

CUMULATIVE TRAUMA AMONG ADULT MAYAS LIVING IN SOUTHEAST
FLORIDA

by

Eugenia I. Millender

A Dissertation Submitted to the Faculty of
The Christine E. Lynn College of Nursing
in Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy

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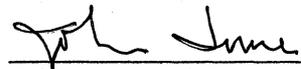
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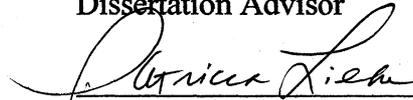
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This dissertation was prepared under the direction of the candidate's dissertation advisor, Dr. John Lowe, the Christine E. Lynn College of Nursing, and has been approved by the members of her supervisory committee. It was submitted to the faculty of the Christine E. Lynn College of Nursing and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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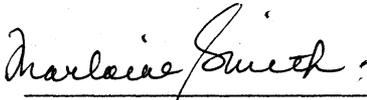
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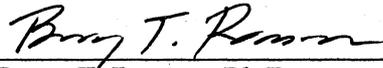
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ABSTRACT

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The toxic combination of social, psychological, environmental, cultural, and physiological trauma Mayas living in Southeast Florida face daily places them at higher risk for mental and physical disorders (Marmot & Wilkinson, 2006; WHO, 2010, September). The burden of disease is not limited to mental disorder comorbidities; psychological stress can also induce or exacerbate chronic medical diseases such as obesity, diabetes, and hypertension (Brunner & Marmot, 2006; Sridhar, 2007). This translates to high levels of morbidity, mortality, and disability among ethnically diverse populations (U.S. Department of Health and Human Services, 2001). The continuation of this disregard will add to the health disparity of this nation by delaying assessment, treatment, and development of interventions. The purpose of this study was to explore cumulative trauma as it related to social determinants of health and pathophysiological, psychological, and health behaviors of 102 adult Mayas living in Southeast Florida. The trauma profile for the Mayan population sample obtained through this study reflected

high exposure to different types of trauma; collective identity trauma was most frequently reported, followed by survival trauma, achievement trauma, secondary trauma, and personal identity trauma, with high rates of repetition of the same traumas. Cumulative trauma emerged as the most significant type of trauma, in that it addresses the combination of all similar and dissimilar traumas in the lifespan of a person. Data also revealed that language combined with literacy level may play a role on how populations such as the Mayas report symptoms, as Spanish is a second language for Mayas, with few being able to read it fluently. The findings in this study confirmed that high levels of cumulative trauma dose and the social determinants of health are embedded throughout the cultural experience of the Mayan people, which in the present day manifests as mild forms of depression symptoms for women and moderate alcohol use risk for men.

Key words: Maya; alcohol; ASSIST; cumulative trauma; Beck Depression Inventory-II; genocide; Guatemala; Hispanic; social determinants of health

DEDICATION

This manuscript is dedicated to my husband, Don, sons, Don, AJ, and Mehki, and my mother, Carolina. To my husband, thank you for being my biggest fan and keeping all stress tucked away in order for me to complete the task at hand. Your perseverance, encouragement, support, and unconditional love set me up for nothing but success. This dissertation would not have been possible without each one of you.

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CHAPTER 1. CUMULATIVE TRAUMA AMONG ADULT MAYAS LIVING IN SOUTHEAST FLORIDA

The purpose of this chapter is to provide an overview for a study that explored factors influencing mental health and alcohol use in adult Mayan people, whose trauma and stress are often overlooked when they are classified as Hispanic. It highlighted historical trauma as a significant factor in the current social determinants of health and the significance of the accumulation of trauma among the Mayas.

What's in a Name?

In the Shakespearean tragedy *Romeo and Juliet*, the star-crossed lover, Juliet, proclaims

What's in a name? That which we call a rose
By any other name would smell as sweet.

(Shakespeare: *Romeo and Juliet*, II, ii, 1-2)

The story unfolds to reveal that denying the full significance of a name can have disastrous results. In the case of Mayas in the United States, the name represents disregard for the true ethnic background of a multitude of diverse populations, contributing to ignorance of issues vital to the health and wellbeing of individuals from a wide variety of unique cultures (Millender, 2011).

A major concern generates from the Office of Management and Budget (1997), in that it does not delineate the numerous groups that are labeled as Hispanics, an all-inclusive term that categorizes any person from Mexico, Puerto Rico, Cuba, Central or

South America, and others of Spanish origin as Hispanic, a term that refers to ethnicity, not race (see Appendix A). Currently, the Office of Management and Budget (1997) includes over 20 subgroups under the categorization of Hispanic or Latino. This broad categorization is frequently under dispute due to the intragroup variability manifested by the numerous specific cultures, languages, health beliefs and practices, and a plethora of immigration-related historical, economic, and political dynamics that were/are associated with the history of these diverse groups (Alegria, Woo, Takeuchi, & Jackson, 2009; Millender, 2011).

A lack of clarity creates confusion in the research literature, muddles evidence-based practice guidelines, and impedes the exploration of cogent variables that need to be better understood in our global efforts to reduce and eliminate health disparities among the various cultural groups (Institute of Medicine [IOM], 2002; World Health Organization [WHO], 2003). An enduring debate is related to the lack of specificity around the numerous ethnic groups that associate themselves with certain countries, politics, language variation, and ideology within the world community. As mental health disparities have become more evident among the numerous ethnic and culturally diverse populations, it has become apparent that researchers, clinicians, and policymakers must do a better job of clarifying and defining the parameters under investigation in the particular group to which they refer (Alarcon & Ruiz, 2009; Alegria et al, 2009; Westermeyer, Hollifield, & Cañive, 2010). Research from the theoretical perspective of the Social Determinants of Health Model suggests that race, ethnicity, gender, socioeconomic status, education, environment, health behaviors, beliefs, and other variables are critical when disentangling the antecedents associated with unacceptable

morbidity and mortality (Commission on the Social Determinants of Health [CSDH], 2008; IOM 2002; Marmot & Wilkinson, 2006; Pleis, Ward, & Lucas, 2010).

Mayas in Central America

In Guatemala, a Central American nation bordered by Mexico, Belize, El Salvador, and Honduras, about one-half of the population is Mayan Indian or descendants of Mayan Indian ancestors (Foster, 2007). These groups of Guatemalans have endured centuries of war, internal violence, exile, marginalization, genocide, and other trauma; these prolonged traumas have been perpetrated upon them ever since the Spaniards invaded their country in the early 16th century (Central Intelligence Agency [CIA], 2011b; U.S. Department of State, 2010). Even though their lives may become increasingly complicated by social and environmental challenges, Mayan immigrants leave their homeland to escape ongoing traumatic experiences, such as genocide and discrimination, in Guatemala. Unfortunately, they experience some of the same traumas, such as human rights violations, a climate of fear and terror, social isolation, and death at the hands of local or Guatemalan soldiers that cross the borders when they migrate to Mexico, a neighboring country, where many settle temporarily before migrating on to the United States (Montejo, 1999; U.S. Department of State, 2010).

