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Health of the "Poto Mitan:" Women's Experiences of
Stress, Trauma and Mental Health Outcomes in Léogâne, Haiti

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2015

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Stress, Trauma and Mental Health Outcomes in Léogâne, Haiti

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An abstract of
a thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Global Health
2018

ABSTRACT

OBJECTIVES

There is a lack of data on mental health outcomes and coping strategies in Haiti. The primary objective of this study was to determine coping strategies and supports that ameliorate the mental health impacts of stressors and traumatic events among women living in Léogâne Commune. A comparison of quantitative and qualitative data was utilized to investigate the presence and use of specific coping strategies and stressors among women. Qualitative results were compared to quantitative results to evaluate the extent to which results were comparable.

METHODS

A mixed methods study was conducted to determine the experience of stressors and traumatic events among women and to explore coping strategies and supports used by women. Data collection followed a triangulation design while analysis followed a sequential explanatory design. In the quantitative phase, a survey was administered to Haitian women living in Léogâne Commune (N=198). This survey included various scales assessing women's experience of stressors and traumatic events, mental health outcomes, and use of coping strategies. Quantitative data were entered into *SAS 9.4* (Cary, North Carolina) software for data analysis. Multivariable linear regression analyses were conducted to identify associations between experiences of stressors and traumatic events with mental health outcomes and coping strategies. In the qualitative phase, in-depth interviews were conducted among eight (N=8) women to better understand the nuances of women's experience of stress and use of coping strategies and supports. Qualitative data were transcribed into English and transcripts were entered into *MaxQDA* software for data analysis. A thematic analysis approach was used to summarize themes within the data.

RESULTS

A total of 198 female participants were surveyed for this study. Participants were approximately equally surveyed from the four indicated regions of Léogâne Commune. A model assessing the relationship between the number of traumatic events experienced, the number of stressors experienced, and the number of coping mechanisms used on an individual's score on the ZDLSI (Depression) Index, while controlling for age and educational attainment was conducted. This model was also conducted on an individual's score of the BAI (Anxiety) Index. There was no presence of interaction on either model. Qualitative results showed that child-related stressors, male-related stressors, economic stressors, and experiences of reproductive health were related to adverse mental health outcomes among women. In addition, results showed that community support and coping/self-support were effective in mediating the negative impacts of traumatic events and stressors among women.

CONCLUSIONS

This study illustrates how coping strategies and supports can ameliorate the impacts of mental health outcomes associated with stressors and experience of trauma. This study provides both qualitative and quantitative evidence that women experience a variety of stressors due to their complex role within Haitian society. Stressors surrounding women's roles in intimate partner relationships and providing for children were qualitatively shown to cause an increase in negative mental health outcomes. Traumatic events such as house fire, losing one's whole harvest and car accident were also related to negative mental health outcomes as shown in the quantitative data. Quantitative results showed that primary education was protective against negative mental health outcomes. Qualitative data produced the results of social support and education positive forms of coping for women.

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ACKNOWLEDGEMENTS

I would like to thank Emory Global Health Institute, who made this project and experience possible. I would like to extend a special thank you to Dr. Bonnie Kaiser for all her support and assistance throughout data collection and analysis. Her encouragement and guidance allowed me to grow and learn throughout the process. I am thankful for all the support of Family Health Ministries and their assistance throughout the data collection process. I am grateful for the guidance and wisdom of Dr. Cari Jo Clark. Her insight and support throughout the writing process was invaluable.

I would also like to acknowledge all the in-country staff who assisted with logistics and participated in data collection and translation. I would also like to extend a special thank you to my translator, Berlyne Bien-Aime Louis.

I would also like to acknowledge my friends and family who provided me with the much-needed support throughout the past year.

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LIST OF ABBREVIATIONS

IPV	Inter-personal violence
GBV	Gender-based violence
NGO	Non-Governmental Organization
FHM	Family Health Ministries
SES	Socioeconomic status
WHO	World Health Organization
PAHO	Pan-American Health Organization
MNS	Mental, neurological and substance use
YLDs	Years lived with disability
DALYs	Disability-adjusted life years
GDP	Gross domestic product
PTSD	Post-traumatic stress disorder
MDD	Major depressive disorder
LMICs	Low and middle-income countries
UNODC	United Nations office on Drugs and Crime
HNP	Haitian National Police

CHAPTER 1 | INTRODUCTION

1.1 Background

Mental health is an integral component of one's physical health and wellbeing. Mental health, like aspects of physical health, can be affected by a wide range of socioeconomic factors including gender roles. Among low and middle income countries, the prevalence of mental illness is thought to be exceptionally high (Lund et al. 2010). Residents of Haiti, commonly cited as the poorest nation in the Western hemisphere, are particularly at risk for developing mental illness. There is a limited but growing body of evidence regarding mental health problems in Haiti (Kaiser et al. 2013; Wagenaar et al. 2012, 2013). However, there have been no studies focused on the experiences of Haitian women, including potential mental health sequelae brought about by gender roles and expectations. In addition, no studies have examined the effect of coping strategies on mental health outcomes among women in Haiti.

1.2 Scope of the Problem

Haitian women are particularly vulnerable to stress that can result in negative mental health outcomes. Societal norms, including prescribed gender roles, contribute to this vulnerability. Women's position in the home as the *"poto mitan,"* or central pillar, places an increased pressure on women to fulfill the tasks of the home while presenting as the ideal mother, wife and caretaker. The stress associated with women taking on multiple responsibilities within their role is known as "role strain." Among other stressors, role strain can negatively impact women's mental health. In addition to experiencing stressors, women in Haiti are highly susceptible to experiencing intimate partner violence (IPV) or other forms of gender-based violence (GBV).

Experiencing violence at the hands of a male partner coupled with oppressive gendered ideals can negatively impact women's mental health.

1.3 Purpose of the Study

The purpose of this study is to explore how coping strategies and supports ameliorate the mental health impacts of stressors and traumatic events among women living in Léogâne Commune. This study is a part of a larger study focusing on identifying women's stressors and male perceptions of stressors and coping strategies used to inform the development of programs at a local non-governmental organization (NGO), Family Health Ministries (FHM).

Research Questions

The research question explored in this study is: How do coping strategies and supports ameliorate the mental health impacts of stressors and traumatic events among women living in Léogâne Commune? Quantitative data will assess the inter-relationships between mental health outcomes, specific stressors, and coping strategies. Qualitative data will explore women's experiences of stressors and use of coping mechanisms.

1.4 Significance of Study

This study aims to bridge an existing gap in the mental health literature in Haiti by providing information on coping strategies and supports utilized by women to ameliorate the impact of mental health outcomes (depression and anxiety) and stressors. This study is unique in its application of both qualitative and quantitative measures to assess the inter-relationships between stress, coping, and mental health outcomes. This study provides evidence that coping strategies can be useful in determining potential mental health outcomes.

CHAPTER 2 | REVIEW OF THE LITERATURE

2.1 Introduction

The following literature review will provide necessary context to the aims and objectives of the research. The review will first discuss the broader concept of mental health as a global health issue. Second, the review will offer an overview of the specific mental health disorders related to the study. Third, mental health in the specific context of Haiti and Haitian culture will be explored. The review will provide an overview of mental health in the context of disasters in Haiti. The review will detail the psychosocial support systems present in the Haitian context. Last, the intersection of mental health and Haitian gender roles will be explored.

2.2 Global Burden of Mental Illness

The burden of global mental, neurological and substance use (MNS) disorders is substantial (WHO, 2016; Murray & Lopez, 1997; Whiteford et al., 2015; Degenhardt et al., 2013 Ngui et al., 2010; Steel et al., 2014). Particularly among countries that have recently experienced political disruption, violence, or natural disaster, the prevalence of MNS disorders places a significant burden on all sectors of society including the economic sector (Parida, 2015; Trautmann et al., 2016). Vigo et al. (2016) estimates that the global burden of mental illness accounts for 32.4% of years lived with disability (YLDs), and 13% of disability-adjusted life years (DALYs), a measure of years of healthy life lost due to ill health, disability, or early death (Whiteford et al., 2013; Vigo et al. 2016). Mental illness also contributes significantly to the Global Burden of Disease, especially among developing nations, with four out of ten diseases of the highest burden being mental disorders (Kastrup, 2010; Ngui et al. 2010). The projected

burden of mental health disorders is expected to reach 15% by the year 2020, where common mental disorders will disable more people than complications arising from AIDS, heart disease, traffic accidents and wars combined (Ngui et al., 2010).

According to numerous studies outlined by the WHO, large gaps exist globally between the need of mental health care and service delivery (WHO, 2012; WHO/PAHO, 2010). The American Psychiatric Association asserts that mental health workers account for only 1% of the global health workforce and 45% of the world's population lives in a country with less than one psychiatrist per 100,000 people (American Psychiatric Association). The gap between the need for mental healthcare and available providers widens among low and middle income countries (LMICs). Various studies have sought to present the detrimental impacts of an ineffective mental healthcare system on countries' economies and social landscapes. An article by Patel (2007) asserts that mental disorders are closely associated with other public health concerns including maternal and child health and HIV/AIDS (Patel, 2007).

There is a lack of accurate data on the subject of MNS disorders (Baxter et al. 2013; Vigo et al. 2016). This is, in part, due to a significant portion of mental health problems going unnoticed or high rates of stigmatization experience by those with MNS disorders (Rossler et al., 2016; Berman, 2016; Vigo et al. 2016). Several studies have noted the detrimental effects of stigmatization on obtaining accurate estimates of MNS disorders worldwide (Corrigan & Watson 2002; Keys et al. 2012). Another cause of a lack of data on the subject is the failure to seek treatment among those experiencing mental illness (Wang et al. 2007). A study by Keys et al. (2014) identified that a main barrier Haitian migrants faced when accessing mental health care was humiliation (*imilyasyon*). Another significant barrier in obtaining an accurate estimate of the rate of mental disorders is the reliance on cultural interpretation of mental disorders (Kastrup,

2010; Jimenez, 2012). A study by Kastrup (2010) found that MNS disorder recognition is heavily related to social and cultural factors including cultural identity and idioms of distress.

It is important to consider the impact of the cultural-based etiology of mental disorders when attempting to obtain accurate estimates of MNS disorder prevalence rates. The WHO states that the determinants of mental health and mental disorders consist of "not only individual attributes such as the ability to manage one's thoughts, emotions, behaviors and interactions with others, but also social, cultural, economic, political and environmental factors such as national policies, social protection, living standards, working conditions, and community social supports" (page 7, WHO, 2013). This quote speaks to the social and cultural implications of mental health and MNS disorders. Several studies have illustrated the link between cultural understandings of distress and psychiatric disorders and the presence of symptomology (Kohrt et al., 2013; Kohrt et al., 2014; Jenkins, 1990). A study by Kohrt et al. (2014), reviewed the strengths and limitations of literature comparing psychiatric categories with cultural concepts of distress such as cultural syndromes, culture-bound syndromes, and idioms of distress. This study found that cultural concepts of distress are not inherently unamenable to epidemiological study (Kohrt et al., 2014).

There are a multitude of factors that constitute as an increased risk of negative mental health outcomes. The WHO (World Health Organization) Mental Health Action Plan states that "depending on the local context, certain individuals and groups in (a) society may be placed at a significantly higher risk of experiencing mental health problems" (page 7, WHO, 2013). These groups may include vulnerable members of society such as marginalized groups, those living in poverty, and those experiencing discrimination and human rights violations (WHO, 2013). Experiences of natural disaster or conflict can also put groups at an increased risk of MNS disorders (WHO, 2013; Galea et al., 2007; Rhodes et al., 2010). Additional studies have explored

the relationship between gender roles and the experience of stress and MNS disorders. Some studies assert that the constraints or burdens placed upon individuals as a result of their gender role within society can cause an increased susceptibility to stress or experience of MNS disorders (Patel, 2007).

Healthcare systems at large have not adequately responded to the burden of MNS disorders worldwide, thus creating a significant gap between the need for treatment and treatment provision. According to Kohn et al. (2004), worldwide, more than 70% of persons who need mental health services lack access to care. Low and middle income countries (LMICs) are particularly lacking in mental healthcare infrastructure (Eaton et al., 2011). In LMICs, the majority of people with MNS disorders lack access to proper mental healthcare (Collins et al. 2011; Saxena et al., 2007). Globally there is a shortage of 1.2 million mental health professionals with this gap being greatest in low and middle income countries (LMICs) (Kakuma et al., 2011; Jansen et al., 2015).

2.2 Anxiety and Depressive Disorders

For the purposes of this paper, two groups of MNS disorders will be explored: anxiety and depressive disorders. These two MNS disorder groups were chosen based upon the high rates of worldwide prevalence as well as high rates of prevalence among women (Hill, 2013; Yount et al. 2014). According to a 2010 study by Whiteford et al., the prevalence of depressive and anxiety disorders was highest in countries with a history of conflict or war (Whiteford et al. 2010). Haiti's history of political unrest and conflict makes it likely that there would be increased rates of both anxiety and depressive disorders among residents. Anxiety and depressive disorders possess both physical and mental symptomology (American Psychiatric Association, 2017). The disorders are described in detail below.

Anxiety disorders are categorized as disorders that share features of excessive fear, anxiety, and related behavioral disturbances (American Psychiatric Association, 2017). The scope of anxiety disorders includes social anxiety disorder, panic disorder, and generalized anxiety disorders, among others (DSM-5). Symptoms of generalized anxiety disorder include: irritability, being easily fatigued, and having difficulty concentrating (DSM-5). Persons experiencing anxiety may use various coping strategies to overcome anxiety symptoms. Positive coping skills include deep breathing, meditation, and exercise (DSM-5). Treatment for anxiety disorders can include cognitive therapy, medication, and meditations (DSM-5).

The proportion of the global population with anxiety disorders in 2015 is estimated to be 3.6% (WHO, 2017). Anxiety disorders are more common among females than males (4.6% compared to 2.6% at the global level) (WHO, 2017). A study by McLean et al. (2011) found that women had higher rates of lifetime diagnosis for anxiety disorders, other than social anxiety disorder. In the Region of the Americas, as many as 7.7% of the female population are estimated to suffer from anxiety disorder (males, 3.6%) (WHO, 2017). Much of the literature on anxiety in the Haitian context focuses on the effect of natural disasters and the effects of displacement on marginalized groups (Derivois et al., 2017; Kaiser et al., 2015; Guimaro et al., 2013).

According to the American Psychiatric Association (n.d.), Depression (major depressive disorder, MDD) is a common and serious medical illness that negatively affects how you feel, the way you think and how you act. Depression causes feelings of sadness and/or a loss of interest in activities once enjoyed. It can lead to a variety of emotional and physical problems and can decrease a person's ability to function at work and at home (American Psychiatric Association, n.d.). Symptoms of depression can include diminished interest or pleasure in activities, insomnia or hypersomnia, fatigue, and feelings of worthlessness (DSM-5). Many

people with a depression never seek treatment. Treatment for depression can include cognitive therapy and medication.

The proportion of the global population with depression in 2015 is estimated to be 4.4%. As with anxiety, depression is more common among females (5.1%) than males (3.6%) (WHO, 2017). Depression accounts for 4.3% of the global burden of disease and is among the largest single causes (11 %) of all years lived with disability globally, particularly for women. Prevalence rates vary by age, peaking in older adulthood (above 7.5% among females aged 55-74 years, and above 5.5% among males). Depression also occurs in children and adolescents below the age of 15 years, but at a lower level than older age groups (WHO, 2017). The literature on depression among Haitians is focused on response to natural disasters and the effects of immigration (Cerda et al., 2013; Nicholas et al., 2007). However, there have been some studies focused on exploring the prevalence of depression among Haitians living in rural settings (Wagenaar et al., 2012).

2.3 Haitian Context

Haiti is a country located in the Caribbean Sea approximately 600 miles from the Florida coast (WHO/PAHO, 2010). The nation makes up one-third of the island known as "Hispaniola," with the other two-thirds consisting of the Dominican Republic (WHO/PAHO, 2010). Haiti is the third largest and second most populous country in the Caribbean (IMF World Economic and Financial Surveys, 2014). Haiti has a population of approximately 11.1 million people and is growing at a rate of 1.2% per year (World Population Review; IHME). Haiti is particularly vulnerable to natural disasters due to its location directly in a hurricane corridor, which makes it susceptible to hurricanes and tropical storms, and its tectonic position which gives it a higher seismic threat level (Swarup, 2009).

