 hours

60. WERE YOU EMPLOYED OR A FULL-TIME STUDENT PRIOR TO LEAVING FOR HAITI THE FIRST TIME?

- No
- Yes

61. WHAT WAS YOUR OCCUPATION (INCLUDING FULL-TIME STUDENT)?

62. ON AVERAGE, HOW MANY HOURS DID YOU WORK IN PAID EMPLOYMENT PER WEEK?

- None
- 1 to 10 hours
- 11 to 20 hours
- 21 to 30 hours
- 31 to 40 hours
- more than 40 hours

63. WHAT IS YOUR MARITAL STATUS?

- Single
- Cohabiting
- Married
- Divorced
- Widowed
- Other (Please specify): _____

64. DO YOU HAVE CHILDREN?

- No
- Yes

65. ARE ANY OF YOUR CHILDREN UNDER THE AGE OF 13?

- No
- Yes

66. PRIOR TO ARRIVING IN HAITI, DID YOU SMOKE CIGARETTES, CIGARS OR TOBACCO PRODUCTS?

- No
- Yes

67. HOW OFTEN DID YOU SMOKE CIGARETTES, CIGARS, ETC.?

- Everyday
- More than once a week
- Once a week
- More than once a month
- Once a month or less

68. DURING YOUR TIME IN HAITI, DID YOU SMOKE CIGARETTES, CIGARS, OR OTHER TOBACCO PRODUCTS?

- No
- Yes

69. HOW OFTEN DID YOU SMOKE CIGARETTES, CIGARS, ETC.?

- Everyday
- More than once a week
- Once a week
- More than once a month
- Once a month or less

70. ABOUT HOW MANY CIGARETTES DID YOU SMOKE PER DAY?

- One cigarette
- Less than a pack a day
- A pack a day
- More than a pack a day
- Don't know

71. DID YOU SMOKE MORE OR LESS WHILE IN HAITI THAN WHEN AT HOME?

Much more	A little more	The same	A little less	Much less
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72. PRIOR TO ARRIVING IN HAITI DID YOU DRINK ALCOHOL?

- No
- Yes

73. HOW OFTEN DID YOU DRINK ALCOHOL?

- Everyday
- More than once a week
- Once a week
- More than once a month
- Once a month or less

74. DID YOU DRINK ALCOHOL WHILE IN HAITI (BEER, RUM, MOONSHINE, ETC.)?

- No
- Yes

75. HOW OFTEN DID YOU DRINK ALCOHOL?

- Everyday
- More than once a week
- Once a week
- More than once a month
- Once a month or less

76. ON THE DAYS THAT YOU CONSUMED ALCOHOL, ABOUT HOW MANY DRINKS DID YOU HAVE PER DAY ON AVERAGE?

- 1
- 2 – 3
- 4 – 6
- More than 7
- Don't know

77. DID YOU EVER DRINK MOONSHINE WHILE IN HAITI?

- No
- Yes

78. DID YOU DRINK MORE OR LESS ALCOHOL WHILE IN HAITI THAN WHEN AT HOME?

Much more	A little more	The same	A little less	Much less
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79. PRIOR TO ARRIVING IN HAITI, DID YOU SMOKE OR CONSUME MARIJUANA?

- No
- Yes

80. HOW OFTEN DID YOU SMOKE MARIJUANA?

- Everyday
- More than once a week
- Once a week
- More than once a month
- Once a month or less

81. WHILE IN HAITI, DID YOU SMOKE OR CONSUME MARIJUANA?

- No
- Yes

82. HOW OFTEN DID YOU SMOKE MARIJUANA?

- Everyday
- More than once a week
- Once a week
- More than once a month
- Once a month or less

83. DID YOU USE MORE OR LESS DRUGS (MARIJUANA AND OTHERS) WHILE IN HAITI THAN WHEN AT HOME?

Much more	A little more	The same	A little less	Much less
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84. DID YOU USE DRUGS OTHER THAN MARIJUANA?

- No
- Yes

85. PLEASE SPECIFY WHICH DRUG(S). _____

The final set of questions are about your sexual behavior what in Haiti. By sex, we mean vaginal, anal or oral sex. Please remember that your answers are strictly confidential.

86. WHILE IN HAITI, DID YOU HAVE SEX?

- No
- Yes

87. HOW MANY SEXUAL PARTNERS DID YOU HAVE WHILE IN HAITI?

- 1 to 2
- 3 to 5
- 6 to 8
- 9 or more

88. WERE YOUR SEXUAL PARTNERS ALWAYS OTHER INTERNATIONAL VOLUNTEERS?

- No
- Yes

89. ON AVERAGE, HOW MANY TIMES DID YOU HAVE SEX WITH EACH PARTNER?

- 1 to 2 times
- 3 to 5 times
- 6 to 8 times
- over 9 times

90. ABOUT HOW OFTEN DID YOU HAVE VAGINAL OR ANAL SEX WITHOUT USING A CONDOM?

- Never
- Less than half the time
- About half the time
- Not always, but more than half the time
- Always
- Not-applicable (did not have vaginal or anal sex)

91. HOW OFTEN DID YOU HAVE ORAL SEX WITHOUT USING PROTECTION AGAINST AN STD (E.G. DENTAL DAMS, CONDOMS)?

- Never
- Less than half the time
- About half the time
- Not always, but more than half the time
- Always
- Not-applicable (did not have oral sex)

92. WHILE IN HAITI, WERE YOU DIAGNOSED WITH A SEXUALLY TRANSMITTED DISEASE?

- No
- Yes

93. DURING THE MONTH AFTER YOUR RETURN HOME FROM HAITI, WERE YOU DIAGNOSED WITH A SEXUALLY TRANSMITTED DISEASE THAT YOU BELIEVE YOU CONTRACTED WHILE LIVING IN HAITI?

- No
- Yes

94. PLEASE RATE HOW STRONGLY YOU AGREE WITH THIS STATEMENT: THERE IS A HIGH RISK OF CONTRACTING A SEXUALLY TRANSMITTED DISEASE BY HAVING SEX WITHIN THE INTERNATIONAL VOLUNTEER COMMUNITY.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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95. PLEASE RATE HOW STRONGLY YOU AGREE WITH THIS STATEMENT: THERE IS A HIGH RISK OF CONTRACTING A SEXUALLY TRANSMITTED DISEASE BY HAVING SEX WITH SOMEONE FROM THE HAITIAN COMMUNITY.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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96. IF YOU NOTICED AN INCREASE IN YOUR ALCOHOL, TOBACCO OR DRUG CONSUMPTION, OR YOUR SEXUAL ENCOUNTERS WHILE IN HAITI, WHAT REASON DO YOU BELIEVE IS BEHIND THAT INCREASE?

97. IS THERE ANYTHING ELSE YOU WOULD LIKE TO ADD ABOUT YOUR EXPERIENCES IN HAITI?

98. IF YOU WOULD BE WILLING TO PARTICIPATE IN A FOLLOW-UP INTERVIEW, PLEASE PROVIDE YOUR NAME AND EMAIL ADDRESS WHEN YOU CAN BE CONTACTED. THANK YOU.