Mayan Exodus to the United States

Hispanics accounted for 56% of the population growth in the United States between 2000 and 2010 (Ennis, Ríos-Vargas, & Albert, 2011). This phenomenal growth has and will continue to create ethnically and culturally diverse communities throughout the nation. According to the U.S. Census Bureau, Guatemalans made up 1.1% of the Hispanic population with 372, 487 people in 2000. In 2010 Guatemalans surpassed the

one million (1,044,209) mark. Currently, they make up 2.1% of the nation's Hispanic population. In 2010, the growth of Guatemalans (180.3%) outpaced that of Mexicans (54.1%), Cubans (43.8%), and Puerto Ricans (35.7%; Ennis et al., 2011). Guatemalan immigrants are now the sixth largest population of people with Hispanic origin living in the United States; they are the second largest group of Central Americans, outnumbered only by El Salvadorans (2011). Mayas have come to the United States in search of opportunities for better and more productive lives, especially since the 1980s (Burns, 2001), and, with each passing year, the flood of Guatemalan expatriates has continued to increase. There is every indication that this increasing trend will persist (see Appendix B).

Mayas in Florida

Motivated by concern for the wellbeing of their families, and armed with high hopes of finding community settings that allow for growth, safety, and survival, many Mayas have been attracted to Florida (Burns, 1993; Hiller, Linstroth, & Vela, 2009). Florida has become the adopted home to the second largest population of Guatemalan immigrants in the United States; over 83, 000 Guatemalans live in the state, which has a total population of 18.8 million (Ennis et.al, 2011). Hence, the diversity in the region has multiplied exponentially.

The American lifestyle presents many challenges along with opportunities. A profile of the Mayan population in southern Florida could be depicted as: (a) under-employed; (b) belonging to the lower socioeconomic class; (c) uneducated; (d) having little access to healthcare; and (e) neither English nor Spanish speaking—in fact, Mayas speak one of more than 22 distinct languages (Hong, 2010; Montejo, 1999; Dockterman,

2011). Even in the United States, Mayan immigrant communities have been fraught with internal conflict, violence, and an overlay of hopelessness about the future (Burns, 2001).

There is limited scientific literature documenting the long-term health consequences associated with the daily social, political, and economic stressors of Mayan people who have immigrated to the United States in search of enhanced wellbeing and a better life for themselves and their children (Millender, 2010). Even less is known about how they cope with these stressors in their new country, the United States. What is known, however, is that mental health disruption and substance abuse disorders have been associated with morbidity and mortality among Mayan people.

Significance of the Problem

Mental Health and Substance Abuse Worldwide

For centuries, physical illnesses were the priority in professional and lay health systems. However, health is more than the absence of physical illness; it encompasses the state of physical, mental, and social wellbeing; therefore, mental health is an essential dimension of health (WHO, 2010, September). In recent years, mental health and substance use has rapidly become a top health priority. There are over 450 million people worldwide living with some form of a mental disorder, and one out of four experienced the symptoms of a mental disorder during their lifetime (WHO, 2010, September).

Substance abuse, predominately alcohol and smoking, accounts for 5.6% of the world's annual disease burden (WHO, 2010, December). Social, psychological, and biological factors, including stress, have placed mental health and substance use disorders as leading contenders of disability and health burden (Marmot & Wilkinson, 2006; WHO, 2010, September). Future planning suggests that by the year 2020, mental health

disruption and substance abuse disorders will surpass all physical illness as the leading causes of disability worldwide. Combined, they will shorten lives by more than 28 years among persons who suffer from these preventable and treatable burdensome disorders, with the leading two mental health disorders responsible for the years of life loss being depression and alcohol use (WHO, 2011a, 2011, October).

Mental illness, one of the most devastating conditions in the world, can have consequences that mirror those associated with cancer, heart disease, and other maladies (WHO, 2003). In 2000, depression was the fourth highest contributor to the global burden of disease, as measured by the potential years of life lost because of mortality-- also known as disability adjusted life years. By 2020, it is projected that depression will rank second as a health problem among all individuals worldwide, who are burdened by this treatable illness (WHO, 2011a). Currently, depression affects about 121 million people worldwide; it is the second cause of disability adjusted life years among males and females between the ages of 15-44 and is responsible for 850,000 lives lost due to suicide worldwide (2011a). Equally disturbing is the fact that fewer than 25% of individuals suffering with depression have access to treatment; this can be attributed to lack of insurance, limited health system resources, unavailability of trained providers, and the relentless presence of social stigma (2011a). The lack of access, limited education, and stigma help to widen the treatment gap, and may explain the excessive consumption of alcohol among poor people worldwide.

Despite the years of life lost to alcohol, 55% of adults consume it, and more than 2.5 million people die from its use across the world community. Significantly, alcohol is responsible for more deaths worldwide than HIV/AIDS, violence, or tuberculosis (WHO,

2011b). Alcohol is also responsible for social issues such as violence, child abuse and neglect, and workplace disruptions (WHO, 2011b). Alcohol- related comorbidities include chronic medical conditions such as diabetes and hypertension (WHO, 2011b). Risk factors for mental illness and substance abuse increase with poverty and lower educational levels (Marmot & Wilkinson, 2006). The unequal distribution of social gradients, such as poverty and education, leads to the unequal distribution of poor health, morbidity, and mortality (Marmot, 2005). Collectively, these gradients create the social determinants of health (CSDH, 2008), as described by numerous researchers such as Wilkinson and Marmot (2003), and Blas and Kurup (2010). In spite of the compelling statistics linking alcohol use, poverty, and poor health, little is known about the mental health status or alcohol use of the estimated 370 million indigenous people worldwide, who represent over 70 countries, who face persistent socio-economic pressures. Mayas face toxic combinations of the social determinants of health: marginalization, conflict, and displacement, both social and geographical (Solar & Irwin, 2007). These circumstances may explain why adult Mayas who live in South Florida have high incidences of mental health and substance abuse disorders; with stress at the center of their lives, coping in an estranged environment requires continuous novel coping skills (Millender, 2010; WHO, 2007, October).

Mental Illness and Alcohol Use in the United States

Even though the increase in the prevalence of mental illness in the United States is a trend that has been constant over the past 20 years, the availability of adequate resources related to improving mental health and decreasing substance abuse in the United States is not keeping pace with the number of individuals seeking mental health

and substance abuse treatment. In the United States, in 2007, nearly 24 million adults ages 18 to 64 were reported to have some form of mental illness or substance abuse disorder. This statistic reflects an increase of almost 11 million people in the decade beginning in 1997 (Brown, 2011). In 2008, the World Mental Health Survey indicated that the lifetime risk for the top four mental disorders in the U.S. population was 36% for any anxiety disorder, 31.4% for any mood disorder, 25.6% for any impulse-control disorder, 17.4% for any substance use disorder, and 55.3% for any disorder (Wang et al., 2011). In 2009, 8.4 million adults in the United States reported having serious thoughts of suicide; nearly 15 million people experienced at least one major depression episode, and more than 45 million adults reported living with someone who has a mental illness (Substance Abuse and Mental Health Services Administration [SAMHSA], 2010). These alarming numbers are of major concern; yearly, one in every two Americans is diagnosed with a mental health disorder.

The World Mental Health Survey also stated that only a fraction of individuals suffering with a mental health and/or substance abuse disorder sought treatment within the first year of onset of signs and symptoms. Such delay in help-seeking forestalls or prevents prompt and efficient intervention for preventable and treatable disorders (SAMHSA, 2010; Wang et al., 2011). The U.S. government has acknowledged that mental health disorders are detrimental to individuals, families, and communities, but specific plans to address these conditions have not yet been developed (New Freedom Commission on Mental Health, 2003). Failure to plan for treatment is particularly troubling in light of the fact that 80-90% of mental health disorders are treatable (Office of Minority Health and Health Disparities [OMHHD], 2007). The lack of treatment may

explain the co-occurrence of substance use and mental disorders (U.S. Department of Health and Human Services [USDHHS], 2010).