Haiti is commonly cited as the poorest country in the Western Hemisphere and one of the poorest in the world. In 2014, Haiti had a per capita gross domestic product (GDP) of US$846 (IMF World Economic and Financial Surveys, 2014). According to the latest household survey (ECVMAS, 2012), more than 6 million out of 10.4 million (59%) Haitians live under the national poverty line of US$2.41 per day and over 2.5 million (24%) live under the national extreme poverty line of US$1.23 per day (ECVMAS, 2012). It is also one of the most unequal countries, with a Gini coefficient of 0.59 as of 2012 (World Bank, 2013). According to the Human Development Report, Haiti has a rate of multidimensional poverty of 57% (UNDP, 2010). The Multidimensional Poverty Index (MPI) replacing the Human Poverty Index (HPI) extends beyond standard monetary-based methods to also identify deprivations in health, education and standard of living (UNDP, 2010).

Quality healthcare is not accessible to a majority of Haiti's population (Doctors Without Borders, 2008). This lack of quality healthcare access is due to both inadequate medical infrastructure and lack of health care professionals. According to USAID, roughly 40% of Haiti's population lacks access to essential health services (USAID, 2017). This lack of access is partially attributed to the increasing population of patients in rural locations. According to the World Bank, approximately 40% of the population lived in rural areas in 2016 (The World Bank, 2016). Another contributing factor is a lack of government spending on healthcare. Government spending for healthcare in Haiti is low and represents 6 percent of government expenditure (USAID, 2017). In addition, Haiti struggles to attract and retain qualified healthcare professionals. Currently Haiti has as few as six health professionals per 10,000 people (USAID, 2017). A majority of Haiti's health care is provided by NGOs, with one of the highest rates of NGOs per capita (Schuller, 2010). A study of primary care coverage and quality across Haiti in

the Bulletin of the World Health Organization found that while 91% of Haiti's population lived within 5 kilometers of a primary care facility, only 23% of lived within 5 kilometers of a facility with high-quality service delivery (Gage et al., 2016).

As a result of the lack of quality healthcare, Haiti has poor health indicators. In 2017, the life expectancy for females was 67.1 years and 63 years for males (IHME). Indicators of reproductive health in Haiti are among the worst in the world. The United Nations and partner agencies estimate that a woman in Haiti has a one in 80 chance of dying due to childbirth related causes (WHO et al. 2014). Health indicators for children are also poor. UNICEF's most recent State of the World's Children report ranked Haiti seventh highest out of 193 countries in under-five mortality (UNICEF, 2017).

Haiti is marked by a powerful class hierarchy based on education, language, economic background and culture (Desrosiers & Fleurose, 2002). This class hierarchy impacts all aspects of society, including healthcare access and health-seeking behaviors of individuals. Like many other Caribbean countries, as part of the legacy of colonization and slavery, Haiti also has significant social stratification and discrimination based on gradations of skin tone (Trouillot, 1990). Lighter skinned people are more likely to be members of the elite and of higher socioeconomic status, whereas darker skinned people are more likely to be members of lower socio-economic groups and to experience marginalization.

Haitian creole and French are the official languages of Haiti with a majority of Haitians speaking Haitian Creole (Kreyol) as their first language (DeGraff, 2010). French is only understood by 20% of the population, most of whom make up the elite or educated class (DeGraff, 2010). Foster & Valdman (1984) argue that French language has acted primarily as a "social filter" in Haiti, restricting access to spaces of political, economic and social power.

French is often learned through formal education, thus linking spoken French to the educated class. Approximately three-fourths of the population has some primary school education, but the majority cannot read or write (WHO/PAHO, 2010). According to data from the latest Demographic Health Survey (ECVMAS) in 2012, nearly three-quarters (74%) or women and 79% of men are literate in Haiti (ECVMAS, 2012).

Family structure is a key element in Haitian culture (Craan, 2002). While Haitian fathers tend to hold authoritative positions in the household, the mother remains the "poto mitan," the central pillar of the family (Craan, 2002). The mother is typically responsible for the daily needs of the house and is the spiritual center (Craan, 2002). This responsibility places an added stress on mothers to keep up with the needs of the household, which can include cooking, cleaning, and caring for children.

Religion is another important aspect of Haitian society. While precise statistics are unavailable, it is estimated that approximately 80 percent of citizens are Roman Catholic (U.S. Department of State, 2003). Most of the remainder belong to a variety of Protestant denominations (U.S. Department of State, 2003). Vodou, a traditional religion derived in part from West African beliefs, is practiced alongside Christianity by a large segment of the population. Vodou is a central belief system that impacts the health-seeking behaviors of Haitians and has implications on mental health. The interpretation of illness within this framework usually takes two forms: one is based on the need to establish a harmonious relationship with the spirit world and the second focuses on the role of magic or sorcery attacks (WHO/PAHO, 2010). There is a common perception that persons experiencing mental distress may be more likely to seek the care of a houngan, Vodou priest or priestess, rather than a medical professional (Khoury et al., 2012). Rather than seek health care from solely a religion

source, many Haitians also seek care from religious and traditional medical sources. Paul Farmer observed, "Etiologic beliefs may lead the mentally ill away from doctors and toward those better able to 'manipulate the spirit" (Farmer, 1992). This quote highlights the health-seeking behaviors of those who practice Vodou and asserts that they may be more likely to seek mental health services from a Vodou priest or priestess.

2.4 Mental Health in Haiti

Limited information is available on the mental health impact of historical, political, and economic conditions in Haiti. Though limited, there is a growing body of evidence on mental health in the Haitian context (Keys et al. 2012; Wagenaar et al. 2012, 2013; Hagaman et al. 2013; Rasmussen et al. 2015; Kaiser, 2014). Emerging research on mental health in Haiti has begun to explore explanatory models of mental illness and links between the mind and body, such as idioms of distress (Keys et al. 2012, Rasmussen et al. 2015).

A study conducted by Hagaman et al. (2013) sought to examine local socio-cultural explanatory models and other contextual factors surrounding suicide in Haiti. This study was the first of its kind to explore the dual perspectives of both healthcare workers and community members regarding suicide in Haiti. The study utilized in-depth interviews and qualitative data analysis to understand themes surrounding suicide (Hagaman et al., 2013). Researchers found that when compared to community members, healthcare workers underestimated the frequency of suicide and were less likely to interpret suicide-related claims as representing true suicide intent (Hagaman et al., 2013). The study found that religious perspectives influenced attitudes towards suicide in differing ways. Christian participants concern for the afterlife resulted in suicide as being unacceptable and considered a sin. The Vodou explanatory frameworks displaced blame and stigma away from individuals who committed suicide (Hagaman et al.,

2013). This study is reflective of the multiple viewpoints, both religious and non-religious, that can influence an individual's care-seeking behavior for mental illness.

A study by Keys at al. (2012) sought to explain the failure to understand how psychological distress is communicated between lay persons and health workers in rural clinics, where most Haitian's seek healthcare (Keys at al. 2012). The researchers identified forty-four terms for psychological distress used among patients seeking healthcare in Haiti's Central Plateau. The researchers found that 40% of chief complants were conveyed in either head (*tèt*) or heart (*kè*) terms (Keys at al. 2012). The team concludes that a holistic approach to mental healthcare should be applied to clinics in Haiti's Central Plateau. Additionally, the team asserts that clinics should incorporate local ethno-psychological frameworks alongside biomedical models of healthcare (Keys at al. 2012).

While several studies have explored depression in Haiti, they have been limited to convenience samples and specific populations. Wagenaar et al. (2012) conducted a cross-sectional, zone-stratified household survey of 408 adults in Haiti's Central Plateau. Depression symptomatology was assessed with a culturally-adapted Kreyòl version of the Beck Depression Inventory (BDI). The Beck Depression Inventory (BDI) is a 21-item, self-report rating inventory that measures characteristic attitudes and symptoms of depression (Beck, et al., 1961; Beck et al., 1988). Wagenaar et al. (2012) found that six percent of participants endorsed current suicidal ideation. Education was found to be a risk factor for depression among women but not among men, and employment was a risk factor for both genders (Wagenaar et al. 2012).

Wagenaar et al. (2013) examined patterns, determinants, and costs of seeking care for mild to moderate psychiatric distress in order to determine optimal approaches for expanding mental health care in rural Haiti. The study found that thirty-two percent of respondents endorsed

God as their first choice for care if suffering from mental distress whereas twenty-nine percent of respondents indicated that clinics and hospitals were their first choice (Wagenaar et al. 2013). The study asserts that isolated clinical interventions may have limited impact because of less frequent use. The authors assert that efforts to expand mental health care should consider differential provider costs when selecting community resources for task shifting (Wagenaar et al. 2013). Task shifting refers to the process of delegation whereby tasks are moved, where appropriate, to less specialized health workers (WHO, 2008). In conclusion, the study found that three out of four rural Haitians said they would seek community resources over clinical care if suffering from mental distress (Wagenaar et al. 2013).

A study by Rasmussen et al. (2015) study is the first study to attempt to validate a brief screening measure in Hatian Creole that indicates caseness for depression and is specific to Haitians living in Haiti. The study describes a novel emic-etic approach to developing a depression screening for Partners In Health/*Zanmi Lasante* (Rasmussen et al., 2015). The researchers asked Haitian key informants to classify symptoms and describe categories within a pool of symptoms of common mental disorders. The authors then tested the symptom set that best approximated depression in a sample of depressed and not depressed Haitians in order to select items for the screening tool (Rasmussen et al., 2015). The resulting 13-item instrument produced scores with high internal reliability that were sensitive to culturally-informed diagnoses.

The impact of Vodou on mental health seeking behavior is an important element of Haiti's mental healthcare landscape. An article by Khoury et al. (2012) investigates whether explanatory models of mental illness invoking supernatural causation result in care-seeking from folk practitioners and resistance to biomedical treatment in Haiti. The authors state that Vodou as

an explanatory framework for illness "has been considered an impediment" to biomedical psychiatric treatment in rural Haiti by some scholars and Haitian professionals (Khoury et al. (2012). The study was comprised of in-depth interviews with community leaders and traditional healers, focus group discussions with community members and community health workers, and case studies of individuals exhibiting mental illness. Respondents invoked multiple explanatory models for mental illness and expressed willingness to receive treatment from both traditional and biomedical practitioners. This pattern of Haitian individuals seeking dual treatment pathways for psychiatric illness is consistent with other research.

Haiti is plagued by a significant lack of mental health resources and lacks significant mental health infrastructure in which to care for patients with mental health issues including anxiety, depression, and more serious forms of psychopathy (WHO, 2013). Mental health care has not been implemented in many Haitian hospitals or in health district policy (WHO, 2013). According to PAHO and WHO (2010) report, there is an estimated ten psychiatrists and nine psychiatric nurses working in the public sector in Haiti, most of whom were located in Port-au-Prince. Outside of Port-au-Prince, national and international nongovernmental organizations (NGOs) provide 70% of biomedical care services (WHO/PAHO, 2010). The most advanced, full-time providers within these NGOs are often Haitian doctors and nurses, trained in curricula founded upon North American and French schools of thought (Farmer, 1992; Lecomte & Raphaël, 2010; Vonarx, 2008).

The global shortage of mental health professionals has led to increasing efforts for task sharing of mental healthcare (Patel et al., 2007; WHO 2006). Task sharing refers to the involvement of non-specialist service providers in delivering healthcare that traditionally is provided by expert healthcare workers (WHO, 2008). Efforts such as these have proven effective

in providing psychological treatment that would otherwise not be available to members of rural communities.

2.5 Disasters and Mental Health in Haiti

It is impossible to examine mental health in Haiti without evaluating the impact of the 2010 earthquake, an event so catastrophic the effects are still present today in individuals experience of loss and infrastructural damage. The earthquake brought to light many of the economic, political and social barriers present in Haiti's public health systems.

On January 12, 2010, an earthquake measuring 7.0 on the Richter scale struck Haiti (WHO/PAHO, 2010). The epicenter was approximately 16 miles west of its capital, Port-au-Prince (WHO/PAHO, 2010). The epicenter of the earthquake was Léogâne Commune (Pillardy, nd). It is estimated that approximately 200,000 people lost their lives and thousands more were injured during the earthquake (WHO/PAHO, 2010). More than 300,000 homes collapsed or were critically damaged. It is estimated that 60% of the nation's administrative and economic infrastructure was lost, and 80% of the schools and more than 50% of the hospitals were destroyed or damaged (GOH, 2010). Overall losses and damages from the earthquake were estimated to be between US$7 billion and US$14 billion (approximately 100%–200% of Haiti's gross domestic product), making it the most costly earthquake event in terms of the percentage of a country's gross domestic product (Cavallo et al. 2010).

In the wake of the earthquake, there was an increase in studies focusing on mental health within Haitian populations (Cerda et al. 2013; Campbell et al. 2016; Guimaro et al. 2013; Raviola et al. 2012). The earthquake both uncovered the extent of mental illness in Haiti and amplified it. These studies, though context-specific, can yield information regarding mental health in the Haitian population at large. Multiple studies have linked earthquake-related

experiences with posttraumatic stress disorder (PTSD) and major depressive disorders (MDD) (Cerda et al. 2013; Campbell et al. 2013). Post-traumatic reactions and recovery are the result of complex interactions among biological, personal, cultural and environmental factors (Oflaz et al. 2008).

A study by Cerda et al. in 2013, indicated that a history of experiencing "violent trauma" was associated with an increased risk of PSTD and MDD. This study speaks to the high rate of mortality in heavily impacted regions as a majority of participants in the Cerda et al. (2013) study reported at least one close friend or family member who was killed as a result of the earthquake. The Cerda et al. study called for focusing resources on screening and treatment of identified vulnerable groups while targeting improvement of post-earthquake living conditions (Cerda et al., 2013).

Guimaro et al. (2013) investigated the presence of depression and anxiety symptoms in survivors of the earthquake who were assisted by a healthcare team from the Hospital Israelita Albert Einstein. The Guimaro et al. (2013) study found that study participants who had lost a family member as the result of the earthquake were five times more likely to develop anxiety and depression symptoms than those who didn't. This is consistent with other research on the subject of anxiety and experiencing a significant loss (Boelen et al., 2003).

Several studies point to high rates of violence experienced by women living in Haiti as an indirect or direct result of the 2010 earthquake (Campbell et al. 2016; Cerda et al. 2013; Cénat & Derivois, 2014). Campbell et al. (2016) found that rates of violence both before and after the earthquake were high, 71.2% and 75% respectively ($p=0.266$), and perpetrated by boyfriends and husbands. The Campbell et al. (2016) study also highlighted the reality that displaced women are often disproportionately vulnerable to violence following a disaster, as was the case in the 2010

earthquake (Campbell et al. 2016). From the research, it is evident that natural disasters can increase the risk experiencing intimate partner violence or other forms of gender based violence.

2.8 Female Gender Roles and Mental Health in Haiti

Strict gender roles and power dynamics are omnipresent throughout all aspects of Haitian culture. Several studies have examined the relationship between female gender roles and associated mental health issues (Joshi et al. 2014; Logie et al. 2015, 2017; Conserve et al. 2016; Fwazi et al. 2005; Gage & Hutchinson, 2006). Magloire (2008) states that female-headed households are common in Haiti, particularly in urban areas. The common phrase, "*poto mitan*," or "central post," is used to describe the female heads of households, though the term is also used to refer to women without other household structures. This phrase illustrates women's commitment to uphold and support the household. Despite their integral position at the forefront of family life, women in Haiti continue to face high rates of intimate-partner violence (IPV), sexual violence, and other forms of oppression (Hoeffler et al., 2017). Logie et al. (2015) noted that structural factors, including patriarchal gender norms and poverty, silence IPV discussions and constrain women's agency.

Sexual violence against women and IPV are rampant throughout Haiti. In 1981, Haiti ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and the Inter-American Convention on the Prevention, Punishment, and Eradication of Violence against Women in 1996 (Hoeffler et al., 2017). However, an estimated 273, 200 women continue to suffer from severe physical and/or sexual violence per year (Hoeffler et al., 2017). Hoeffler et al. (2017) estimated that the health costs of domestic violence are in the order of about HTG 641 million per year (USD 9,893,835); this is equivalent to 0.16 per cent of the Haitian GDP. Overall, 13% of Haitian women have ever experienced sexual violence (Haiti

ECVMAS, 2012). Sexual violence has been linked with higher risks of posttraumatic stress disorder, anxiety, depression, attempted and actual suicide, and psychological distress (Buzi et al., 2003; Campbell, 2002).

Several studies have explored the presence of IPV among women in Haiti (Small et al., 2008; Conserve et al., 2016; Fwazi et al., 2005). Small et a. (2008) examined the association between violence experienced by pregnant Haitian women during the previous six months and pregnancy-related symptom distress. The study found that 44% of women reported that they had experienced violence prior to the interview (Small et al., 2008). This research provides evidence of the need to integrate violence prevention resources into prenatal care in rural parts of Haiti. Fwazi et al. (2005) concludes that the presence of power and control in intimate relationships affects women's risk of experiencing IPV (Fwazi et al. 2005). Associations between intimate partner violence and husbands' jealousy and controlling behavior were found. This study found that the effect of wives' education on experience of intimate partner violence was non-linear, indicating that IPV may occur regardless of the victim's education level (Fwazi et al. 2005).

Several studies have discussed the impact of mental illness among women living in Haiti. A study by Kaiser et al. (2015) found that being married was associated with higher anxiety scores among women. In addition, the study found that the presence of others, including housemates and spouses, was a source of distress among participants. This may be explained by the fact that additional members within a home increase the workload and financial responsibility. Since these responsibilities are often placed on the mother of the home, they could be a source of additional stress. The Cerda et al. (2013) study found that investments in sources of social support for women may make help mitigate the vulnerability of women to PTSD and MDD. A significant gender difference in the Cerda et al. (2013) study was that "low social

support" was found to increase the risk of PTSD and MDD in females (Cerda et al. 2013). A study by Cénat & Derivois (2014) found "female gender" to be a risk factor for PTSD and depressive symptoms in Haiti. This study called for a health care providers, the public health ministry and NGOs to focus on females when conducting mental health programming.

Women in Haiti implement a series of coping strategies to mediate psychological problems or poor mental health. These coping strategies can best be categorized into healthy coping strategies and unhealthy coping strategies. Healthy coping strategies consist of seeking social support in the form of familial or community based support, talking through problems with another person, and other forms of self-support (Carver et al. 1989). Unhealthy coping strategies include substance abuse, self-harm, and withdrawal from daily activities (Carver et al. 1989). Research has suggested gender differences in coping strategies (Matud, 2004; Banyard 1993). In conclusion, this study seeks to understand the stressors and traumatic events experienced by women related to coping strategies and supports. By exclusively focusing on women, this study highlights the gender roles at play and the relative differences between stressors experienced by men and women.

CHAPTER 3 | METHODS

3.1 Introduction

This research is part of a larger study of women's mental and reproductive health in Léogâne Commune. The larger study was conducted by researchers at Duke University and Emory University. The goal of the larger study was to inform the adaptation of a mental health and reproductive health intervention for use by the partner organization, Family Health Ministries (FHM). The goal of this study was to understand how coping strategies and supports ameliorate the mental health impacts of stressors and traumatic events among women living in Léogâne Commune utilizing both quantitative and qualitative methods.

3.2 Research Design

The study was a mixed methods study consisting of in-depth interviews (N=8) and a survey questionnaire (N=198). Data collection followed a triangulation design. Analysis followed a sequential explanatory design. Sequential explanatory design consists of a two-phase design in which the quantitative data is analyzed first, followed by qualitative data analysis (Creswell, 2003). Survey questionnaires were conducted among adult women to identify the relative importance of stressors, coping strategies, and associations between mental health outcomes. In addition, surveys assessed the experience of depressive symptoms, anxiety symptoms, and traumatic events. Analysis of quantitative data consisted of constructing linear regression models assessing the relationship between predictor variables (stressors, coping strategies, and experience of traumatic events) and mental health outcomes. In-depth interviews were conducted among adult women to further explore women's experiences of stressors, supports, and coping strategies. Analysis of in-depth interviews consisted of establishing inter-coder agreement, coding of transcripts, and analyzing results through thematic analysis including thick descriptions of central themes.

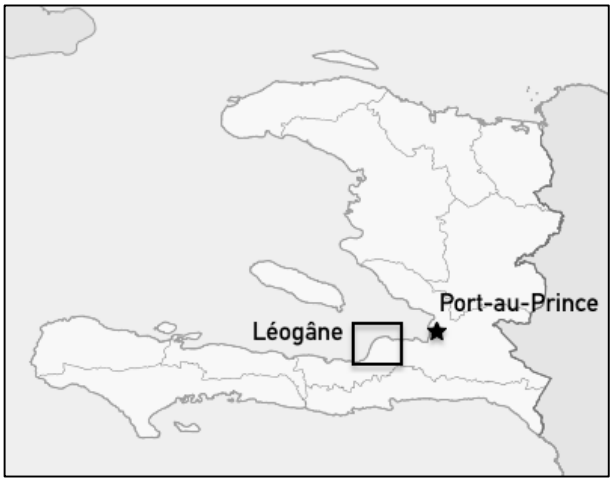
3.3 Study Setting

Léogâne Commune, Haiti was chosen as the study site for this research. The site was chosen based upon its proximity to the in-country host organization, Family Health Ministries (FHM). FHM is a small local non-governmental organization that has been operating in the region for approximately 20 years (Family Health Ministries, 2017). FHM engages in a variety of public health programs in Léogâne Commune and several locations throughout Haiti including Port-au-Prince and Fondwa, a small rural community south of Léogâne. FHM's public health programs consist of staffing and operating medical centers, vaccination campaigns, and conducting research on health outcomes such as cervical cancer.

Léogâne Commune is one of the 140 communes of Haiti, located approximately 18 miles west of the Haitian capital of Port-au-Prince in the Ouest Department (Institut de Statistique et d'Informatique, 2009). The commune consists of three lowland urban sections, located on the coast, and ten mountainous rural sections, spread out over 25,000 acres stretching south toward Jacmel. The commune has a population of approximately 97,000 inhabitants. A former French colonial town, Léogâne has long been the center of a predominantly agricultural region. Léogâne's economy has been driven by its offshore fishery and the growing of sugarcane, fruit, and other crops.

Léogâne Commune was a site of interest because it was the epi-center of the 2010 earthquake (DesRoches et al. 2011; Pillardy n.d.). As a direct result of the 2010 earthquake, the region is thought to have a population that experiences a high prevalence of mental health disorders (Urrutia et al., 2013). Léogâne suffered catastrophic damage from the earthquake and areas remain under construction today. It is estimated that 80-90% of buildings in Léogâne were critically damaged or destroyed (DesRoches et al., 2011).

Figure 1. Map of Haiti



Research area indicated with black square.
Port-au-Prince indicated with black star.
(Location Map Haiti, Wikipedia).

3.4 Population and Sample

Qualitative Population and Sample

A total of eight (N=8) women were interviewed for this study. The sampling strategies used for semi-structured in-depth interviews were purposive and snowball sampling. Purposive sampling is a non-probability sample in which participants are selected based on characteristics of a population and the objective of the study (Lavrakas, 2008). Snowball sampling consists of asking study participants to recruit other study participants. Inclusion criteria for the semi-structured in-depth interview component consisted of being a female age 18 years or older and living or working within Léogâne Commune. Participants were recruited through their affiliation with FHM programs, their role in the community as medical provider or their role working closely with women experiencing stress or trauma. "Laywomen" were also interviewed to gain the experience of common women living in Léogâne.

Quantitative Population and Sample

A total of 198 women were surveyed for this study. Participants were recruited from four regions within Léogâne Commune: Belsal, Ca Ira, Bois Lame, and Fond-Sable. These four regions were randomly selected by overlaying a grid on a map of the commune and using a random number generator to select grid spaces. Selected regions represented both rural and urban districts within Léogâne Commune. Survey participants were identified through a modified version of the WHO "random walk" protocol (WHO, 1991). The "random walk" protocol is a door-to-door recruitment strategy used to approximate a random sample of participants. The protocol involves walking to a selected home and continuing the walk by selecting every *n*th home for data collection. Haitian bilingual research assistants (RAs) began the recruitment protocol by selecting a home as a start point within one of the four designated regions. RAs conducted data collection by walking in opposite directions and selecting every 3rd home as a site for data collection.

3.5 Instruments

Quantitative Instrument

Several components of the survey had been through a rigorous development and adaptation process. The remainder of the survey was developed in English, translated into Haitian creole and translated back for accuracy. The translated version was also reviewed against the English version by RAs prior to initiating data collection. The survey included two questionnaires measuring participants' demographic information and socio-economic status, two scales measuring anxiety and depression, and two scales assessing participants experience of stressors and use of coping tools and techniques. All predictors (trauma, stressors, coping) were

recoded into a dichotomous scale, 0=no experience, 1=experience. Sum scores of the following indices were created: ZLDSI (Depression Index), BAI (Anxiety Index), Trauma (Trauma Index), Stressors (Stressors Index), and COPE (Cope Index).

The first component of the survey was a demographic questionnaire (Appendix B). This questionnaire elicited information about age, sex, education, religion, income, land ownership and personal and family characteristics. The second component of the survey measured participants' socio-economic status (SES) (Appendix C). This questionnaire collected information of participants' housing material and material possessions (Kaiser, 2015).

The survey included two inventories measuring depression and anxiety: the Zanmi Lasante Depression Symptom Inventory (ZLDSI) and an adapted version of the Beck Anxiety Inventory (BAI) (Appendix D; Appendix E). The ZLDSI was produced by Ramussen et al (2015) and is a 13-item screening measure in Haitian Creole of depressed mood and vegetative symptoms. This scale will be referred to as the "ZLDSI." The ZLDSI consisted of 13 items aimed at measuring participants' experience of depressive symptoms (see Figure 2). Cronbach's alpha for the ZLDSI was 0.92. Each item was given a weight of 1 point and the total accumulation of points served as the participant's sum score. The BAI (Beck Anxiety Inventory), created by Aaron T. Beck and colleagues, is a 20-question multiple-choice self-report inventory used for measuring anxiety in children and adults (Beck et al., 1988; Leyfer et al., 2006). This scale will be referred to as the "BAI" (see Figure 3). Cronbach's alpha for the BAI was 0.94. Each item was given a weight of 1 point and the total accumulation of points served as the participant's sum score.

The survey included a stressors inventory that was developed based upon prior free listing conducted by the research group one year prior (Appendix F). This inventory included

questions about the experience of daily stressors such as taking care of children, experiencing jealousy or economic hardship. The stressors inventory will be referred to as the "Stressors Index." The Stressors Index consisted of 15 items aimed at assessing different stressors experienced by the participant every day or almost every day (see Figure 5). Chronbach's alpha for the Stressors Scale was 0.94. Each item was given a weight of 1 point and the total accumulation of points served as the participant's sum score.

In addition to stressors, participants were surveyed on their experiences of traumatic events including experience of a car accident, rape, or losing your whole harvest. This traumatic events inventory was developed by Kaiser (2015) and piloted in a Haitian context. The traumatic events inventory will be referred to as the "Trauma Index." The Trauma Index consisted of eight items aimed at assessing if participants had ever experienced events including rape, robbery or a grave illness (see Figure 4). Chronbach's alpha for the Trauma Scale was 0.71. Each item was given a weight of 1 point and the total accumulation of points served as the participant's sum score.

The final component of the survey instrument was the COPE inventory, which measured coping strategies of women. The COPE Inventory, developed by Carver (1989), is designed to measure how people respond when they confront difficult or stressful events in their lives (Carver et al. 1989; Carver, 2013; Appendix G). The inventory is designed to measure conceptually distinct aspects of problem-focused coping, emotion-focused coping and coping responses that are arguably less useful (Carver et al., 1989). The COPE inventory has been adapted into different contexts (Li et al. 2017). This inventory was translated into Haitian Creole and adjusted through working with the RAs to understand which questions would not be culturally relevant. The COPE inventory was piloted using cognitive interviewing. Cognitive

interviewing consists of asking the participant a survey question and then asking the participant to rank how well they understood the question (Willis, 1999). The final edited version of the COPE Inventory (Figure 8) was then added to the finalized survey. The edited version of the COPE Inventory will be referred to as "COPE." COPE consisted of 29 items measuring participants' use of coping mechanisms (see Figure 6). Cronbach's alpha for the Cope Scale was 0.94. Each item was given a weight of 1 point and the total accumulation of points served as the participant's sum score.

Qualitative Instrument

The in-depth interview guides (Appendix A) were developed by the research team and piloted prior to use in the field. The in-depth interview guide was designed to illicit responses regarding coping strategies utilized by women and women's experiences of stressors. In-depth interview guides included open-ended questions designed to facilitate conversation and nuanced perspectives from participants.

3.6 Data Collection

Quantitative Data Collection

Surveys were piloted in a local community (N=30) before being adapted for use by the research team. Adaptation consisted of rephrasing of questions to account for proper translation and cutting items that were not culturally relevant. A portion of the survey, the COPE inventory, was piloted using cognitive interviewing. Items that were not understood by over 50% of participants were removed from the final version of the inventory. Survey data collection was conducted by RAs in Haitian creole. Participants were read the consent form by the RAs in Haitian creole. Upon giving their consent, participants were read the survey in Haitian creole and prompted for their responses. Responses were recorded on paper by RAs.

Qualitative Data Collection

In-depth interview guides were piloted (N=2) in a local community in close proximity to FHM programs. Upon completion of the pilot in-depth interviews, interview questionnaires were reviewed and edited by the research team. This editing process included rephrasing questions and improving translations to accurately represent the questions in Haitian creole. In-depth interviews were then conducted with participants who met the inclusion criteria for the study (N=8). Participants for the in-depth interviews consisted of female key informants who were considered particularly knowledgeable about women's experiences of daily stressors. Key informants consisted of female community health workers and community leaders who lived or worked in Léogâne Commune. Interviews took place in the participant's home or place of work. Participants were read the consent form by an RA in Creole before being prompted for their responses. Interviews were conducted by student researchers using RAs as translators. Responses were recorded on a voice recorder and student researchers took detailed notes during the interviews.

3.7 Data Entry and Analysis

Quantitative Data Entry and Analysis

Survey responses were recorded on paper and de-identified. De-identified surveys were then entered separately into an excel spreadsheet by two student researchers. The recorded responses were then compared to one another to ensure consistency in reporting of data. Discrepancies in the data were checked and discussed amongst the research team. A final survey data set was uploaded to *SAS 9.4* (Cary, North Carolina) software for data cleaning and analysis. Descriptive statistics for the demographic information (Table 1.a; Table 1.b) were calculated

using the univariate and frequency procedures (SAS Institute Inc.). Questions in the indices are noted in the figures below:

Figure 2. **Depression Index**
During the past 2 weeks, how many times did ___ tire/fatigue you?
You feel de la la (down, depressed, fatigued)
Your heart feels tight
Thinking too much
Crying or wanting to cry
Feeling less interested in everything
Feeling down, discouraged, or hopeless
Have difficulty falling asleep
Feeling tired or lacking strength
You don't have an appetite
You feel bad about life or uncomfortable with yourself
Moving or talking less than usual, so other people notice
You say to yourself: it's better if you died or did yourself harm
Difficulty sleeping without waking early

Figure 3. **Anxiety Index**	
During the past 2 weeks, how often did you experience ?	
Can't feel your hands (numb)	Feel you are choking
Your body is hot without it being hot outside or without being sick	Your hands tremble
Your legs temble	Your whole body tembles
You can't relax	Losing control
Fear of bad things happening	Respiratory problems
Dizziness or vertigo	Fear of dying before your time
Racing heart	Afraid
Unsteady	Stomach/abdominal pain
Very afraid	Fainting
Feeling pressure	Sweating

Figure 4. **Trauma Index**
Have you ever experienced ___?
Motorcycle or car accident
House fire
Mudslide
Grave illness
Loss of whole harvest
Rape
Robbery with a weapon
Witness a person shot or cut

Figure 5. **Stressors Index**	
Do you experience ____?	
Illness	Husband beating you
Lack of support system	Having too many children
Not having enough food	Death of children's father
Paying for healthcare	Life problems
Husband making you jealous	Thinking too much
Not having enough work	Looking for healthcare
Taking care of children	Children's Health
Insecurity	

Figure 6. **Cope Index**	
When experiencing a problem or difficulty, how do you deal with it?	
I work/sing/dance or do other things to take my mind off the problem	I act as though it has not happened
I get upset and show my emotions	I learn from the experience
I seek advice from someone about what to do	I pray more than usual
I work on doing something about it	I think that good can come from the situation
I put my trust in God	I get angry with other people
I laugh so I feel better	I laugh about it so people don't know my affairs
I discuss my feelings with someone	I ask my pastor or a community leader for help or advice
I use alcohol or drugs to make myself feel better	I decide what I am going to do about it
I make jokes with friends	I forget about the situation completely
I sleep more than usual	I tell stories with friends or relatives
I stop trying to get what I want	I have sex to take my mind off the situation
I think of the best way to handle the problem	I accept that the problem cannot be changed
I ask people in the same situation what they did	I neglect my cooking/cleaning/children
I learn to live with it	I think too much
I put other activities aside to focus on the situation	

The bivariate relationship between individual predictor variables and mental health outcomes were calculated using a two sample T-test. Significant predictors were identified, yet all predictors were still included in creating the indices based on theoretical grounds. Using the regression procedure, the trauma index, stressor index and COPE index were modeled on the mental health outcome of depression while accounting for individual's age and educational attainment modeled categorically. This process was repeated for the mental health outcome of anxiety. Additionally, an interaction effect was evaluated between coping and trauma and coping and stress in both mental health models.