Comorbidity, the occurrence of two or more illnesses, is prevalent among individuals suffering with substance abuse (National Institute on Drug Abuse, 2010). According to data from SAMHSA (2010, 2011), substance use has been frequently associated with mental illness and notably exacerbates the illness. Individuals who suffer from substance use disorders are 2.5 times more likely to have a co-occurring mental illness when compared to adults without a substance use disorder (SAMHSA, 2010). Fifty-two percent of the U.S. population aged 18 and older drink alcohol regularly (12 or more drinks in the last year), with 61% being men (2010). Among this population, 29.8 percent (13.4 million adults) had five or more drinks during one occasion in the past 30 days; importantly, adults with mental illnesses were more likely to drink alcohol than were adults without mental illnesses (2010). Therefore, it is not surprising that, in 2009, out of the 45.1 million adults in the United States with mental illnesses, 19.7 percent (8.9 million adults) met the criteria for substance abuse, and out of 20.8 million adults who had a substance use disorder in the past year, 42.8 percent (8.9 million adults) met criteria for a mental illness (2010). In the same national study (2010), 20.4 percent of individuals with severe mental illness and 13.6 percent of individuals with moderate mental illnesses also suffered from an alcohol disorder comorbidity.

Costs of mental health disorders and alcohol use in the United States. The continuing increase in mental health and substance abuse disorder expenditure is accelerating at a phenomenal rate, faster than other disease prevention and treatment expenditures (Brown, 2011). During the ten-year span from 1997 to 2007, the persistent

increase in individuals with mental illnesses and substance abuse in the United States translated to a 13 billion dollar increase in treatment expenditures; the total was \$36.5 billion in 2007, compared to \$23.5 billion in 1997 (2011).

The estimated annual cost of substance abuse in the United States has been estimated to be \$510.8 billion dollars a year, with alcohol accounting for \$191.6 billion, followed by tobacco use (\$167.8 billion) and drug abuse (\$151.4 billion) (Miller & Hendrie, 2008). Alcohol negatively affects both personality and persona; it affects the ability to parent, to sustain healthy relationships, and to be gainfully employed (SAMHSA, 2009).

During 2002-2007, 7.5 million children younger than age 18 years lived with at least one parent who abused alcohol. The common outcomes associated with this usage include child neglect, child abuse, trauma (including death) related to motor vehicle accidents, partner violence, job loss, and overall family dysfunction. Alcoholism can also cause harm to others through fetal birth defects (WHO, 2011b). The financial cost related to alcohol use makes this disease one of the most costly conditions in the United States.

In addition to causing harm to others, alcohol use affects individuals by altering productivity levels and causing more than 60 different diseases and injuries, including death (WHO, 2011b). The prevalence and progression of diseases, such as diabetes and cardiovascular diseases, that are associated with alcohol use increase in level of severity with the volume of consumption (WHO, 2011a; 2011b). The new Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), released on May 18, 2013, eliminated alcohol abuse and alcohol dependence, replacing them with alcohol use disorder either mild, moderate, or severe (American Psychiatric Association [APA],

2013). The prevalent thinking has been that alcohol use can be perceived on an illness continuum; therefore, a syndrome-type assessment spectrum could be presented that ranges from mild to severe and spectrum specific interventions could be applied (APA, 2013; Heltzer, 2010). Such interventions could be the foundation for care that would decrease alcohol-use disparity gaps between ethnic groups.

Disparities in mental illness and alcohol use disorders. Evidence indicates that mental health disparities exist across and within minority groups, such as between the larger Hispanic group and the Mayas (Jackson et al., 2010). The integration of culture and social factors were upfront in the new DSM-5 since culture gives meaning to symptoms, signs, and behaviors that must be understood in order to accurately make a diagnosis (APA, 2013). These disparities will continue to widen as long as the diversity between immigrant groups persists and the mental health system fails to keep pace with understanding ethnic differences (Jackson et al., 2010). Social factors, such as poverty and material conditions, have been documented as lethal antecedents to high morbidity and mortality throughout the world. Such compelling research propelled the DSM-5 to create a new section titled “Risk and Prognostic Factors” under each disorder. This new section looks at different social determinants of health to assist the clinician to better understand the lived experience of patients and how they relate to mental disorder (APA, 2013). This improvement within the DSM-5 will help unique groups, such as the Mayas in America, who exemplify the connection between social factors and morbidity/mortality (Burns, 1993, 2001). Specific political and economic barriers confront the Mayan population, barriers that have caused Mayas to become the victims of circumstances that are creating a plethora of negative social factors affecting health.

These social factors create a backdrop of poverty resulting in a high prevalence for mental illness and alcohol use in Mayan people (Jackson et al., 2010). Culturally specific interventions are needed to address their health and wellbeing (Marmot & Wilkerson, 2006).

Results from the 2009 National Survey on Drug Use and Health (SAMHSA, 2010) indicate that adults who self-identified as belonging to two or more races made up 32.7% of individuals experiencing mental illnesses during the past year. On the other hand, groups that self-identified as being of a single race reported lower rates of mental illness: Native Americans: 21.6%, Whites: 20.7%, Hispanics: 17.8%, and African American: 17.9% (2010). This report provided a brief description of youth ages 12-17, indicating that 2 million youth suffered from depression. Much like their adult counterparts, females had a higher prevalence of depression and were more likely than males to seek treatment (2010).

Hispanics and Blacks were more likely than were Whites to experience frequent feelings of sadness, hopelessness, and worthlessness; Native Americans were three times more likely than were White Americans to experience these feelings (USDHHS, 2010). Although both men and women experienced these feelings, women were more likely than were men to use mental health services. Whites (16%) and persons reporting two or more races (19.1%) were more likely to seek mental health care than Asians (3.5%), Hispanics (7.3%), or African Americans (7.7%). When treatment was provided to these minority groups, the care was considered to be inadequate (IOM, 2002; SAMHSA, 2010).

Native Americans and Hispanics suffered disproportionately from substance abuse when compared to White Americans, African Americans, and Asians (OMHHD, 2007).

Alcohol tended to be the substance of preference among Hispanics; about 42% of the population drinks regularly (USDHHS, 2010). When these data were disaggregated by nationality, Puerto Ricans had a higher prevalence for alcohol use than Cubans, Mexicans, or other Latinos (Alegria et al., 2007), but many distinct groups, such as the Mayas, were not distinguished. Environmental exposures such as unsafe living conditions, variability in cultural assimilation, variability in social assimilation, and acculturation are just some of the factors that have been linked to alcohol use among these populations (2007).

Social Determinants of Health

The differences in mental illness and alcohol use rates may be attributed to social factors. Social factors that are predominant in one group may not necessarily be experienced by others, such as poverty, inequality, gender inequity, conflict, genocide, discrimination, and violence (Fisher & Baum, 2010; WHO, 2010, September). In view of these findings, Healthy People 2020, the nation's spotlight on health, has developed objectives that will be used to guide approaches to the nation's health care for the next ten years (USDHHS, 2010). In an effort to obtain a more comprehensive assessment which takes into consideration the understanding that health is embedded in sociocultural and economic context, the new DSM-5 also addressed social determinants of health by assessing temperamental risk factors prior to mental illness; these include environmental risk factors such as education and social economic status, and genetic and physiological risk factors such as gender (APA, 2013). Factors such as insurance coverage, economics, isolation, educational attainment, and language fluency may give some insight as to why certain groups are healthier than others (OMHHD, 2007).