Qualitative Data Entry and Analysis

Data entry forms were created on google drive documents by the research team prior to data collection. In-depth interviews (N=8) were recorded in Haitian creole and transcribed into English by Haitian RAs and student researchers. All transcriptions were read a second time while listening to the audio recording to verify accuracy. Transcripts were then de-identified. De-identified English transcripts were entered into data entry forms on google drive documents. The study utilized thematic analysis, therefore the data were analyzed on an ongoing, iterative basis to develop a summary of common themes. Thematic analysis is one of the most common forms of analysis in qualitative research and emphasizes pinpointing, examining, and recording patters or "themes" within data (Guest, 2012; Braun, 2006). To begin data analysis, the 8 de-identified English transcripts were entered into *MAXQDA12* software. Transcripts were read and memoed to initially capture broad themes and describe preliminary thoughts of behaviors seen within each interview. Memos then informed the creation of a codebook by the research team (Appendix H). The codebook included both deductive (derived from the literature and survey data) and inductive (derived from the data) codes. Inter-coder agreement was established through two

researchers coding the same transcripts independently from each other while using the identical codebook. Inter-coder agreement levels were checked in *MAXQDA12* software. Inter-coder agreement was established at an inter-coder agreement percentage of 0.80 after the 4th iteration of independent coding. Transcripts were then coded using the codebook. Transcripts were coded and analyzed upon completion and analysis of the survey, following the sequential explanatory model. Thematic analysis was conducted and included developing written summaries of codes and establishing comparisons between themes.

3.8 Data Management and Ethics

Upon electronic entry of data, hard copies of free listing responses, surveys, and completed notes from in-depth interviews and focus group discussions were stored in a locked file cabinet. All materials were de-identified to maintain confidentiality. Surveys were double entered by student researchers to ensure consistent recording of the collected data. This study was approved by Institutional Review Boards of Duke University and Family Health Ministries. All study participants verbally consented prior to survey data collection. No compensation was provided for participation. Participants reporting current suicidal ideation were referred for psychosocial services if deemed appropriate by the PI.

CHAPTER 4 | RESULTS

4.1 Quantitative Results

Descriptive Analysis

Sample

The demographic and behavioral characteristics of the sample are summarized in Table 1.a. A total of 198 female participants were surveyed for this study. Participants were approximately equally surveyed from the four indicated regions of Léogâne Commune. The mean age of the participants was 34.64 years (SD=12.09) with the youngest participants being 18 years and the oldest being 76 years. The mean number of people residing in the home was 5.43 (SD=2.2). The mean number of children was 2.29 (SD=1.67). The mean time it took for participants to reach a clinic was 31.49 minutes (SD=34.29). A majority of participants (N=199, 60.41%) indicated that their primary religion was Catholic. Approximately 19% of participants indicated that their religion was Protestant. A much smaller percentage indicated that Vodou was their primary religion (13, 6.6%). Approximately 15% (30) participants indicated that they had received no formal education. Approximately 40% (79) participants of participants had received some post-secondary schooling including attending some university or completing university.

Experience of Trauma and Stressors

Participants experience of trauma and stressors are summarized in Table 1.c. Out of the eight items inquired about for the Trauma Scale, participants experienced an average of three (Range: 0-8) (see Table 1.b). The most common traumatic events experienced by participants were motorcycle or car accident (67.17%) witnessing a person being shot or cut (46.97%) and experiencing a grave illness (46.46%) (see Table 1.c). Participants indicated a high level of stressors experienced with participants experiencing an average of 11 (Range 0-15) (see Table

1.b). The most commonly experienced stressors were life problems (94.44%), thinking too much (93.94%), illness (91.92%) and looking for healthcare (91.92%) (see Table 1.c).

Bivariate

A T-test was conducted to examine each stressor and traumatic event independently on the mental health outcomes of interest. This was conducted to explore the significance of specific stressors. Several of the stressors were statistically significant. These included: not having enough food, death of children's father, husband making you jealous, taking care of children, and having too many children. Not having enough food and death of children's father were associated with a higher depression score. Overall, there was a Pearson's correlation of 0.13 between the total number of stressors and the ZLDSI (Depression) score. Husband making you jealous, taking care of children, and having too many children were associated with a higher score on the Anxiety Index. Overall there was a Pearson's correlation of Several of the traumatic events were also statistically significant. These included: loss of whole harvest and house fire. Loss of whole harvest was associated with higher anxiety and depression scores whereas house fire was associated with only higher anxiety scores. Despite few being found significant, all stressors and traumatic events were incorporated into the total index scores.

Linear Regression

Table 2.a represents the model assessing the relationship between the number of traumatic events experienced, the number of stressors experienced, and the number of coping mechanisms used on an individual's score on the ZDLSI (Depression) Scale, while controlling for age and educational attainment. Other than education attainment at the primary level, none of the other predictors were significantly associated with depression. This table also examines the interaction of coping on stress and on depressive symptoms, however the interaction is not

significant. The intercept value in this table is interpreted as an 18-year-old individual who has experienced 0 traumatic events, 0 stressors, and relies on 0 coping mechanisms has a baseline depression score of 11.35 (Range: 0-13). An individual's depression score increased by 0.30 points, on average, for each additional traumatic event experienced controlling for the number of stressors experienced, the number of coping mechanisms use, age, and educational attainment. An individual's depression score increased by 0.18 points, on average, for each additional stressor experienced. An individual's depression score increased by 0.09 points, on average, for each additional coping strategy used. Age was protective against depression. However, this was not statistically significant. An individual's ZLDSI (Depression) Index score decreases by 0.06 points, on average, for each 1-year increase while controlling for number of traumatic events, number of stressors experienced, the number of coping mechanisms used, and educational attainment. An individual's depression score increased by 0.09 points, on average for each additional coping strategy used, though this result was not significant. Education was also protective against depression. An individual with no education had an increase in ZLDSI (Depression) Index score by 2.45 points compared to those that completed post-secondary schooling, while controlling for number of traumatic events experienced, number of stressors experienced, number of coping mechanisms used, and age.

Table 2.b represents the model assessing the relationship between the number of traumatic events experienced, the number of stressors experienced, and the number of coping mechanisms used on an individual's score on the BAI (Anxiety) Index, while controlling for age and educational attainment. Similar to the analysis of depressive symptoms, the interaction of coping on stress and on anxiety symptoms was not significant. Other than education attainment at the primary level, none of the other predictors were significantly associated with anxiety. The

intercept value in this table is interpreted as an 18-year-old individual who has experienced 0 traumatic events, 0 stressors, and relies on 0 coping mechanisms has a baseline depression score of 8.30 (Range: 0-21). In the model not assessing for interaction, only the trauma index score and the stressor index score were statistically significantly associated with the outcome of anxiety. An individual's anxiety score increased by 0.89 points, on average, for each additional traumatic event experienced controlling for the number of stressors experienced, the number of coping mechanisms use, age, and educational attainment. An individual's anxiety score increased by 0.58 points, on average, for each additional stressor experienced. Both these associations were significant. An individual's anxiety score increased by 0.07 points, on average for each additional coping strategy used, though this result was not significant. Both age and education attainment were protective against anxiety.

Table 1.a Demographic characteristics of survey respondents (N=198)

	Mean	SD
Age	34.64	12.09
Number in house	5.43	2.20
Number of children	2.29	1.67
Time to clinic	31.49	34.29
	N	**%**
Religion		
Catholic	119	60.41
Protestant	38	19.29
Baptist	19	9.64
Vodou	13	6.60
Episcopalian	6	3.05
Other	2	1.02
Locality		
Belsal	48	24.28
Ca Ira	54	27.27
Bois Lame	50	25.25
Fond-Sable	46	23.23
Education		
No education	30	15.38
Primary	53	27.18
Secondary	33	16.93
Post-secondary	79	40.52

Table 1.b Basic Descriptive Statistics and Cronbach's Alpha

Variable (Range)	M	SD	α
Trauma Score (0-8)	2.82	2.04	0.71
Stressor Score (0-15)	11.18	3.11	0.94
Cope Score (0-29)	24.29	5.10	0.88

Table 1.c Trauma and stressors experienced by survey respondents (N=198)		
	N	%
Number of traumatic events experienced		
Motorcycle or car accident	133	67.17
House fire	75	37.88
Mudslide	60	30.3
Grave illness	92	46.46
Loss of whole harvest	61	30.81
Rape	1	0.51
Robbery with a weapon	44	22.22
Witness a person shot or cut	93	46.97
Number of stressors experienced		
Illness	182	91.92
Lack of support system	176	88.89
Not having enough food	176	88.89
Paying for healthcare	164	82.83
Husband making you jealous	94	47.47
Not having enough work	180	90.91
Taking care of children	165	83.33
Insecurity	178	89.9
Husband beating you	55	27.78
Having too many children	65	32.83
Death of children's father	53	26.77
Life problems	187	94.44
Thinking too much	186	93.94
Looking for healthcare	182	91.92
Children's health	171	86.36

Table 2.a Multivariable Regression of Factors Related to Depression

		Direct			Interaction A			Interaction B	
Intercept	11.35								
Predictor	**β**	**95% CI for p**	**SE**	**β**	**95% CI for p**	**SE**	**β**	**95% CI for p**	**SE**
Trauma	0.30	-0.30, 0.90	0.30	-0.75	-2.92, 1.42	1.09	0.32	-0.28, 0.92	0.30
Stress	0.18	-0.20, 0.55	0.19	0.21	-0.17, 0.59	0.19	-0.19	-0.10, 0.62	0.41
Coping	0.09	-0.00, 0.19	0.05	0.03	-0.13, 0.19	0.08	-0.02	-0.24, 0.21	0.12
trauma*coping				0.02	-0.02, 0.07	0.02			
Stress*coping							0.01	-0.01, '-0.03	0.01
Age	-0.06	-0.17, 0.05	0.06	-0.04	-0.15, 0.08	0.06	-0.05	-1.68, 6.24	0.06
Education									
No education	2.45	-1.50, 6.40	2.00	2.19	-1.79, 6.17	2.02	2.28	-1.68, 6.24	2.01
Primary	5.03*	2.16, 7.91	1.50	5.04*	2.17, 7.91	1.46*	5.00	2.13, 7.88	1.46
Secondary	-0.33	-3.52, 2.85	1.61	-0.26	-3.45, 2.93	1.62	-0.18	-3.38, 3.01	1.62

$p \leq .05$

Table 2.b Multivariable Regression of Factors Related to Anxiety

		Direct			Interaction A			Interaction B	
Intercept	8.30								
Predictor	**β**	**95% CI for p**	**SE**	**β**	**95% CI for p**	**SE**	**β**	**95% CI for p**	**SE**
Trauma	0.89*	0.00, 1.77	0.45	1.68	-1.53, 4.90	1.63	0.88	-0.01, 1.77	0.45
Stress	0.58*	0.03, 1.13	0.28	0.55	-0.01, 1,12	0.29	0.69	-0.52, 1.89	0.61
Coping	0.07	-0.07, 0.21	0.07	0.12	-0.12, 0.35	0.12	0.10	-0.24, 0.44	0.17
trauma*coping				-0.01	-0.09, 0.05	0.04			
Stress*coping							0.00	-0.03, 0.03	0.02
Age	0.03	-0.14, 0.19	0.08	0.01	-0.16, 0.18	0.09	0.02	-0.24, 0.19	0.08
Education									
No education	1.00	-4.82, 6.82	2.95	1.19	-4.69, 7.07	2.98	1.05	-4.81, 6.91	2.97
Primary	2.63	-1,62, 6.88	2.15	2.62	-1.63, 6.88	2.16	2.65	-0.62, 6,91	2.16
Secondary	-2.21	-6.91, 2.48	2.38	-2.28	-6.99, 2.43	2.39	-2.26	-6.99, 2,47	2.40

$p \leq .05$

Table 3. Correlations Between Predictor Variables

	Trauma Score	Stressor Score	Cope Score	Age	Education
Trauma Score					
Stressor Score	0.15				
Cope Score	-0.06	0.36			
Age	0.32	0.04	-0.12		
Education	-0.31	-0.10	0.12	-0.49	

Table 4. Correlations Between Outcome and Predictors

	ZLDSI (Depression) Score	BAI (Anxiety) Score
Trauma Score	0.05	0.18
Stressor Score	0.13	0.2
Cope Score	0	0.04
Age	0	0.1
Education	-0.18	-0.15

4.2 Qualitative Results

Sample

Among the 8 participants, ages ranged from 30-60 years. Participants in in-depth interviews included healthcare workers, religious and community leaders and those who worked closely with women experiencing stress or trauma. Participants also included "laywomen," or women who represented the average person living and working in Léogâne Commune. Jobs held by participants included a nurse, protection officer with the police department, and a beautician. Participants were recruited from all areas of Léogâne Commune.

Analysis of Themes

The following are themes that emerged through thematic analysis: child-related stressors, male-related stressors, economic stressors, reproductive health, community support, and coping/self-support. For this study, a sub-set of themes was included. These themes were divided into two distinct categories: A) women's experience of stressors and traumatic events, and B) coping strategies and supports (see Figure 9, Figure 10). Each theme will be described in detail below.

Experience of Stressors and Traumatic Events

Child-related Stressors

Respondents often discussed stress associated with having *"too many children."* Respondents noted that children were frequently viewed as *gifts from God*, but when a woman could not afford to provide financially for her many children, this caused her to feel stress. Providing financially for children included a range of aspects, but was most often described in reference to providing adequate nutrition, providing healthcare when the child was sick, and

providing an education for the child. When a woman was unable to provide for their child in these three key ways, it resulted in them experiencing significant stress.

Figure 9. **Women's Experience of Stressors and Traumatic Events**	
Child-related Stressors	*"…the person sees that she has a lot of children and they get up in the morning and sometimes she doesn't give that child anything, sometimes the mother really feels sad and that child comes and says "mother, I'm hungry," and she doesn't see where to knock (where to beg)." (Female, 20s)*
Male-related Stressors	*"It may be her husband that is giving her problems like beating her and treating her badly. For example, telling her,'k'ap dil de pwopo' (telling her bad words). This may cause her to be stressed and if it happens that she is married to this person and they have children that they are raising together, she maybe doesn't want to separate, she may just want to manage this stress and this relationship." (Female, 50s)*
Economic Stressors	*I have this trade in my hands. I now work to make money because I have a trade, which gives a lot of money. It makes you think when you are sitting down and you are doing nothing. I think it's that which gives women stress because I had stress a lot. (Female, 20s)*
Reproductive Health Experience	*"Like the women, who are pregnant especially when they are having their first child, I think so, it's one of another factor again, which gives stress a lot. And then when she starts having some symptoms, she starts going to the hospital, starts suffering." (Female, 50s)*

As seen in the exemplary quote in Figure 9 for Child-related Stressors, not being able to provide adequate nutrition for a child was a significant source of stress. Respondents stated that women would feel guilty if they could not feed their children and would often resort to begging in order to provide food for their children. Having a sick child was also a source of stress, especially when a mother was unable to provide money for healthcare for the child. Lastly, education was also viewed as a necessity for children. Mothers who were unable to provide their children with an education would feel inadequate and therefore experience stress. Not being able to provide for children in the key ways described above was in direct conflict with the role of the

mother. Haitian mothers were often described as strong, caring individuals who wanted the best outcomes for their children. As children were viewed as *"gifts"* or *"gifts from God,"* not providing for them was associated with guilt and a sense that one did not fulfill her duty in the eyes of God. It was noted that women often saw a reflection of themselves in their children. Therefore not being able to adequately provide for one's children was considered a reflection on the mother's character. The Haitian proverb, *"The child of a tiger is a tiger"* illustrates respondents' views towards mothering. This proverb means that whatever a parent is, the child will become. This implies that if the child is not provided for or does not have opportunities for advancement in life, this is a reflection on the mother. In some cases, it was noted that when faced with not being able to provide for their children, mothers would give their them away to another family. This practice only caused increased stress among mothers. Instances of having a strained relationship with a child were also mentioned by respondents. Another cause of child-related stress occurred if the child had experienced problems at home or at school. As evidenced by the quote below, children's experience of mental illness or poor mental health was another cause of stress among mothers.

> *"It may be a mom that has a child and is giving her problems, like can't learn in school, or may have some kind of mental illness or it may be the way he lives his life, like for example, the way the mom wants to grow him up, that is not the path he chooses." (Female, 50s)*

Male-related Stressors

As men are traditionally the providers for a family, many male related stressors were tied to resource availability for women. Respondents noted that death of a male partner or loss of a male partner's job is a source of stress for women, in part because the woman must find another means of providing for her family. This was discussed especially with regards to when a man leaves his female partner for another woman. This causes significant stress for the ex-partner,

especially when this process is repeated with several different male partners. When a man has multiple female partners or multiple children with different women, this was considered a cause of jealously and subsequently stress in women. Women also experienced male related stressors that were tied to inequality in their relationship. While this was sometimes linked to IPV, more generally it was discussed through an imbalance of power and control in the couples' relationship. For example, it was noted that men often had the ability to participate in leisure activities like spending time with friends whereas women were not afforded the same privilege. Participants reported that men could leave for work while women were stuck at home with the responsibilities of caring for children and other household chores. It was noted that many men still expected women to contribute financially to the home and that women often "*fè kòmes"* (do commerce) by selling goods in the town square. While male partners had the sole responsibility of providing financially for the family, females were required to navigate through the competing roles of being a wife, mother, and provider for the family. Another male-related stressor that was discussed was violence against women. Violence was discussed as both physical and verbal or psychological abuse. The quote in Figure 9 for Male-related Stressors exhibits the complexity of IPV in relationships with men. It was noted that while women may want to leave their partner as a result of experiencing IPV, they may choose to remain with their partner for a variety of reasons including economic stability. Experiencing IPV in a relationship was a significant source of male-related stress experienced by women.

Economic Stressors

Respondents described financial problems as an omnipresent source of stress in women's lives. Economic stress had direct ties with both child-related and male-related stressors, as financial insecurity resulted in women being unable to provide for their children and made them

more reliant upon male partners. Respondents stated that not having enough "*economic means*," contributed to a cycle of poverty and stress for women. Respondents also described that not being able to find a job was another source of significant stress for women. As illustrated in the exemplary quote in Figure 9 for Economic Stress, jobless women were described as having too much time available to think. *"Reflechi twòp,"* or thinking too much, is an idiom of distress noted by Kaiser (2015) and refers to rumination causing stress. According to Kaiser (2015), Reflechi twòp refers to intense rumination, diminished affect, and social isolation, sometimes in response to personal loss. It is often the manifestation of prolonged sadness and is thought to sometimes lead to fou (literally "crazy," psychosis) if allowed to occur for an extended period.

Reproductive Health Experience

There were several components of reproductive health experiences highlighted in the data as related to women's stress. Women's fertility or the role of having children was often linked to her value within a community. Having children was considered by participants as a woman's primary duty or purpose. Not being able to fulfill this ideal was both traumatic for women and a source of stress. Several participants noted that miscarriage or experiencing infertility was particularly traumatic for women because it directly conflicted with their expected role of becoming a mother. While not being able to give become pregnant or give birth was a source of stress among women, labor was also described as a significant stressor for women. This was mentioned in relation to not being able to afford reproductive healthcare. Participants discussed that not having access to free quality reproductive healthcare caused women to worry about their health and the health of their unborn child. The pain and complications associated with childbirth were also mentioned by respondents. As illustrated in the quote below, giving birth to one's first child was described as a potentially traumatic experience.

"Like the women, who are pregnant especially when they are having their first child, I think so, it's one of the factors again, which gives a lot of stress. And then when she starts having some symptoms, she starts going to the hospital, starts suffering." (Female, 50s)

The concept of reproductive autonomy and reproductive decision-making was also discussed by respondents. Reproductive autonomy refers to having the power to decide and control contraceptive use, pregnancy and childbearing (Bixby Center for Global Reproductive Health). Respondents described that a lack of reproductive autonomy was associated with stress. Respondents felt as though women had access to contraception through free clinics, but were not always able to negotiate using contraception effectively with their male partners. Respondents noted that some older women used traditional herbal methods of birth control and were slow to embrace new methods such as birth control pills. The lack of control over one's reproductive health caused stress through women being unable to decide when and how many children they want to have. Respondents also noted that young women, or women still in school, were particularly susceptible for experiencing stress after getting pregnant. Respondents described these younger women being worried about what their family and community might think of them becoming pregnant.

Coping Strategies and Supports

Community Support

Community support was often discussed in the context of education opportunities or skills-based learning opportunities for women and girls. Education was referenced as a means of overcoming a range of problems experienced by women, including alleviating the negative impacts of stress and trauma. Education and skills-based learning opportunities were described as providing an opportunity for women to learn a skill and facilitating a social support network.

Examples of such opportunities included those focused on educating the women about health issues, most often reproductive health concerns.

Figure 10. **Coping Strategies and Supports**	
Community Support	*"They talk to each other, support each other. Women I think are there for friendship, communication, and community support. They have a lot of community support and I think that's what's different from the city. In the city people don't have that kind of closeness, but in the provinces, it is different. You have the community support." (Female, 60s)*
Coping/Self-Support	*"It's just your world, you are used to it and you must live with it. Yeah, you live with it. Some of them check with friends, family. They try the best that they can because there is no one who is going to take them out of the situation. There is no father with a good heart (meaning someone who is sensitive, who will take you out of the situation). Yeah, you just live with it." (Female, 50s)*

These groups were often associated with churches. The church was considered a major form of community support by participants, as illustrated in the quote below.

> *"You can enter a women's group and other groups they may have. Because once you enter the group, you will have a support system, like churches." (Female, 40s)*

Community support was also associated with money or group fundraising efforts. Many participants spoke of instances of raising funds for a member of the community who was undergoing a hardship or challenge.

> *"There are some people, if they don't have access to go the hospital, the people in the community raise money because they don't want the person to die so they send the person to the hospital or they may put together, because sometimes I see people who cannot afford to go to the hospital, but they take them and send them to the hospital." (Female, 30s)*

Group support in the form of family meetings and talks was also discussed regularly. These were used as a form of problem solving or talking through the problem and social support.

"They talk to each other, support each other. Women I think are there for friendship, communication, and community support. They have a lot of community support and I think that's what's different from the city. In the city people don't have that kind of closeness, but in the provinces, it is different. You have the community support." (Female, 60s)

Coping/Self-Support

The Coping/Self-Support code came up in the data primarily through positive forms of coping or supporting oneself. A majority of participants seemed to recount that women tended to "just get on with things" or make it through difficult situations or circumstances in their lives. The quote for Coping/Self-Support in Figure 10 illustrates how women in stressful or challenging situations tend to rely on themselves in order to survive the situation. While they sometimes might resort to the support of close friends or family members, respondents stated that Haitian women were both *"strong"* and *"independent."* As evidenced in the quote below, women also relied on hope or the belief that their situation could be improved.

"They don't know anything else. They need first education, and second, they need to see how things can function in another way. So, they can see the difference. And I believe when they see the difference, they can ask or force the government to give us a good healthcare. But if they don't know something else, and if they don't have the education to ask for their rights, they don't." (Female, 40s)

This quote summarizes how women use agency as a means for overcoming the stress of their current situation. Women's agency refers to women's ability to make effective choices and to transform those choices into desired outcomes (World Bank; Charrad, 2010). Other positive forms of coping included humor, relying on partner or community support or attending support groups and classes. Classes and groups were usually brought up as a means for women to make money through learning a trade or engaging in commerce. A lack of self-support or women's

inability to support themselves was also discussed in the data. However, the strength, independence, and resourcefulness of Haitian women to support themselves was more prevalent in the data. Negative coping strategies such as tobacco or alcohol use were mentioned, though not frequently.

4.3 Qualitative and Quantitative Analysis

Following triangulation data collection, quantitative data was collected to understand the extent to which women experienced stressors and utilized coping strategies. Qualitative data was collected and analyzed. Analysis followed a sequential explanatory design to explore the extent to which themes from the quantitative data were reflected in the qualitative findings. The qualitative data collected in this study was highly reflective of quantitative findings on both stressors and coping strategies and supports.

In both the qualitative and quantitative findings, participants presented a series of stressors encountered in women's daily lives. These stressors included taking care of children, lack of access to healthcare, experiencing financial insecurity, and relationship problems. Traumatic events as causes of stress were also highlighted. These included experience of natural disaster, experience of violence or experience of an accident or grave illness. Stressors are described in detail below according to data collected from both the qualitative and quantitative measures.

Quantitative data showed that "taking care of children" was a stressor experienced by 83% of participants (Table 1.c). Additionally, "having too many children" was a stressor experienced by approximately 34% of participants (Table 1.c) This is reflected in the qualitative findings in that respondents noted that not being able to adequately provide for one's children being a source of stress for women. Qualitatively, women's stress was also related more

generally to their role as a mother and being both a care-taker and a provider for children. When women were not able to effectively fulfill this role, this caused them to be stressed. In some cases, women chose to give their children to other families. This was associated with increased feelings of quilt and stress in the qualitative data.

A lack of access to healthcare was described in reference to both children's healthcare and reproductive healthcare through the qualitative data. These results are consistent with quantitative findings in that "looking for healthcare" was a source of stress for approximately 93% of participants. Qualitative respondents noted that not being able to find healthcare was often a result of not being able to afford quality healthcare or not being able to afford transportation to healthcare. It was described that women felt stressed when they were unable to afford adequate medical care for their children. Similarly, not being able to acquire proper reproductive healthcare caused women to worry about their health and the health of their unborn child if they were pregnant.

Though the causes of women's stress were numerous, stress was often related to financial insecurity. Financial insecurity was associated with other stressors including caring for children, relationship problems, and lack of access to healthcare in the qualitative data. Survey results showed that approximately 30% of women indicated that they had experienced loss of their whole harvest. This traumatic event was associated with both higher anxiety and depression scores. Additionally, "not having enough work" was a source of stress for approximately 91% of survey participants (Table 1.c). Although women were said to depend on men for financial stability, they also participated in the economy through selling goods in the marketplace. Supplemental income provided by women was said to be used to benefit her children by paying for school tuition or uniforms. Survey data showed that approximately 27% of women reported

loss of children's father as a stressor they experienced (Table 1.c). This was associated with higher anxiety scores as exhibited in bivariate analysis. Qualitative findings illustrated dual causes of stress associated with losing a partner or children's father. While a traumatic and emotional event, losing a partner whom a woman had been economically dependent upon was an additional source of financial-related stress.

Relationship problems were a significant stressor present in women's lives and related to women's lack of financial stability. Qualitatively, respondents indicated that when a male partner abandoned a woman whom he was in a relationship with, this caused stress in his female partner. Survey results showed that approximately 43% of participants indicated that "husband making you jealous" was a cause of stress. Evidence of an imbalance of power dynamics within male-female relationships was presented in the qualitative data. This power imbalance was attributed to unequal responsibilities or work obligations among the couple.

IPV was another stressor experienced by women as noted in both qualitative and quantitative data. According to survey data, approximately 28% of participants indicated that "husband beating you" was a stressor they experienced (Table 1.c). IPV as a stressor was also noted by both men and women in the qualitative data. Respondents tended to describe IPV directly related to stress:

> *"For example, if there is a woman who is a victim of violence or who has an economic problem. All of this is how we encounter women with stress. Because sometimes there are women that are stressed, they don't have the means to help their family to make their home function." (Female, 40s)*

The following quote illustrates the complexity of abusive relationships. Although a woman might experience IPV in a relationship, she may remain with the partner for a variety of reasons including for financial stability:

"They are scared, they don't want to talk If they talk or if they go out, they are scared that the man will leave them, or he might do something to them." (Female, 50s)

A range of coping strategies used by women to mediate stress were found in the data. Coping strategies mentioned frequently within qualitative responses included those involving social support and personal resilience. Additional supports found in the data included obtaining financial security and reproductive autonomy. Reproductive autonomy was considered to be particularly important for young women in overcoming stress related to reproductive health and having too many children.

Evidence of the use of social support in overcoming stress can be seen in that 87% of survey participants indicated that they "discussed their feelings with someone" when experiencing a problem or difficulty. Qualitative data also pointed to women relying on talking with other women as a form of coping with stress. Respondents also noted that women focused on their own resilience as a form of coping. This is unsurprising when considering the quantitative results in that approximately 82% of participants reported they "learn to live with" the stress they are experiencing. Qualitative findings supported the notion that Haitian women often relied on their inner-strength and independence in overcoming stress.

Community support was linked to education programs in qualitative data. Survey results showed that higher levels of education was a protective factor against both anxiety and depression. This was reflected in the qualitative data wherein women tended to list education as associated with lower stress levels. Education was often noted as a positive coping strategy that would mediate the negative outcomes of experiencing traumatic events or poor mental health. Economic advancement was also described as a means to protect women against the negative results of stress. As higher education attainment is associated with higher income levels, this was

also reflected in the survey data. Qualitatively, education was referred to as a means of upward mobility or a "way out" of a current stressful situation:

> *"Like for instance, one family has like, she started having children when she was 14. She has now 11 children. Of the 11, 3 boys. The first one, had her first child also at 14. The second one has her, [name] now she has 5, the first one had 5 already. The second one had her first child at 15. She has 3 and I don't count the abortions. So, on the third one, which I, which I feel was very smart in school. So, I start paying her school when she was like 11-years-old. I took her in to break the cycle and she one of those you saw passing by earlier. She's 21 now and she finished school." (Female, 50s)*

CHAPTER 5 | DISCUSSION

As noted in prior research, women living in Haiti are vulnerable to a variety of stressors as the result of restrictive gender roles (Joshi et al. 2014; Logie et al. 2015; Conserve et al. 2016; Fwazi et al. 2005; Gage & Hutchinson, 2006). Both quantitative and qualitative findings provide evidence of the complex expectations placed on women in Haiti. Craan (2002) highlights the multiple responsibilities attributed to Haitian women as the *"poto mitan"* or central pillar of family life. As shown in the qualitative data, women were expected to participate in the economy while serving their family through being an ideal mother and wife.

The competing role expectations attributed to women is a source of role strain and subsequently, stress for women. Role strain is defined as a tension that occurs when an individual faces a single role having multiple demands (Goode, 1960). Spurlock (1995) asserts that women are likely to experience multiple roles, often several at the same time, for which different sets of responsibilities are designated. Evidence of women's experience of role strain is found in the study data. While quantitative results showed the range of stressors experienced by women including caring for children and providing financially for the family, qualitative data presented the notion that the competing demands of these varying obligations was an additional source of stress for women. For example, respondents noted that women would often have to contend with providing for their children financially and the tasks associated with being an ideal wife including completing housework such as cooking and cleaning.

Similar to the research on natural disasters and humanitarian emergencies WHO, 2013; Galea et al., 2007; Rhodes et al., 2010), a large percentage of the study population had experienced a traumatic event. 71 percent of survey participants reported experiencing at least one traumatic event and a majority of qualitative interviewees reported loss of loved ones as a

result of the 2010 earthquake. This trauma in particular was considered to be a cause of "thinking too much" and feeling depressed.

Contrary to results in other humanitarian settings (Marsh et al., 2006; Brennan et al., 2001), study results did not show a high rate of sexual violence, with only 1 participant indicating that they experienced rape. However, the low instance of rape within the study population may be the result of limitations in data collection. Participants may not have felt comfortable disclosing experiences of rape to a male research assistant. Participants indicated experience of non-sexual violence. Quantitative results showed that approximately 22% of participants indicated that they had experienced robbery with a weapon. In addition, approximately 93% of participants indicated that they had witnessed a person "shot or cut." Qualitatively participants disclosed their experiences of loved ones being murdered and seeing violence in their neighborhoods. Respondents noted that violence and fear of violence played a regular role in women's lives. This is consistent with statistics of violence in Haiti. In 2012, the United Nations office on Drugs and Crime (UNODC) documented 1,033 murders for a murder rate of 10.2 per 100,000 people (UNODC, 2013). However, the United States Department of State notes that crime statistics are woefully underreported by the Haitian National Police (HNP) (US Department of State, 2017) indicating that the murder rate is likely much higher in reality.

Research suggests that experience of traumatic events can increase anxiety and depressive symptoms (Overstreet et al., 2017; Recker et al., 2005). This was consistent with the quantitative data in that an individual's experience of traumatic events increased their depressive and anxiety symptoms. However, this relationship was only statistically significant with anxiety. Qualitatively, respondents noted that their experiences of traumatic events such as miscarriage or

the death of a loved one contributed to their poor mental health and feelings of depression and anxiety.

The participants reported a wide range of coping strategies. The COPE Index consists of scales that measure conceptually distinct aspects of coping skills (Carver et al., 1989). These aspects consist of problem-focused coping (active coping, planning suppression of competing activities, restraint coping, seeking of instrumental social support), emotion-focused coping (seeking emotional social support, positive reinterpretation, acceptance, denial, turning to religion), and coping responses that are arguably less useful (focus on and venting of emotions, behavioral disengagement, and mental disengagement) (Carver et al., 1989).