Based on local and global research, it is a known fact that those adults of minority status who have less education, limited income, and thwarted productivity are more likely to experience feelings of sadness, hopelessness, worthlessness, and psychological distress (USDHHS, 2010). For example, in the Hispanic group, those living below the poverty level were more likely to experience higher levels of stress than those living above the poverty level (OMHHD, 2007). Similarly, unemployed individuals were more likely to have a mental illness than those with full time employment (SAMHSA, 2010).

Unfortunately, the utilization of mental health services is lacking among members of diverse ethnic groups; all too often they cannot afford care (42.5%), do not know how to access care (18.5%), and experience language and cultural barriers that perpetuate the forestalling of help-seeking (2010). Numerous factors that contribute to these undesirable outcomes include inadequate education, low assimilation and acculturation, biases in health systems, distrust of health care providers, lack of insurance, and divergent cultural approaches to prevention and treatment of disorders (IOM, 2002; OMHHD, 2007, 2010; Wilkinson & Marmot, 2003).

Overall, the socioeconomic status of minority populations is lower than that of Whites. The deprivation of social and economic resources combined with environmental stressors negatively influences the mental and physical health of minority populations (Jackson et al., 2010). Consequently, poverty brings heightened exposure to crime, poor education, unemployment, inadequate housing, and inferior healthcare; stress associated with these disadvantages contributes to mental and physical illnesses and exposure to substance use and abuse (2010). Prevention of substance abuse, mental illnesses, trauma, and the social determinants have been identified as four of the eight SAMHSA initiatives

for leading change from 2011-2014 (SAMHSA, 2011). These initiatives have been established to address stressors and traumatic experiences experienced by minority groups.

Stressors. Disparities underlie stress. This concept was addressed in the new DSM-5 with the creation of a separate “Trauma and Stressor-Related Disorders” section (APA, 2013). Researchers and clinicians understand that people and groups express psychological distress differently following trauma combined with stress. Acute stress disorder can be experienced indirectly (as in trans-generational experiences), experienced directly, or witnessed (APA, 2013). Disparities in social, environmental, economic, structural, and interpersonal gradients produce experiences and emotions that induce stress, causing changes in the neuroendocrine system, which may manifest as one or several mental illnesses and or substance use/abuse conditions (Brunner & Marmot, 2006). Stress is a biological response to the social environment that interferes with the person’s wellbeing and health status (2006). Stressors vary by cultural background; consequently, it is essential to understand the unique risk factors that are associated with individual ethnic groups (Choi, Meininger, & Roberts, 2006). Stressors may be amplified by circumstances, such as the struggle to maintain connections to one’s past while living in current political and economic realities, realities that may not show deference to the historical tussles that have a real and devastating influence on the present-day wellbeing of individuals and populations (Charbonneau-Dahlen, 2010; Montejo, 1999; Ruiz & Primm, 2010).

Cumulative trauma. Cultural variation, immigration, and social and economic status are frequently simultaneously occurring and closely connected stressors, yet most

research has focused on single traumatic events (Jackson et al, 2010; Kira et al., 2008). Ethnic groups with a history of trauma such as genocide, oppression, violence, and war in their countries of origin frequently deal with perceptions of life in the United States through the lens of prior experience (Charbonneau-Dahlen, 2010; USDHHS, 2004). Populations that face extreme stressors and trauma (e.g. victims of war or genocide) are at higher risk for mental illness and social problems such as post-traumatic stress disorder (PTSD), depression, anxiety, poverty, lack of education, and lack of resources (Charbonneau-Dahlen, 2010; USDHHS, 2004; WHO, 2003). The complexity and combination of current and historical cultural, social, and environmental stressors and traumas tend to affect those with fewer economic resources the most, resulting in higher morbidity, mortality, and therefore, health disparities (CSDH, 2008; USDHHS, 2004).

The combination of poverty, lack of family support, discrimination, marginalization, and violence can decrease tolerance to deal with relentless trauma, stressors, and adjustment to new realities (USDHHS, 2004). Given the accumulation of trauma experienced by Mayas, there is a critical need to learn about the combined influences of social determinants and extreme stressors on the mental illness and alcohol use of this population. The accumulation of traumas results in morbid patterns such as obesity, diabetes, depression, anxiety, PTSD, and substance abuse disorders (Charbonneau-Dahlen, 2010; Kira, 2001). To date, few studies have been conducted exploring the potential risks of cumulative trauma dose, that is, prolonged stress exposure combined with simultaneous exposure to trauma over the course of a lifetime, as it relates to the mental and physical status of adult Mayas living in Southeast Florida.

Statement of the Problem

By the year 2020, mental, emotional, and substance abuse disorders are expected to surpass all physical illnesses as the leading cause of disability worldwide. The U.S. government has acknowledged that -inasmuch as mental health is essential to the overall health of individuals, families, and communities -cultural considerations combined with complicated social factors result in fewer help-seeking behaviors among ethnically diverse subgroups (USDHHS, 2001a). As a consequence of this inadequacy, disparities in mental health, physical health, and substance abuse disorders continue to widen among diverse populations like the Mayas (IOM 2002). The new DSM-5 (APA, 2013) and Healthy People 2020 (USDHHS, 2010) are just beginning to address the interactions among ethnicity, immigration, culture, alcohol use, trauma, and the social determinants that are related to healthy lifestyles (Jackson et al., 2010; USDHHS, 2010). Despite the fact that most mental illnesses are treatable, the gap continues to widen, resulting in high levels of disability, morbidity, and mortality. This could be aggravated by mental illness and medical conditions comorbidities (CSDH, 2008; Marmot & Wilkinson, 2006; WHO, 2007, October; WHO, 2011a).

Mayas are generally not included in research addressing or distinguished as a Central American and Native Indian cultural group (Millender, 2011). Social determinants of health, self-perceived cumulative trauma experiences, and mental health status, including depression and alcohol use patterns, have been examined within the segment of population identified as Hispanic. Examination of the social determinants of health for the Mayan population warrants research attention.

Conceptual Framework

If scientists and health care providers are to improve the mental illness and alcohol use disparities of all people, including the Mayas, they will have to ensure that their work is mindful, relevant, and respectful of culture (Montejo, 1999). Frameworks must include some aspects of the caring fundamentals, including trust, to examine factors influencing the health status of vulnerable and ethnically diverse populations, such as the Mayas, who may be skeptical of the healthcare system (Lowe, Riggs, & Henson, 2011). It is through caring that health professionals have been able to assist those who are most fearful and vulnerable to make meaning of suffering and to sustain a sense of hope (Watson, 2005).

To explore the social determinants of health among South Florida Mayan people, two models have been integrated: the Human Caring model and the Social Determinants of Health Model. By overlapping these two models, the researcher has been able to explore the cumulative influence of social determinants on the mental health wellbeing of adult Mayas. Understanding these factors in the specific domain of the Mayas may help to facilitate the delivery of culturally appropriate care. Each of the models has been explicated in the following paragraphs.

The first theory incorporated in this study was Boykin and Schoenhofer's (2001) Nursing as Caring Theory. The assumptions of the theory include that persons are caring, whole in the moment, and live caring moment-to-moment. With this, personhood lives in caring that is enhanced through nurturing caring relationships; the center of nursing as a discipline and as a profession is caring (2001).