Problem-focused coping was utilized by women to cope with stressors including economic-related stressors. Qualitative results showed that women sought social support in order to overcome economic-related stressors. Women would "reach out" to others and "talk about their financial problems" with their friends and members of their community. Quantitatively, approximately 88% of women indicated that they discussed their feelings with someone when experiencing stress. Seeking advice from others was another way women utilized problem-focused coping skills. Approximately, 84% of participants indicated that they asked people in the same situation what they did to cope with the problem. Study results indicate a high level of problem-based coping strategies. Qualitative results show that women often sought community support in the form of skills-based classes or women's groups that taught skills in order to overcome their financial stress. In addition, 93% of participants indicated that they "put other activities aside to focus on the situation." The practice of prioritization of tasks was utilized by women who often had to navigate between competing responsibilities.

Women indicated the use of emotion-focused coping in response to a variety of stressors and traumatic events. When discussing the stress associated with having children or reproductive health, many respondents referred to *"leaving it up to God"* or praying to overcome the stress associated with women's reproductive health. The use of prayer to overcome stress was reflected in the quantitative data in that approximately 96% of survey participants indicated that they "prayed more than usual" when faced with a stressful problem or challenge. Additionally, approximately 90% of survey participants indicated that they would "ask their pastor or a community leader for help or advice" when experiencing a problem or difficulty. The use of religion as a means of coping with stress is consistent with other literature on the subject of mental health in Haiti (Khoury et al., 2012; Wagenaar et al. 2013).

Women also utilized emotion-focused coping to overcome the stress associated with relationships with men. Approximately 88% of participants indicated that they discussed their feelings with someone. Qualitative data showed that women experiencing relationship problems tended to express their feelings to close friends in order to seek support. The literature has shown that women who use more emotion-focused coping styles in response to stressors report more depressive and anxiety-related symptoms compared with women who use these methods less often (Bennett et al., 2005; Cohen, 2002).

Though less common in the data, coping responses that are arguably less useful were utilized by women as well. The use of alcohol as a coping tool was mentioned a qualitative participant, though this was described as a poor way to cope with the stressors of everyday life. Approximately 39% of participants indicated that they used drugs or alcohol to make themselves feel better when faced with a stressful situation. It is important to note that this coping strategy was used by a minority of participants.

Quantitatively, an individual's COPE Index score was negatively related to mental health outcome. On average, as coping strategy use increased, so did an individual's mental health symptoms for both anxiety and depression. It is important to note, however, that this result was not significant and the result is contradictory to what would be expected when considering the literature on coping and related mental health outcomes. The literature provides evidence that an increase in coping strategies is significantly associated with better mental health outcomes (Saxon et al., 2017; Taylor & Stanton, 2007). The result of a negative impact of coping on mental health outcome may be due to the cross-sectional nature of the data collection process. For example, as stressors are greater, an individual will have to invest in a broader range of coping skills in order to produce the expected positive relationship with mental health outcomes. In addition, the COPE index scoring convention did not include categorizing the measure into different forms of coping and some items included in the measure are less likely to have resulted in positive mental health. Further analysis refining the treatment of the coping items might also shed light on the relationship of coping to mental health. Qualitatively, the use of coping strategies was described as a means to mediate the negative effects of mental health disorders and associated stress.

5.1 Strengths and Limitations

This study was designed to provide insight into the stressors and coping strategies used by women living in Léogâne Commune. Thus, study findings are not generalizable beyond those with similar demographics. The lack of true randomization in the sample selection may limit the external validity of the findings. Measurement error may have also resulted from factors related to the survey instrument and respondents. Survey data collection was conducted by male Haitian research assistants. The presence of a male research assistant may have influenced the responses

of female participants. Survey data collection took place in the participant's home. As a result, other persons including family members were at times present during data collection and may have influenced responses. Poor respondent recall and response bias may have also contributed to error. Some respondents may have been motivated to alter responses if they believed that doing so would lead to future rewards. A lack of a control or comparison group may also limit the interpretability of findings.

Limitations of this study also involve aspects of the qualitative methodology and analysis. In terms of qualitative methodology, in-depth interviews were conducted in Haitian creole and transcribed into English, thus contextual nuances or cultural expressions described by participants may have been lost. Cultural bias may have also influenced qualitative analysis.

The strength of this study was its intentionality to focus on Haitian women. By doing so, this study contributed to a knowledge gap of women's experience of stress and use of coping mechanisms in Haiti. Findings from this study also contribute to a growing body of mental health related research in Haiti.

5.2 Areas of further study

This research focused exclusively on those residing or working in Léogâne Commune, Haiti. Results may not be generalizable to other regions of Haiti. In particular, study results may not be generalizable to rural districts or those that have not experienced a natural disaster in recent years. Future studies may focus on rural regions of Haiti not heavily impacted by recent natural disasters.

Additionally, future research may focus specifically on the effects of violence on women's stress as this was notable in both quantitative and qualitative findings. While studies have captured IPV in Haiti, there is a lack of research on other forms of violence such as

homicide, and armed robbery (Small et al., 2008 ; Gage, 2005). Some studies have focused on women's experience of sexual violence in Haiti, though research is limited to samples of post-earthquake survivors (Rahill et al., 2015). Additionally, much of the research on violence is focused on samples of youths (Gomez et al., 2009; Gilbert et al., 2018). Studies on adult women's experiences of violence would close a substantial gap in the literature.

Lastly, age was shown to be protective against both anxiety and depression symptoms in the quantitative data. Several studies point to the high rates of mental health among young adult populations globally (Patel et al., 2007). There is a need for future mental health research focusing exclusively on young adult populations in Haiti.

5.3 Recommendations

From this analysis, various recommendations for future research and public health implications emerge. The research provides evidence of high levels of experience of stressors and traumatic events among women living in Léogâne Commune. Bivariate analysis showed statistical significance of stressors in the following broader categories: economic insecurity, relationship problems, and child-related stress. These categories were reflected in the qualitative data with women drawing on the inability to obtain paid work, lack of access to healthcare, experience of IPV, and inability to provide for children as sources of stress. Recommendations focus on mediating the harmful mental health effects of these stressors through specific coping strategies including social support and personal resilience.

To mediate the negative impacts of negative mental health outcomes, the research suggests a focus on education programs. Qualitative findings suggest a focus on programs that provide skills training with a focus on social support to be particularly beneficial for women's mental health. These findings reflect research on the subject of education attainment that call for

education programs focused on skill building to facilitate financial security among women (Padgett et al., 2011). In-depth interview participants often linked education to positive reproductive health outcomes such as waiting to have children. This is consistent with other research on the benefits of girls' education (UNESCO, 2017). According to the 2012 Haiti Mortality, Morbidity, and Service Utilization Survey (EMMUS-V), young women with no education are three times more likely to have begun childbearing by age 19 than young women with secondary or higher education (27% versus 9%) (EMMUS-V, 2012).

In addition to education programs, research points to the benefits of microcredit and microfinance programs for women's economic outcomes and promoting women's agency. Research on female participation in microcredit programs has suggested benefits to mental health for participants (Hamad & Fernald., 2015; Fernald et al., 2008). Research has also shown that microcredit and microfinance programs can be associated with a reduction in IPV (Kim et al., 2007). Qualitative findings from this study show support of microfinance and microcredit groups in order to mediate the negative mental health effects of stressors and traumatic experiences. In addition to promoting financial literacy and women's agency, these groups offer a means of social support for women.

Many respondents noted that waiting to have children would be associated with reduced stress in women's lives. Research suggests that high fertility in Haiti is a product not only of cultural norms, but also unmet need for contraception (Gardella 2006, 13; World Bank 2010). This suggests that additional contraceptive education and supply programs are needed in Haiti. In addition, respondents noted that women often had difficulty accessing reproductive healthcare among other healthcare services. Lack of access was in part due to not being able to afford healthcare. This is reflected in survey results that showed that approximately 83% of participants

indicated “paying for healthcare” was a source of stress. Research notes a lack of quality and affordable healthcare present in Haiti (Doctors Without Borders, 2008; USAID, 2017). In-depth interview respondents stated that despite a number of mobile clinics in the surrounding area, these were often overcrowded. Findings from this study illustrate a need to support local healthcare facilities and improve the quality of services. Findings also support the need for an affordable transportation option to healthcare facilities including hospitals.

5.4 Conclusion

This study illustrates how coping strategies and supports can ameliorate the impacts of mental health outcomes associated with stressors and experience of trauma. This study provides both qualitative and quantitative evidence that women experience a variety of stressors due to their complex role within Haitian society. Stressors surrounding women’s roles in intimate partner relationships and providing for children were qualitatively shown to cause an increase in negative mental health outcomes. Traumatic events such as house fire, losing one’s whole harvest and car accident were also related to negative mental health outcomes as shown in the quantitative data. Quantitative results showed that primary education was protective against negative mental health outcomes. Qualitative data produced the results of social support and education as positive forms of coping for women. In conclusion, there is a need for additional research focusing on the unique experiences of women’s stress and use of coping strategies. In particular, research focusing on younger women is needed to understand how mental health outcomes are experienced in younger populations.

CHAPTER 6 | REFERENCES

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CHAPTER 7 | APPENDICES

Appendix A

Interview guide with women – English

1. Please tell me your name, age, and what you do in the community.
2. Please tell me about your everyday activities in the community.
3. In what ways do you encounter women in your community who are experiencing stressors?
4. Last year women in this community told us important stressors they experienced. We would like to discuss them.
    a. What are the ways that women in this community cope with life problems?
    b. What are the ways that women in this community cope with having too many children?
    c. What are the ways that women in this community cope with health expenses?
    d. What are the ways that women in this community cope with children's health?
    e. What are the ways that women in this community cope with inefficient healthcare systems?
    f. What are the ways that women in this community cope with the death of their children's father?
    g. What are the ways that women in this community cope with a lack of a support system?
5. Thinking about these stressors that we discussed, what are some supports that could help women cope with them better?
6. Is there anything else that you would like to add?

<u>Gid pou entèvyou ak fanm – Kreyòl</u>

1. Silvouplè di non ou, laj ou, epi kisa ou fe nan kominote a?
2. Silvouplè palem de aktivite ou fe chak jou nan kominote a?
3. Nan ki fason ou rankontre fanm nan kominote a k'ap fe eksperyans ak bagay ki bay estres?
4. Ane pase, fanm nan kominote sa, te di nou ke yo fe esperyans ak kek bagay ki bay yo stres. Nou ta renmen diskite sa.
    a. Ki jan fanm nan kominote sa debouye yo ak problem la vi?
    b. Ki jan fanm nan kominote sa debouye yo le yo gen twop timoun?
    c. Ki jan fanm nan kominote sa debouye yo ak depans sante?
    d. Ki jan fanm nan kominote sa debouye yo ak sante timoun?
    e. Ki jan fanm nan kominote sa debouye yo ak sistem sante ki pa efikas?
    f. Ki jan fanm nan kominote sa debouye yo ak lanmo papa timoun yo?
    g. Ki jan fanm nan kominote sa debouye yo ak manke ankadreman?
5. Panse a tout bagay ki bay stres nou tap diskite. Di m kek asistans ki kapab ede fanm yo debouye yo pi byen.
6. Eske ou gen lot bagay ou ta vle ajoute?

Appendix B

First I am going to ask you about yourself.			
A1.	**What is your age?**		Age in years:
A2.	**What is the highest class you completed?**	0 None 1-9 First-Ninth Year 10 Third year Secondary 11 All Secondary	12 Reto 13 Philosophy 14 Some University 15 Finished University
A3.	**What is your marital status?**	1 Single 2 Married 3 Cohabitating 4 Divorced	5 Widow 6 Other (specify)
A4.	**How many people live in your household?**		Number of people:
A5.	**How many children do you have?**		Number of children
A6.	**What is your religion?**	1 Katolik 2 Protestant 3 Baptist 4 Episkopal	5 Vodouisant 6 Other (specify)
A7.	**What work/job do you do?**	0 I don't work 1 Commerce 2 Teacher 3 Tailor 4 Work the land	5 Nurse 6 Student 7 Other (specify)
A8.	**Do you own property?**	0 No If yes, how many centium?	
A9.	**How long does it take to reach a clinic or hospital?**		Amount of time in minutes:

Premyèman mwen pral poze ou kèk kesyon de ou menm.			
Ki laj ou?			Age in years:
Ki klas ou te rive?	0 Pyès 1 – 9 Premyè – Nevyèm ane 10 Twazyèm segondè 11 Segondè		12 Reto 13 Filosofi 14 Pati inivèsite 15 Temine etid inivèsite
Ki estati marital ou genyen?	1 M pa marye 2 Marye 3 Nan plasaj 4 Divosè		5 Vèv 6 Lòt (Presize)
Konbyen moun ki rete nan lakou sa a?			Number of people:
Konbyen timoun ou genyen?			Number of children

Ki relijyon ou?	1 Katolik 2 Protestant 3 Baptist 4 Episkopal	5 Vodouisant 6 Lòt (presize)	
Ki travay ou fè?	0 Pa gen travay 1 Fè komès 2 Pwofesè 3 Taye 4 Travay latè	5 Enfemye 6 Etidyen 7 Lòt (presize)	
Eske ou gen tè?	Si wi, **konbyen santyèm ?** **SI NON, EKRI 0**		
Konbyen tan ou pran pou rive nan yon klinik ou lopital ?		Amount of time in minutes:	

Appendix C

Now I am going to ask some questions about the place you are currently living				Check if visible:	
SES 1.	**What is the primary material that the walls are made of?**	**1 Cement** 2 Wood planks 3 Mud/earth	4 Other (specify)		
SES 2.	**What is the primary material that the roof is made of?**	1 Cement 2 Leaves (one type) **3 Iron sheeting**	4 Leaves (another type) 5 Other (specify)		
SES 3.	**What is the primary material that the floor is made of?**	**1 Cement** 2 Tile 3 Dirt/earth	4 Ceramic 5 Other (specify)		

Do you or your household have:		1 Yes 0 No	If yes, **how many?**	[Check if visible]
SES 4.	**Functioning motorcycle?**			
SES 5.	**Functioning bicycle?**			
SES 6.	**Gas lamp?**			
SES 7.	**Can lamp?**			
SES 8.	**Functioning television?**			
SES 9.	**Functioning fan?**			
SES 10.	**Bed?**			
SES 11.	**Woven mat for a bed?**			
SES 12.	**Refrigerator?**			
SES 13.	**Sofa?**			

SES 14.	**Cow/s?**			
SES 15.	**Horse/s?**			
SES 16.	**Goat/s?**			
SES 17.	**Pig/s?**			
SES 18.	**Chicken/s?**			

Kounye a mwen pral poze ou kèk kesyon sou kay ou abite aktyèlman.				[Check if visible]
SES 1.	**Ki materyèl ou te itilize pou mi yo?**	1 An blok 2 An bwa 3 Klise	4 Lòt (Presize)	
SES 2.	**Ki materyèl ou te itilize pou kouvri kay la?**	1 Kay dal beton 2 An pay 3 Tol	4 Prela 5 Lòt (Presize)	
SES 3.	**Ki materyèl ou te itilize pou atè a?**	1 Siman tè 2 Seramik 3 Kay ante 4 Mozaik	5. Lòt (Presize)	

Eske ou menm, oubyen lakay ou gen:		1 Wi 0 Non	Si wi: **Konbyen**?	[Check if visible]
SES 4.	**Moto kap fonksyone?**			
SES 5.	**Bisiklèt kap fonskyone?**			
SES 6.	**Lanp gaz?**			
SES 7.	**Lanp tèt gridap?**			
SES 8.	**Frijidè kap fonksyone?**			
SES 9.	**Televisyon kap fonksyone?**			
SES 10.	**Nat an très kòm kabann?**			
SES 11.	**Kabann?**			
SES 12.	**Salon ?**			
SES 13.	**Kouran?**			

SES 14.	**Bèf**			
SES 15.	**Cheval**			
SES 16.	**Kabrit?**			
SES 17.	**Kochan?**			
SES 18.	**Poul?**			

Appendix D

Now I am going to ask some questions about things you might have felt or experienced. For each item, please tell me how often you have experienced it in the past 2 weeks.						
During the past two weeks, how many times did _____ tire/fatigue you?		**Not at all**	**A few days (1–5 day)**	**More than one week (6–9 day)**	**Almost every day (10–14 day)**	
ZLDSI 1.	**You feel de la la [down, depressed, fatigued]**	0	1	2	3	
ZLDSI 2.	**Your heart feels tight**	0	1	2	3	
ZLDSI 3.	**Thinking too much**	0	1	2	3	
ZLDSI 4.	**Crying or wanting to cry**	0	1	2	3	
ZLDSI 5.	**Feeling less interested in everything**	0	1	2	3	
ZLDSI 6.	**Feeling down discouraged, or hopeless**	0	1	2	3	
ZLDSI 7.	**Have difficulty falling asleep**	0	1	2	3	
ZLDSI 8.	**Feeling tired or lacking strength.**	0	1	2	3	
ZLDSI 9.	**You don't have an appetite**	0	1	2	3	
ZLDSI 10.	**You feel bad about life or uncomfortable with yourself**	0	1	2	3	
ZLDSI 11.	**Moving or talking less than usual, so that other people notice**	0	1	2	3	
ZLDSI 12.	**You say to yourself: It's better if you died or did yourself harm**	0	1	2	3	
ZLDSI 13.	**Difficulty sleeping without waking early**	0	1	2	3	

Kounye a m pral poze w kesyon sou jan ou konn santi oubyen eksperyans ou ka fè. Pou chak bagay, tanpri reponn ki pi souvan ou te fè esperyans sa yo nan de semen ki sòt pase la yo.						
Pandan 2 semen ki sòt pase la yo, konbyen fwa sa te fatige ou?		**Di tou**	**Pandan kèk jou (1–5 jou)**	**Plis pase yon semèn (6–9 jou)**	**Preske chak jou (10–14 jou)**	
ZLDSI 1.	**Santi ou de la la**	0	1	2	3	
ZLDSI 2.	**Santi kè sere**	0	1	2	3	
ZLDSI 3.	**Reflechi twòp**	0	1	2	3	
ZLDSI 4.	**Kriye oubyen anvi kriye**	0	1	2	3	
ZLDSI 5.	**Santi ou enterese yon ti kras nan tout bagay**	0	1	2	3	

ZLDSI 6.	**Santi ou kagou, dekouraje ak lavi, oubyen pèdi espwa nèt**	0	1	2	3	
ZLDSI 7.	**Gen difikilte pou dòmi pran ou**	0	1	2	3	
ZLDSI 8.	**Santi ou fatige oubyen ou manke fòs**	0	1	2	3	
ZLDSI 9.	**Ou pa gen apeti**	0	1	2	3	
ZLDSI 10.	**Ou santi lavi w pase mal oubyen ou santi w pa alèz ak tèt'w**	0	1	2	3	
ZLDSI 11.	**Fè mouvman oubyen pale tèlman dousman, menm lòt moun wè sa**	0	1	2	3	
ZLDSI 12.	**Ou di nan tèt ou: Pito w te mouri, oubyen ou gen lide pou fè tèt w mal**	0	1	2	3	
ZLDSI 13.	**Gen difikilte pou dòmi san w pa reveye bonè**	0	1	2	3	

Appendix E

During the past 2 weeks, how often did you experience _____?		Not at all	A few days (1–5 day)	More than one week (6–9 day)	Almost every day (10–14 day)	
BAI 1.	**Can't feel your hands (numb)?**	0	1	2	3	
BAI 2.	**Your body is hot without it being hot outside or without being sick ?**	0	1	2	3	
BAI 3.	**Your legs tremble ?**	0	1	2	3	
BAI 4.	**You can't relax ?**	0	1	2	3	
BAI 5.	**Fear of bad things happening ?**	0	1	2	3	
BAI 6.	**Dizziness or vertigo ?**	0	1	2	3	
BAI 7.	**Racing heart?**	0	1	2	3	
BAI 8.	**Unsteady ?**	0	1	2	3	
BAI 9.	**Very afraid ?**	0	1	2	3	
BAI 10.	**Feeling pressure ?**	0	1	2	3	

During the past 2 weeks, how often did you experience _____?		Not at all	A few days (1–5 day)	More than one week (6–9 day)	Almost every day (10–14 day)	
BAI 11.	**Feel you are choking ?**	0	1	2	3	
BAI 12.	**Your hands tremble ?**	0	1	2	3	
BAI 13.	**Your whole body trembles ?**	0	1	2	3	
BAI 14.	**Losing control ?**	0	1	2	3	
BAI 15.	**Respiratory problems?**	0	1	2	3	
BAI 16.	**Fear of dying before your time ?**	0	1	2	3	
BAI 17.	**Afraid ?**	0	1	2	3	
BAI 18.	**Stomach/abdominal pain ?**	0	1	2	3	
BAI 19.	**Fainting ?**	0	1	2	3	
BAI 20.	**Sweating without it being hot?**	0	1	2	3	

Pandan 2 semen ki sòt pase_la yo, ki jan sa te deranje w ?		Pa ditou	Yon ti kras	Anpil	Anpil, m pa ka sipòte l	
BAI 1.	**Gen de fwa, ou pa ka santi men ou?**	0	1	2	3	
BAI 2.	**Ou konn santi kò ou vin cho, san pa gen chale deyò a epi san ou pa malad?**	0	1	2	3	
BAI 3.	**Ou konn santi pye ou ap tranble?**	0	1	2	3	
BAI 4.	**Ou santi ou pa ka detann ou?**	0	1	2	3	
BAI 5.	**Ou konn pè pou bagay ki pi mal pa rive'w?**	0	1	2	3	
BAI 6.	**Ou konn gen tèt vire?**	0	1	2	3	
BAI 7.	**Ou konn gen batman kè?**	0	1	2	3	
BAI 8.	**Ou konn ap bite?**	0	1	2	3	
BAI 9.	**Sa konn rive ou pè anpil?**	0	1	2	3	
BAI 10.	**Sa konn rive ou sou presyon?**	0	1	2	3	

Pandan 2 semen ki sòt pase_la yo, ki jan sa te deranje w ?		Pa ditou	Yon ti kras	Anpil	Anpil, m pa ka sipòte l	
BAI 11.	**Ou konn santi w'ap toufe?**	0	1	2	3	
BAI 12.	**Men ou konn ap tranble?**	0	1	2	3	
BAI 13.	**Tout kò'w konn ap tranble?**	0	1	2	3	
BAI 14.	**Ou konn pèdi kontwol tèt ou?**	0	1	2	3	
BAI 15.	**Ou gen pwoblèm respirasyon?**	0	1	2	3	
BAI 16.	**Ou pè w'ap mouri avan tan ou?**	0	1	2	3	
BAI 17.	**Ou konn kaponnen?**	0	1	2	3	
BAI 18.	**Ou konn gonfleman?**	0	1	2	3	
BAI 19.	**Ou konn santi ou preske endispoze ?**	0	1	2	3	
BAI 20.	**Ou konn swe san pa gen chale?**	0	1	2	3	

Appendix F

Now I would like to ask you about things you might experience everyday or almost everyday							
Do you experience _____		1 Yes 0 No	If yes, **how much does it make life difficult?**				
			Not difficult	Some-times difficult	Very difficult	Very difficult I almost can't stand it	
STRESSOR 1.	**Illness?**		0	1	2	3	
STRESSOR 2.	**Lack of support system?**		0	1	2	3	
STRESSOR 3.	**Not having enough food?**		0	1	2	3	
STRESSOR 4.	**Paying for healthcare?**		0	1	2	3	
STRESSOR 5.	**Husband making you jealous?**		0	1	2	3	
STRESSOR 6.	**Not having enough work?**		0	1	2	3	
STRESSOR 7.	**Taking care of children ?**		0	1	2	3	
STRESSOR 8.	**Insecurity ?**		0	1	2	3	
STRESSOR 9.	**Husband beating you?**		0	1	2	3	
STRESSOR 10.	**Having too many children?**		0	1	2	3	
STRESSOR 11.	**Death of children's father ?**		0	1	2	3	
How much does _____ make life difficult ?			Not difficult	Some-times difficult	Very difficult	Very difficult I almost can't stand it	
STRESSOR 12.	**Life problems**		0	1	2	3	
STRESSOR 13.	**Thinking too much**		0	1	2	3	
STRESSOR 14.	**Looking for healthcare**		0	1	2	3	
STRESSOR 15.	**Children's health**		0	1	2	3	

Kounye a m pral poze ou kèk kesyon sou bagay petèt ou fè esperyans chak jou or prèske chak jou.							
Eske ou fè eksperyans _____		1 Wi 0 Non	Si wi, **ki jan sa fè lavi a difisil?**				
			Pa ditou	Kèk fwa difisil	Trè difisil	Trè difisil, m preske pa ka sipote l	
STRESSOR 1.	**Maladi?**		0	1	2	3	
STRESSOR 2.	**Manke ankadreman?**		0	1	2	3	
STRESSOR 3.	**Pa gen ase manje?**		0	1	2	3	
STRESSOR 4.	**Ensikirite?**		0	1	2	3	
STRESSOR 5.	**Mari w fè w jalousi?**		0	1	2	3	
STRESSOR 6.	**Pa gen ase travay?**		0	1	2	3	
STRESSOR 7.	**Pran swen timoun?**		0	1	2	3	
STRESSOR 8.	**Depans pou maladi?**		0	1	2	3	
STRESSOR 9.	**Mari w bat ou?**		0	1	2	3	
STRESSOR 10.	**Gen twòp timoun?**		0	1	2	3	
STRESSOR 11.	**Lanmò papa timoun?**		0	1	2	3	
Ki jan _____ fè lavi a difisil?			Pa ditou	Kèk fwa difisil	Trè difisil	Trè difisil, m preske pa ka sipote l	
STRESSOR 12.	**Pwoblèm lavi**		0	1	2	3	
STRESSOR 13.	**Reflechi twòp**		0	1	2	3	
STRESSOR 14.	**Chache swen sante**		0	1	2	3	
STRESSOR 15.	[If children] **Sante timoun**		0	1	2	3	

Appendix G

When experiencing a problem or difficulty, how do you deal with it?		I don't do that	Sometimes I do that	I always do that	
COPE 1.	**I work/sing/dance or do other things to take my mind off of the problem.**	0	1	2	
COPE 2.	**I get upset and show my emotions.**	0	1	2	
COPE 3.	**I seek advice from someone about what to do.**	0	1	2	
COPE 4.	**I work on doing something about it.**	0	1	2	
COPE 5.	**I put my trust in God.**	0	1	2	
COPE 6.	**I laugh so I feel better.**	0	1	2	
COPE 7.	**I discuss my feelings with someone.**	0	1	2	
COPE 8.	**I use alcohol or drugs to make myself feel better.**	0	1	2	

When experiencing a problem or difficulty, how do you deal with it?		I don't do that	Sometimes I do that	I always do that	
COPE 9.	**I make jokes with friends.**	0	1	2	
COPE 10.	**I sleep more than usual.**	0	1	2	
COPE 11.	**I stop trying to get what I want.**	0	1	2	
COPE 12.	**I think of the best way to handle the problem.**	0	1	2	
COPE 13.	**I ask people with the same situation what they did.**	0	1	2	
COPE 14.	**I learn to live with it.**	0	1	2	
COPE 15.	**I put other activities aside to focus on the situation.**	0	1	2	
COPE 16.	**I act as though it has not happened.**	0	1	2	
COPE 17.	**I learn from the experience.**	0	1	2	
COPE 18.	**I pray more than usual.**	0	1	2	
COPE 19.	**I think that good can come out of the situation.**	0	1	2	
COPE 20.	**I get angry with other people.**	0	1	2	
COPE 21.	**I laugh about it so people don't know my affairs.**	0	1	2	
COPE 22.	**I ask my pastor or a community leader for help or advice.**	0	1	2	
COPE 23.	**I decide what I am going to do about it.**	0	1	2	
COPE 24.	**I forget about the situation completely.**	0	1	2	
COPE 25.	**I tell stories with friends or relatives.**	0	1	2	

COPE 26.	**I have sex to take my mind off of the situation.**	0	1	2	
COPE 27.	**I accept that the problem cannot be changed.**	0	1	2	
COPE 28.	**I neglect my cooking/cleaning/children.**	0	1	2	
COPE 29.	**I think too much.**	0	1	2	

Kounyea m pral poze kesyon sou ki jan moun reponn lè yo fè fas yon pwoblèm oswa difikilte. Gen anpil fason pou eseye jere strès. Kesyonè sa pral mande w ki sa ou konn fè oswa santi lè w fè eksperyans strès. M pral di yon fason pou jere yon pwoblèm. Chwazi repons ki reprezante sa w konn fè – pa sa w panse lòt moun ta di oswa fè.

Lè w gen yon pwoblèm oswa difikilte, ki jan ou fè fas ak li?		M pa konn fè sa	Tanzantan m konn fè sa	Toutan m konn fè sa	
COPE 1.	**Mwen travay/chante/danse oswa fè lòt bagay pou distrè tèt mwen nan pwoblèm nan.**	0	1	2	
COPE 2.	**M vin fache e m montre emosyon mwen yo.**	0	1	2	
COPE 3.	**Mwen chache konsèy nan men moun pou m' konnen sa pou m fè.**	0	1	2	
COPE 4.	**Mwen fè efò pou aranje sa.**	0	1	2	
COPE 5.	**Mwen mete tout konfyans mwen nan Bondye.**	0	1	2	
COPE 6.	**Mwen ri de sa pou m' ka santi'm byen.**	0	1	2	
COPE 7.	**Mwen pale sou santiman mwen yo ak yon moun.**	0	1	2	
COPE 8.	**Mwen itilize alkòl oswa dwòg pou m fè tèt mwen santi pi byen.**	0	1	2	

Lè w gen yon pwoblèm oswa difikilte, ki jan ou fè fas ak li?		M pa konn fè sa	Tanzantan m konn fè sa	Toutan m konn fè sa	
COPE 9.	**Mwen bay blag ak zanmi.**	0	1	2	
COPE 10.	**Mwen domi plis pase nòmal.**	0	1	2	
COPE 11.	**Mwen reziye m.**	0	1	2	
COPE 12.	**M panse sou pi bon fason pou m jere pwoblèm nan.**	0	1	2	
COPE 13.	**Mwen mande moun ki te nan menm sitiyasyon ki sa yo te fè.**	0	1	2	
COPE 14.	**Mwen aprann viv ak li.**	0	1	2	
COPE 15.	**Mwen mete lòt aktivite apa pou m konsantre sou sitiyasyon an.**	0	1	2	
COPE 16.	**Mwen aji kòm si li pa t rive fèt.**	0	1	2	
COPE 17.	**Mwen jwenn yon leson nan eksperyans lan.**	0	1	2	
COPE 18.	**Mwen priye plis pase nòmal.**	0	1	2	
COPE 19.	**Mwen panse "Si se pa pou yon byen, se pou yon mal".**	0	1	2	
COPE 20.	**Mwen vin fache ak lòt moun.**	0	1	2	
COPE 21.	**M ri de sa pou moun pa konnen afè m.**	0	1	2	
COPE 22.	**Mwen mande pastè m oswa yon lidè kominote pou èd oswa konsèy.**	0	1	2	
COPE 23.	**Mwen pran desizyon sou ki sa mwen pral fè sou li.**	0	1	2	
COPE 24.	**Mwen bay sa vag.**	0	1	2	
COPE 25.	**Mwen rakonte istwa ak zanmi oswa fanmi.**	0	1	2	
COPE 26.	**Mwen fè sèks pou m distrè tèt mwen nan sitiyasyon an.**	0	1	2	
COPE 27.	**Mwen aksepte ke pwoblèm nan pa ka chanje.**	0	1	2	
COPE 28.	**Mwen neglije kwit manje/pwopte/timoun oswa lòt bagay.**	0	1	2	
COPE 29.	**Mwen reflechi anpil.**	0	1	2	

Appendix H

Code Book

1. Value of Women

Definition: Any reference to women as having a level of value or importance or lack thereof within a relationship, family, community, or society. For example, “Queen of the Home,” “poto mitan” (central post). Include instances of praise or disdain for women. Also include instances of respect, self-respect or lack thereof in reference to women.
Exemplar(s):

- “But for the community women have a big role because we know without women while I’m saying that there is a proverb which just come to my head. “San fanm chodye pa moute” (meaning: without women there is no cook at home). “San fanm soley pa leve” (meaning: without women the sun does not rise.)”
- “So in the Haitian community I know that women are very important a lot because it is women who are our mothers. I think they have a lot of importance. Because everything that you are doing, you will always have the importance of the women…”
- “At least, my mother was like a central post of the family.”

2. Women’s Roles

Definition: Any reference to jobs, obligations, responsibilities, stereotypes, expectations, requirements of women or female roles within the family/community (mother, sister, daughter, etc.). Includes references to occupations of women.
Exemplar(s):

- So what are your wife’s obligations to your family?
  P: My wife’s obligation is to respond to the needs of the family and take care of the family. To do the laundry and to iron the clothing and all that.”
- “So in the Haitian community I know that women are very important a lot because it is women who are our mothers. I think they have a lot of importance. Because everything that you are doing, you will always have the importance of the women, which is valid. The presence of the woman is necessary. For example, it’s women who are doing the laundry, it’s women who are cooking for you, I think the presence of the woman is very important.”