Caring is defined as actions that evoke sharing of mutual and intimate insights that help the other grow (Mayeroff, 1971). It is important to understand that, despite caring being a part of all human beings, not every act of a person is caring (Boykin & Schoenhofer, 2001). Caring is fundamental to interpersonal development expressed in the nursing situation; a key concept of this theory is described as lived experiences that are shared to understand and enhance personhood between the nurse and the nursed (2001). It is this focus and the nursing situation that allows Nursing as Caring theory to be transformed into practice by permitting intimate relationships to guide the identification of that which matters to the day-to-day life of patients (Bulfin, 2005). The dance of caring persons in the following illustration (see Figure 1) provides a visual model that brings together all the key elements of nursing as caring. The circular shape of the dance represents equal respect for all members of the circle that requires a mutual sense of “courage, trust, and humility” (Boykin & Schoenhofer, 2001, p. 36). Each dancer in the circle contributes something different and comes to know the other as a caring person with distinct roles and needs. This commitment to each other gives birth to caring relationships that allow the nurse to be able to investigate and understand calls for nursing and support (2001). To guide the investigation and understanding process, the Social Determinants of Health Model have also been used in this study.



Figure 1. The dance of caring persons. Reprinted with permission from A. Boykin, and S. O. Schoenhofer, 2001, p. 37, *Nursing as Caring: A Model for Transforming Practice*. Copyright 1993 by National League of Nursing Publications.

Social Determinants of Health Model In 2005, the World Health Organization (WHO) created a commission tasked with addressing the social determinants responsible for causing illness and inequities among diverse populations throughout the world (Solar & Irwin, 2007). This work was the foundation for the development of the Social Determinants of Health Model, which has assisted in identifying multiple factors that influence the mental and physical status of Mayas living in Florida. Social determinants of health can be best defined as the complex types of conditions in which people live and work (CSDH, 2008). The overarching concept of the model indicates that social structure influences wellbeing, mortality, and morbidity via three possible pathways: material factors, psychosocial, and behavioral pathways (Marmot & Wilkinson, 2006).

The first path includes social structure, employment, social environment, and material circumstances; these are referred to as the upstream factors, due to their indirect

causal influence on illness. Upstream factors are usually embedded in frightening social and political conditions that influence the wellbeing of individuals (CSDH, 2008). The lack of certain material structures have a greater negative influence on health, such as inability to obtain food and clothing, unsafe neighborhoods, overcrowded living conditions, inadequate education, lack of social support systems, and unemployment (Solar & Irwin, 2007). Individuals experiencing unsafe work environments, low job satisfaction, high emotional or physical demand, and lack of social support in the workplace, combined with low decision-making authority are at higher risk for unhealthy outcomes (Wilkinson & Marmot, 2003). The lack of these resources and exposure to day-to-day inequalities presents itself as a constant in the lives of the Mayas.

The second pathway of the model indicates that exposure to social inequalities can trigger a psychological response (stress), indirectly influencing health behaviors (Marmot & Wilkinson, 2006). Acute or chronic stressors that may manifest from the accumulation of negative living circumstances can result in high levels of cortisol and glucocorticoid hormone release (Brunner & Marmot, 2006). Prolonged exposure of the body to stress hormones causes alteration of the pathophysiology of the person, resulting in physical illness, such as obesity and/or diabetes, as well as direct links to biological pathways resulting in mental illnesses, such as depression (Brunner & Marmot, 2006; Wilkinson & Marmot, 2003; WHO, 2007a). The inability of individuals to cope with the accumulation of these stressors and illness may lead to unhealthy behaviors, such as alcohol consumption, or unhealthy eating habits (Solar & Irwin, 2007).

Lastly, the Social Determinants of Health Model (see Figure 2) is influenced by the early experiences of the person, which may be trans-generational, including factors

such as genetics and culture. Early life circumstances, such as lack of education and historical trauma, can lead to lower socioeconomic status that later influences health status (Solar & Irwin, 2007; Charbonneau-Dahlen, 2010). It is believed that early life experiences, racism, for example, influences the next generation through biological expression (CSDH, 2008). The individual’s cultural values and early life experiences influence perception of health; it also instills a lack of trust in the health care system, resulting in failure to seek treatment (2008). Individuals from unique cultural groups, like the Maya, mistrust systems in general, thus erecting barriers to health systems (2008).

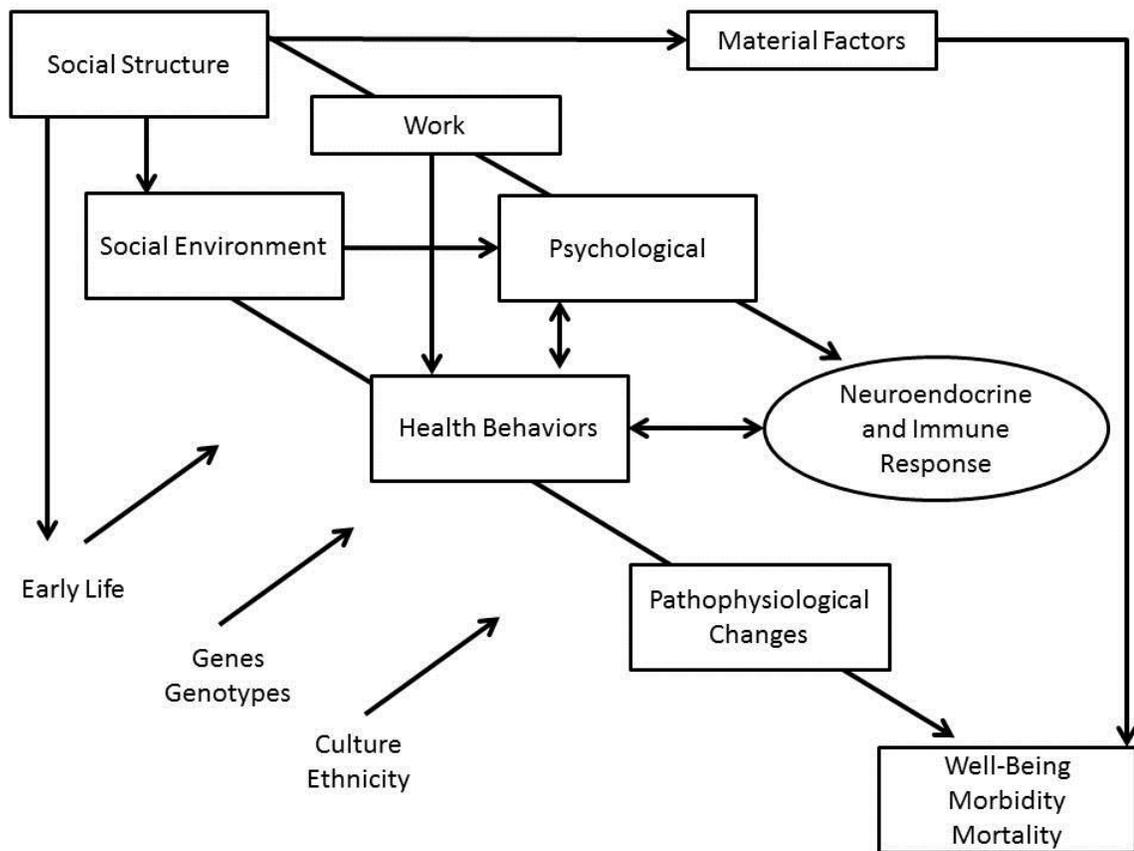


Figure 2. The social determinants of health model. Adapted from “Social Determinants of Health and the Pathways to Health and Illness,” found in Brunner, E. & Marmot, M. G., (2006). *Social Organization, Stress, and Health*. In M. Marmot and R. G. Wilkinson, 2006, *Social Determinants of Health* (2nd ed.), Figure 2.2, p.9. Copyright 2006 by Oxford University Press.

Conceptual model for the study. A descriptive correlational study design was used to explore the social determinants of health among adult Mayas living in Southeast Florida. The Social Determinants of Health Model is grounded on the premises that social factors are largely responsible for an individual's illness (Marmot & Wilkinson, 2006). For this study, an assumption has been made that the nursing situation is a context for discovering these factors (Boykin & Schoenhofer, 2001). The interpersonal connection of caring with implicit commitment and devotion to the Mayan population has to be central when connecting with this and any vulnerable populations who, based on their lived experience, may be hesitant to trust and see the other as a caring person (Mayeroff, 1971). By intertwining these two theories, nursing will continue to advance as a discipline and a profession. Nursing has been distinguished by the ability to understand the social needs of diverse communities, and has been able to guide disadvantaged people toward wellbeing.

The main premise of this study has been that social factors, particularly the accumulation of trauma and stress related to social inequalities, have had a significant influence upon the mental health among Mayan communities, leading to unhealthy coping skills (alcohol use) directly impacting the morbidity and mortality of this population (Fisher & Baum, 2010; Marmot & Wilkinson, 2006). In this study, morbidity and mortality have been conceptualized by measuring the level of risk factors for cumulative trauma, depression symptoms, and health behaviors (alcohol use) among adult Mayas.

The conceptual model for this study adopted the Social Determinants of Health Model, with Nursing as Caring integrated into the model. It is through the development

of caring relationships that information is shared with the other (nurse) and factors that impact health are identified. The model represents the items that were identified and measured in this study as nurse-patient relationships developed. The client guided the provider to understand how they live and work. The provider then identified how social determinants of health (education, health insurance, employment, marital status, and years in the United States) influence cumulative trauma, health behaviors (alcohol use) and mental health (depressive symptoms) among adult Mayas. These factors can serve directly and/or indirectly to influence health; therefore serving as proxy to morbidity and mortality for this culturally diverse and rarely researched population.

Research Model

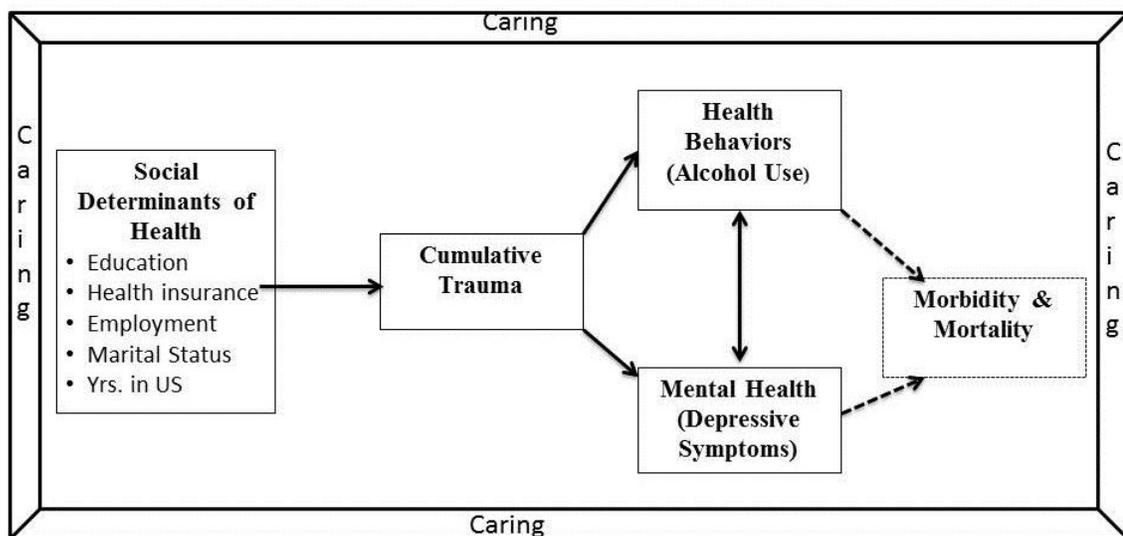


Figure 3. Nursing as caring as it relates to social determinants of health. Adapted from Brunner, E. & Marmot, M. G., (2006). Social Organization, Stress, and Health. In M. Marmot and R. G. Wilkinson, 2006, *Social Determinants of Health* (2nd ed.). Copyright 2006 by Oxford University Press.

Research Questions

This study was conducted to obtain answers to the following research questions:

Research Question 1: What are the social determinants of health (education, health insurance status, employment, marital status, and years in the United States) among adult Mayas living in Southeast Florida?

Research Question 2: What is the level of cumulative trauma among adult Mayas living in Southeast Florida?

Research Question 3: What is the level of depression symptoms among adult Mayas living in Southeast Florida?

Research Question 4: What is the level of alcohol use among adult Mayas living in Southeast Florida?

Research Question 5: What is the relationship of the social determinants of health (education, health insurance status, employment, marital status, and years in the United States), cumulative trauma, depression symptoms, and alcohol use among adult Mayas living in Southeast Florida?

Hypothesis 5a: There will be a significant relationship between social determinants of health and cumulative trauma among adult Mayas.

Hypothesis 5b: There will be significant relationship between social determinants of health and depression symptoms among adult Mayas.

Hypothesis 5c: There will be a significant relationship between social determinants of health and alcohol use among adult Mayas.

Research Question 6: What are the relationships between cumulative trauma, alcohol use, and depression among adult Mayas living in Southeast Florida?

Hypothesis 6a: There will be a significant relationship between self-reported cumulative trauma and depression symptoms among adult Mayas.

Hypothesis 6b: There will be a significant relationship between self-reported cumulative trauma and alcohol use among adult Mayas.

Definitions of Terms

The following terms are conceptually and operationally defined for use in this study:

Alcohol use disorder: A potential pattern of alcohol consumption that can be described based on severity (mild, moderate, or severe) based on clinical significance (APA, 2013; p. 490). Alcohol use was operationalized by assessing risk for alcohol use using the Alcohol Subscale Score in the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) tool (Humeniuk et al., 2008; see Appendix C).

Cumulative trauma (CTS): The successive and combined exposure to multiple traumas over the lifetime of the person (Kira et al., 2008).

Cumulative trauma was operationalized by totaling the scores (dose) of all the cumulative trauma sub-scales: Gender Discrimination, Personal Identity Trauma, Collective Identity Trauma, Torture, Attachment Trauma, Achievement Trauma, Survival Traumas, and Secondary Traumas derived from the Cumulative Trauma Scale (see Appendix D; Kira et al., 2008).

Depression: A psychological disorder that may affect a person's day-to-day life and ability to meet responsibilities (APA, 2013). Depression was operationalized by using the scores from the Beck-II (Beck, Steer, & Brown, 1996).

Maya: Any descendent of the indigenous Mayan population (Burns, 1993).

Operationally, an individual was determined as being Mayan through self-identification.

Social determinants of health: Social, economic, and environmental gradients that influence the day-to-day overall health status of a person (Marmot & Wilkinson, 2006).

Social determinants of health among adult Mayas was operationalized by collecting client's demographics (education, health insurance status, marital status, employment, and years in the United States; see Appendix E), social environment (social structure factors), psychological characteristics (depression symptoms and cumulative trauma score), and health behavior (alcohol use).