3. Men’s Roles

Definition: Any reference to jobs, obligations, responsibilities, stereotypes, expectations, requirements of men or male roles within the family/community (father, brother, son, etc.). Includes any mention of the level of value or level of power males have in a relationship, family, community, society and occupations of men. For example, “poto mitan” (central post). Often found in the context of fatherhood or a man’s role within a relationship. The mention of a job is not enough to be considered in this code.
Exemplar(s):

- “The son should follow the rules of the father. If the father say something, you should respect it. I couldn’t say anything about having 10 women because I grew up with him having multiple women.”

- **I:** Oh thank you for sharing that. So who should decide how money is spent?
  P: Well, in fact, it's the man.
  I: So why do you say man?
  P: Because it's the man who is the *poto mitan* (middle of the house, column in the house). This is the reason why I made this approach. When the woman has her economy, she has her own means and she can make decisions whenever she wants. She does the job that she wants except that she needs to tell the man.

4. Formal Education

Definition: Any mention of formalized education. Usually school or a formal training within the community. Includes any reference to levels of education or history of education. Excludes instances of informal education (religious teachings, mentorship, individual-led learning) (use "Informal Education/Sources of Knowledge" code)

Exemplar(s):

- **"**Sometimes she used to take me to school...sometimes she used to take me to school and when she didn't have anything to give us she used to complain. That made me sad sometimes but I never gave up going to school, that's why I want to encourage young people in the Haitian community to never be discouraged in life."
- **I:** "That makes sense. What resources are in the community to help women with stress?"
  P: "Resources, one. Go to school. Continue education. Everything will be better. Everything will be better."

5. Religion

Definition: Any reference or concern with religion, church, God, Lwa, the devil or behaviors associated with these things. Also include instances of lack of religion or non-Christians. Also include for references to the bible, praying or seeking/receiving spiritual guidance, such as from a pastor, vodou priest or other spiritual guides. Also include for religious teachings or justifications of social or cultural norms, such as gender roles.

Exemplar (s):

- **I:** So um, why would your pastor say that women should be in charge of the money?
  P: Um , in the seminary the pastor was showing us the way that the money should be in the hands of the woman. But I can't tell you all the details about what causes that. But what I know as the woman is represented like a queen in the home so it the woman, let me be a little more specific, I am adventist in our congregation they show us it's the woman which has more value. The pastor has shown us how authority the woman is, for example if you will have to go out then the woman doesn't decide to give you some money to go out, so you have to obey. That means even the money to put in your pocket it's the woman who should supposedly to give it to you. But that doesn't do, but I cannot give you a good proof about why he is saying that.

Atypical example:

- **I:** “Explain what kinds of decisions they would make without their wives, those that are not Christian.”
  P: “I thought that this question could be finished. (laughs). There are a lot of decisions that could be made especially when they are not Christian. In our community, what I am going to tell is common, our parents especially sometimes they sell their children to a devil place (vodou) to become rich, I don’t know, that is one.”

6. Decision Making
Definition: Any reference to decisions or how decisions are made, including thought processes or beliefs that lead to actions such as handling children’s behaviors, having children, or spending money. Also include for negotiations between men and women, compromises in relationships, or discussions/decisions about sharing responsibilities.
Exemplar (s):

- **I: “**Who makes decisions in your family about how money is spent?”
  P: “It depends, since I finished engaging with my wife, you know, I study psychology, We have to make a study after to see which one of us likes spending more. So you know already, the woman likes spending more than the man. Now, I see it’s me who can better economize in the home [manage the money in the home]. About what I learned men don’t have money. That means it’s women who have money. But that doesn’t mean it’s only the women who have to spend the money. We need to handle the money together. Even though the money is from her, but with this technique it was like me who was handling the money.”

7. Communication/Lack of Communication
Definition: Any reference to communication or talking, sharing information or thoughts between two or more people, including verbal/non verbal cues. For example discussing issues that arise in relationships. Also include lack of communication or avoidant behaviors, such as ignoring each other or not talking. Also include negative forms of communication, such as yelling or arguing.
Exemplar(s):

- **P:** “Uh, I think that the stress is more than that, it is more than those questions. Myself, the language of gestures, if you come to talk to talk to me in english you can underestimate me in the intellectual domain, so the communication in the home I think that it is a primordial role. If there is no communication even if you want it or not that is an element in the whole thing that can cause the woman’s stress. If you are my wife, we don’t talk to each other, and however we used to talk and now we don’t talk anymore, that can cause her stress. [...] Lack of communication can cause a person’s stress. That’s what I could add.”

8. Changes Over Time
Definition: Any reference to societal shifts from the past to the present including difference of opinions between one generation and another regarding beliefs, values or behavior. For instance, any language around “in the past...but now….” Does not include

intergenerational learning or sources of knowledge passed on from generations (use Informal Education/Sources of Knowledge code).
Exemplar(s):

- **I: "**So if a woman has a job and makes her own money do you think that's a good thing for her?"
  P: "It's a normal thing. In the past, they have shown us especially in our culture that women didn't need to go to work. But nowadays, it's completely different. The women, I am not going to say that they have the same duty as the men, but they almost have the same duty. If the woman makes more money than you, according to me, it's better for the home. I don't think that there is a problem with it. If the woman is working to make money, I think the home can go further."

9. Informal Education/Sources of Knowledge
Definition: Any reference to where/from whom people learn things or informal learning. Includes how women and men learn about coping or roles. Also include inter-generational knowledge that has been passed on over time, such as advice from family or mentors. Also include learning from religious teachings such as the church, learning from pastors, or the Bible. Should exclude proverbs unless also mentions the source of knowledge related to the proverb (use "Proverbs" code). Should exclude formalized education or trainings (use "Formal Education" code).
Exemplar(s):

- **P:** "Well, my mother's work was very good a lot. I remember there are somethings that she used to show me how to make them in shirts. That means she used to show me how to sew buttons onto shirts. She used to sell the shirts and I also used to go to sell them with her. It's a way to show you how useful that work was."

10. Haitian Context
Definition: Any reference to differences between Haiti and other nations such as the US. Also include references to Haitian politics or the Haitian political system. Also include references to Haitian-specific cultural aspects and ways of life that the speaker highlights as being Haiti-specific, either by saying "in Haiti" or drawing a comparison to somewhere else. Also include references to the Haitian healthcare system.
Exemplar(s):

- "It's easier abroad to the US, women almost have the same duties as man, because the job you see a women in the US do, a man in the US do, a women can do it. Haiti, now in Haiti, a country that is undeveloped, you will easily see a woman who is doing commerce, you understand, she won't look for a means for her to go into, for example, mason, ironworking, to go into masonry."
- "The Haitian life is not the same as foreigner's life. So when you have a kid in Haiti and one in another country, they are different because in the other country they have some freedom, but for here in Haiti so the freedom is private. The freedom is private."

11. Proverbs

Definition: Any reference to Haitian sayings; most often these are about family. Also include references to proverbs about women's roles in their family or in their community.
Exemplar(s):

- *"San fanm chodye pa moute"* (meaning: without women there is no cook at home)
- *"San fanm soley pa leve"* (meaning: without women the sun does not rise)
- "*Men ansanm chay pa lou*" (meaning: once you put hands together, the load is not heavy)
- "*Men anpil chay pa lou.*" (meaning: hands together make load lighter)
- "*Piti piti zwazo fe nich li*" (meaning: little by little the bird builds its nest)."

12. Money
Definition: Any reference to money, decisions about money, or economic situation. Also include references to income or family economic contributions, such as the man or woman making more money or mainly providing for the family. Also include references to the importance of money either to the individual or to the family or the community. Also include references to economic advancement, either of personal accounts or of the inability to advance economically.
Exemplar(s):

- **I:** "So if a woman has a job and makes her own money do you think that's a good thing for her?"
  P: "It's a normal thing. In the past, they have shown us especially in our culture that women didn't need to go to work. But nowadays, it's completely different. The women, I am not going to say that they have the same duty as the men, but they almost have the same duty. If the woman makes more money than you, according to me, it's better for the home. I don't think that there is a problem with it. If the woman is working to make money, I think the home can go further."

13. Shared/Equality (Diana)
Definition: Any reference to balanced roles in marriage or relationship or unbalanced roles. Also include references to specific divisions of labor with regard to household tasks. Also include references to where certain roles are labeled as only male or only female. Also include proverbs or references to sharing or not sharing tasks within a family or community. Also include references to equality or lack of equality.
Exemplar(s):

- **"**So women have a big role in the community. Most of the people might think differently in the community, but according to me women have a big role in the community. There are some questions about inequality they consider women are like inferior, but for me I don't see it like that because women have a big role in the society, especially in dating in a marriage. When you consider a woman in a marriage, she has a big role in a society where women don't have access to work, it is husband sometimes that works. They leave the women at home, she is in charge of doing home activities. But if you find a woman who is also working she can give some results as a man. So the equality between man and woman is a priority things . *(French word meaning equality)* Even the Haitian government preach to have equality between men and women, but particularly it does not

really exist. Even in public administration it does not. So it is a goal of all society who wants equality, fighting for equality. They supposed to talk about this topic."

14. Autonomy and Dependence (
Definition: Any reference to women either having or not having autonomy or independence, such as ability to earn money, make decisions, spend money, or otherwise exist independently of men. Also include for references to what causes them to have or not have autonomy, and the effects, either positive or negative. Also include descriptions of dependence on men, such as relying on men economically or needing to have a child with a man so he won't leave.
Exemplar(s):

- "I: What do you think about women making money for themselves?
  P: They need autonomy
  I: Why do you think this?
  P: Because they don't want to depend [on other people]
  I: And when you say other people, who do you mean other people?
  P: Depend on, when I tell you about the other people
  Ysrael: You mean they don't want to depend on others?
  P: The men. In general."

Atypical example (example of *effects* of women's autonomy):

- "But sometimes you find that in a relationship it is the woman that is working and doing everything. Sometimes it may be the woman who is waking up in the morning, for example around 3, who is going to the street and doing commerce and business and activities so that she can bring back to the house. *Sometimes this may push her and she may be just a little arrogant beside the man*. But in the Bible way, it should be the man that's supposed to be the one to support the family."

15. Male Related Stressors
Definition: Any reference to women's negative or stressful experiences (real or hypothetical) as related to or caused by men (directly or indirectly), for example, a husband beating his wife, speaking badly to his wife, or not supporting her when she is pregnant, or death of a child's father. Text segments will often be responses to direct questions about causes of women's stress and coping, but speaker does not have to state that this is a stressor for code to apply. Also apply for any references to jealousy, men having multiple partners, or women worrying or thinking about men having multiple partners. Do not include resources, supports, or coping related to these stressors (use Support codes).
Exemplar(s):

- "Let's take an example, for instance if I have my wife and after 8 years of marriage she knows that I have a child outside who is about 5 years old. That can make her stressed. And if the man doesn't give the woman money very often that can give her stress. [...] while she is sick, you are talking to her badly. You are telling her "Go to cook!" "Go to do the laundry!" Instead of to protect her because she is sick."

Atypical example:

- "What causes problems in a relationship when a woman know that you are running here and there. I don't do this to prevent jealousy."

16. Children Related Stressors

Definition: Any reference to women's negative or stressful experiences (real or hypothetical) as related to or caused by children (directly or indirectly), for example, having too many children, taking care of children, and negative experiences or problems related to pregnancy or painful labor. Also include for expectations about having children or not being able to have children. Text segments will often be responses to direct questions about causes of women's stress and coping. Do not include resources, supports, or coping related to these stressors (use Support codes).

Exemplar(s):

- "Sometimes when they have so many children, if they are not able to support the child."
- **"**The women that I support with stress are the ones that experience infertility."

Atypical example:

- "And then the biggest problem for the women, often they get pregnant. While they are pregnant, there are difficulties for the man to follow up with that child that permit them to be by themselves. This is the reason why you would see a woman has three children with three different fathers" (also code as Male Related Stressors).

17. Other Stressors

Definition: Any reference to women's negative or stressful experiences (real or hypothetical) other than those related to males or children, for example, economic problems related to not working, illness, inefficient healthcare, and lack of autonomy to make decisions. Text segments will often be responses to direct questions about causes of women's stress and coping.

Exemplar(s):

- "A lot of families have stressed women. When women are not working that makes them stressed."
- "I was talking about stress with the women, how they get stressed. Very often, according to my experience I found during that program time that it's because when you talk to them about sickness, they didn't know about them before. They didn't know about the effect and complications of the sickness so they asking themselves if they are living or not with a kind of sickness. So they thinking about that, the complications that they can cause, especially young women."

Atypical example:

- "Because the poorest women in their community they don't have anybody to help them. It's like we're living in a country by ourselves. We don't have any help. We are like a country, everyone for themselves. And, they don't have (…) When they are in a community that is so far away, it's like I would tell you, everyone for themselves."

18. Violence

Definition: Any reference to physical or emotional harm or abuse, typically by husbands towards wives such as beatings, rape, or yelling. Also include examples of violence outside of an intimate relationship, such as a child or adult being beaten as punishment. Also include references to forms of prevention, reactions to, care-seeking for, or sources of support available following violence, such as going to the hospital. Also include references to lack of these things, such as violence not occurring, people not seeking care, or support not being available.
Exemplar(s):

- "It may be her husband that is giving her problems like beating her and treating her badly. For example telling her, *k'ap dil de pwopo* (telling her bad words)."
- "And I work with women when they are victims of rape or when their husbands beat them."

19. Recognizing Stress
Definition: Any reference to physical or psychological symptoms or signs of stress or other ways that people recognize stress in others. Also include for references to mental health problems. For example, sleeping more or less than usual, lack of interest in social activities, or reflechi twop (thinking too much). Do not include examples of positive mental health (e.g. hope) - instead, apply Feelings code.
Exemplar(s):

- "I think that often a person who is stressed that person doesn't need to tell you that you can automatically see that. You will always see that person and she is always thinking over and over (reflechi twop) and thinking and her hair might be falling down. For example, if she used to come sit down there with me I can see about three or four days I never see her. She's always inside home, sleeping or laying down."

20. Community Support
Definition: Any reference to aid or support given to individual from their community, or that the woman provides to the community. This includes their family, friends and neighbors especially when one is in a time of need. This aid can be in the form of money or finances, resources (such as a place to live), intervening when the individual was troubled, or emotional and social support. Ways to help women when they are experiencing stress or poor mental health. Ways the community supports women and families and resources in the community that are available. This also includes ways that a woman supports other women in her community. Do not include support from partner or given to the partner (use the Partner code).
Exemplar(s):

- **I: "**Okay. When something difficult happens, how do women in your family handle it?"
  P: "Well, in fact, there is a thing considerably we resolve it among ourselves. You understand? When there is something that happens, when we are talking about a Haitian family, on my father's side, on the mother's side between the family we talk, we dialogue. And we say, "this was not supposed to happen." Everybody is slow. Everybody accepts that, you understand what I'm telling you? And the dialogue, yeah."

21. Partner Support
Definition: Any reference to aid given or lack of (explicitly stated that their partner does not offer them support) to an individual specifically by their partner in a relationship. This aid can be in the form of giving money, taking them out to the movies, or talking to them. Exclude support from the community.
Exemplar(s):

- **I: "**I see. So how do you support women in your life when they are experiencing stress?"
  P: "How do I support women with stress? I support them with dialogue and communication. For example, if the person needs to buy a bottle for 50 goudes and you see that the person doesn't have enough means to buy it, you can try to help her even with 15 goudes. All that."

22. Coping/self-support
Definition: Any references made to the ways in which women, themselves cope with stress and daily stressors, either positive or negative methods. Exclude community and partner support. Include church activities if it is related to praying, singing, or otherwise not about community/interacting with people.

23. Reproductive health/fertility
Definition: Any references to why women have children, what women do to limit or plan the number of children they have, or the lack of planning or lack of control that women have in relation to planning their children. Also include for specific reproductive health resources. A reference to sex is not enough to be included.
Exemplar(s):

- **"**Women's roles in the community, they are here to have kids. To create a family, father, mother and children, family. The woman has other roles too. Organize homes, do laundry, commerce. The women regroup themselves in their small groups to do transformation in teams. Transformation for example, some do mango juice. Transformation otherwise orange and peanut. And then the biggest problem for the women, often they get pregnant. While they are pregnant, there are difficulties for the man to follow up with that child that permit them to be by themselves."

24. Feelings

- Any reference to feelings or emotions, especially as a result of the stressors they face or they see others facing in life. Include feelings or emotions that are attributed to them or felt by them as a result of cultural/gender roles. This can include feelings of shame, hope, feeling down, etc. Also include examples in which participants avoid answering certain questions and feel uncomfortable. They must explicitly state the feeling or emotion.