Social environment: The daily interaction of physical surroundings, cultural experiences, and social relationships in which people function (Barnett & Casper, 2001). Key components of social environment include industrial and occupational structure; socioeconomic status elements; support systems, cultural practices; beliefs about place and community, including historical social and power relations that can be experienced at multiple levels simultaneously (2001).

Social environment was operationalized as either positive- or negative-based on the amount of social structure resources (employment, income, and health insurance) available to the sample.

Social structure: The interrelationship of goods, services and policies that shapes social circumstances of an individual or group within a society (Lin, 2002; Williams, 2003).

Social structure was operationalized by collecting sociodemographic attributes from a demographic survey: employment status, income, health insurance status, and years in the United States (see Appendix E).

Sociodemographic characteristics: These reflect “a combination of sociological (related to sociology) and demographic (relating to populations) characteristics” (MacMillan, 2010). Sociodemographic characteristics (see Appendix E) were:

Income: This includes earned or unearned wages, an indicator that most directly measures material resources (CSDH, 2007). Income was operationalized by one question “What is your weekly income?”

Marital status: Reflects the civil status of an individual. Marital status was operationalized with a single question, “What is your marital status?”

Employment: An individual’s occupation or activity in which they participate with the purpose of improving their socioeconomic status (CSDH, 2007). Employment was operationalized by a single question “Are you currently working?”

Education: The number of years of formal education that may be used as strong indicator of early life and adult socioeconomic status (CSDH, 2007). Education was operationalized by a single question “How many years of formal education have you completed?”

Health insurance: Includes any type of private or government health insurance. Health insurance was operationalized by a single question “Do you have health insurance?”

Years in the United States: The number of years living in the United States. This was operationalized by asking one question “How many years have you lived in the United States?”

Significance of the Study

Little is known about the mental health and alcohol use status of adult Mayas living in Southeast Florida. The toxic combination of social, psychological, environmental, cultural, physiological, and biological stressors Mayas face daily places them at higher risk for mental and physical disorders leading to disability and health burdens (Marmot & Wilkinson, 2006; WHO, 2010, September). The burden of disease is not limited to mental disorder comorbidities; psychological stress can also induce or exacerbate chronic medical diseases such as obesity, diabetes, and hypertension (Brunner & Marmot, 2006; Sridhar, 2007). This translates to high levels of morbidity, mortality, and disability among ethnically diverse populations (USDHHS, 2001b). The Mayas are rarely divided by nationality (Millender, 2011), therefore, the cumulative biopsychosocial and cultural stressor patterns leading to mental and physical disorders in this unique population deserved to be studied separately to avoid incorrect assumptions and inappropriate generalization. The purpose of this study has been to explore the relationship of cumulative trauma as it relates to social determinants of health (education, health insurance status, marital status, employment, and years in the United States), psychological health (depression symptoms) and health behaviors (alcohol use) of the Guatemalan Mayas living in Southeast Florida.

In summary, the adult Mayan population’s health status is frequently ignored, and they are often mistakenly included under the Hispanic population (see Appendix A),

ignoring their culture, values, and health needs (Millender, 2011). In diverse and multicultural environments, health care providers must implement solutions that will bridge cultural and mental disparities. This study embraced the client as an equal partner in the nurse-client caring relationship to facilitate the identification of the social determinants of health, which are relevant to the mental health and health behaviors (alcohol use) of adult Mayas living in Southeast Florida. Increased diversity in the United States brings varied experiences, yet little is known about adult Mayas. This study bridges that gap.

CHAPTER 2: LITERATURE REVIEW

The purpose of this chapter is to examine the social determinants of health of the adult Mayas; it examines how the accumulation of traumas affects physical and mental health status. To provide the background, this chapter starts with an overview of the early life and culture of the Mayas, followed by the variables of this study, and ending with the examination of the health behaviors associated with social determinants of health of adult Mayas. The predictor variables for this study were cumulative trauma and social determinants of health (education, health insurance status, employment, marital status, and years in the United States). The criterion variables were psychological characteristics (depression symptoms), and health behaviors (alcohol use). This chapter explores the literature related to the broader Hispanic population, Guatemalan population, and the Mayan population when available.

Early Life of the Mayas

To understand the status of the Mayas, it is necessary to understand their past; this will provide scientists and clinicians with better comprehension of the depth and breadth of the factors that contribute to Mayan people's current health status. A brief overview about the Mayan history of and their experiences in Guatemala is provided as a context for the reader to delineate some of the political, historical, and economic issues that have helped to shape their realities in the United States

The Mayan Indians are native people of Central America, from regions that include present-day Guatemala, Belize, Honduras, and the five Mexican states of Yucatán, Quintana Roo, Tabasco, Campeche, and Chiapas. They had pure indigenous ancestry before Europeans entered their country in the 1500s (Burns, 2001; Foster, 2007; Wellmeier, 1998); subsequent intermixing occurred with Spaniards over the ensuing centuries. Over time, Spanish conquest resulted in families of mixed heritage, or mestizo, with Spanish and Mayan ancestry (see Appendix A). This racial category ultimately served to advance the extrication of land and natural riches from the Mayan people, as those with European bloodlines claimed dominance over full-blooded Mayans (Burns 1993, 2001). Labels were created to describe those who were multiethnic, a mixture of Europeans and indigenous: Mestizo or Ladino (1993, 2001).

This mixed heritage with the Spaniards created identity and political tensions among the Mayas and the more economically and politically powerful Spaniards. With Spaniard domination of the economic and political components of the country, enslavement of the Mayan people followed. Along with the Spaniards, the Mestizos also gained prominence, status, economic privileges, and political power (Burns 2001; Montejo 1999; Wellmeier, 1998). At the same time, Mayan people experienced *La Violencia* that came with genocidal violence, all in an effort to completely decimate the indigenous Mayan culture (Linstroth, 2009). Their devastation as a unique culture has been an ongoing process for more than five centuries (Hiller et al., 2009).

For many centuries, the Mayas lived in a world of uncertainty, in fear of violence and genocide by Spaniards who forced Mayas to abandon their land and culture (Burns, 1993; Percy, 2006; Wellmeier, 1998). Furthermore, from 1960 to 1996, the Guatemalan

Civil War resulted in the loss of tens of thousands of Mayan lives; complete Mayan villages disappeared (Montejo, 1999; Percy, 2006). During the civil war, the indigenous Mayas were victims of both the Guatemalan army and the guerrilla paramilitary (Linstroth, 2009; Montejo, 1999). Failure on the part of the Mayas to give up their land, language, and culture, at times, resulted in torture and/or death primarily by the Guatemalan army (CIA, 2011a; Hiller et al., 2009; Linstroth, 2009; U.S. Department of State, 2010). These experiences brought fear and the perception of danger, forcing hundreds of thousands of Mayan people to make a decision to exile (Foster, 2007; Montejo, 1999; Wellmeier, 1998). Armed only with their culture and traditions, many Mayas fled northward to Mexico, where approximately forty-two thousand Guatemalan Mayas were given political asylum. Further exploitation forced some Mayas to continue to migrate to the United States and Canada in an ongoing pursuit of safety (Montejo, 1999; Wellmeier, 1998). During the 1980s, about 100,000 Guatemalans fled to the United States; despite the constant threat of violence, only a few were granted political asylum, since the United States had not been the country of first asylum --the first country the Mayas entered after leaving Guatemala (Burns, 1993; Percy 2006). Between the years of 2007 and 2009, approximately 1,730 Guatemalans were given asylum status in the United States (Martin, 2011), which stands in stark contrast to the tens of thousands given asylum status in the 1980s and 1990s. This forced great numbers of Mayas to live in the United States undocumented and under tremendous stress (Burns, 1993). The accumulation of these historical events and the undermining of culture have made adjustment to the United States even more difficult and traumatic increasing the risk of mental illness and alcohol use (Lowe, 2006).

Culture/Ethnicity

Despite attempts to eradicate the Mayan culture, cultural roots remain strong, but years of constant repression and repetitive trauma has provided critical risk factors for mental illness and alcohol use. The Mayas are a distinct group of people with their own immigrant history, language variations, health beliefs and practices, and acculturation and assimilation perspectives. This uniqueness has often been disregarded by the dominant culture, and even worst, efforts to eradicate the culture have occurred, led by labeling as Hispanic.

Hispanic, a broad term, has been applied to numerous groups, but the concept is not well understood and has been misused and overused. Misappropriation of the Hispanic label (see Appendix A) is at the core of confusion about the health status of some groups (Alarcon & Ruiz, 2009; Alegria et al., 2009). It has its origins from the word Hispania, which is the Iberian Peninsula that is located in Europe and inclusive of Spain, Portugal, and the principality of Andorra (CIA, 2011b; Foster, 2007). The nomenclature, Hispanic, was imposed by Euro-Americans and integrated into the U.S. Census, the Office of Management and Budget, and other federal and state classification schemes, to describe individuals from countries in Central and South America (see Appendix A).

In research, clinical practices, and policy, terms and definitions about ethnicity are seldom clearly presented; confusion prevails regarding self-reported identity, cultural, historical, political, and economic descriptors. Today, Guatemalans (including Mayas) make up 2.1% of the Hispanic population, and have become one of the fastest growing Hispanic subgroups in the United States (Ennis et.al, 2011). In the 2010 census, Guatemalan growth doubled from the 2000 census, and this very diverse group was more

likely than any Hispanic group to self-identify as indigenous (2011). Despite being the largest indigenous group in Central America and Mesoamerica -10 million strong -the indigenous Mayas are too often labeled as Hispanic or Latinos in the United States, a label with which they do not identify (Hiller et al., 2009; Millender, 2010). This all-or-none label neglects the different experiences, stressors, social economic status, and physical and mental health status endured by the diverse population it represents. As this erroneous classification of people continues, it continues to add to the health disparity of this nation.

Ethnicity plays a major role in the mental health status of many immigrants, indigenous, and refugee groups, since ethnic identity is related to harmful stressors that such groups experience (Beiser & Hou, 2006). When exploring the acculturation status of Guatemalan Mayas living in refugee camps in Mexico, Doná (1993) found that this group rarely attempted to assimilate into the culture of the host country. Instead, Mayan refugees sustained their own cultural identity rather than the culture of the host country. Differences between and within ethnic groups are determinants of health since not all groups share the same history or the same traumas, and “the history of indigenous people in the United States differs from those who came here as immigrants” (Weaver, 1998). For example, Mayan experiences of sustaining their indigenous culture and the struggles that accompany staying in the United States are based on the often-hopeless search for political asylum that keeps them in a state of constant persecution. Therefore, the sources of stress for this population incorporate their early life of historical trauma, including genocide, and current social, environmental, and psychological conditions as immigrants

in the United States. What has not been clearly examined is the level of cumulative influence these factors have had on mental illness and alcohol use of this population.

Social Determinants of Health of Adult Mayas

The Social Determinants of Health Model addresses health status on the presumption that the intersection of social structure, environment, material factors, and psychology influences the health status of an individual (APA, 2013; Marmot, 2005). In the presence of material and social deprivation, the effects may be noted through psychological stress, which can influence behavior directly or indirectly, such as alcohol use, affecting both mental and physical health status (Brunner & Marmot, 2006). The idea that the population is a homogenous group as it relates to assessment, diagnosis, and treatment is no longer valid (APA, 2013). Differences and uniqueness must be assessed. A literature review was undertaken to learn about the historical and current social determinants of health of adult Mayas.

Social StructureHealth consequences are influenced by social, political and economic factors that affect the daily lives of individuals (CSDH, 2007). The accumulation and combination of these social structures over a life span makes up social determinants of health. The combined set of social systems continues to maintain social hierarchies that influence separation and health inequities (2007). When Mayas immigrated to the United States, they were hoping to sustain their culture as well as improve their social status (Foster, 2007; Percy, 2006). Discrimination continues today with the Ladino/Mestizo racial categories and socioeconomic hierarchy that placed Spaniards, Europeans, and other groups at the upper level of society, and the Mayas at the bottom (CSDH, 2007; Hiller et al., 2009). Such hierarchy shapes everyday circumstances, flow of social life,

and the availability of resources that are embedded in social policies that impacts education, employment, and income opportunities collectively known as social structure (Lin, 2002; Williams, 2003). In the United States, social stigma is built upon social structure. Although social structure is designed to create order; it often evolves into a way of separating and creating differences based on indicators of material circumstances, such as occupation status, income, education level, gender, race/ethnicity, nationality, and marital status (Williams, 2003).

A primary stressor of the Mayas is related to their motivation to succeed and find employment, since this is directly linked to improving the welfare of their families in the United States and back home in Guatemala, (Millender, 2010). Like other immigrants, Mayas are challenged to address migration issues such as instability, economic distress, and inability to communicate (Carlsson, Olsen, Mortensen, & Kastrup, 2006; Duke, Bourdeau, & Hovey, 2010). Other post-migration stressors include uncertainty about the future, inability to find employment, and asylum-seeking (Laban, Gernaat, Komproe, van der Tweel, & De Jong, 2005). Historically, the Mayas often lack formal education and language skills; many prefer to do manual labor, such as cultivating the land, a type of labor that represents a link to their Mayan culture. Unfortunately, manual labor tethers them to the lower rungs of the social ladder, contributing to disparities across the course of life (Beiser & Hou, 2006; CIA, 2011a; Hiller et al., 2009; Miller, 1996).

In the case of the Mayan immigrant, little information related to their social demographics in the United States is available, since this group is usually embedded within the broad Guatemalan population demographics. In 2009, 55% of Guatemalans did not have a high school education, compared to 39% of the Hispanic population.

Regarding average annual income, Guatemalans fared worse (\$17,000) than Hispanics (\$20,000), and the general U.S. population (\$28,900). Guatemalans (26%) are more likely than Hispanics (23%) and average U.S. Americans (14%) to live in poverty. Guatemalans lack health insurance at a higher rate (48%) than Hispanics (31%) and U.S. Americans (15%). They own fewer homes (32%) than Hispanics (48%) and average U.S. Americans (66%; Dockterman, 2011). These social statistics are often used to determine placement in the middle, upper, or lower class category of society (Smith, 2007). Lower social status and poverty have been linked to health disparities (Oliver & Hayes, 2008; Williams, 2008).

Worries about the lack of education and pressure to achieve through finding employment are daily stressors of the Mayas (Melville & Lykes, 1992). Lower social class results in the increased prevalence of easily treatable and preventable physical and mental disorders (Conroy, 2006; Oliver & Hayes, 2008; Percy, 2006). Untangling and understanding the relationship between social structure and health among Mayan immigrants in the United States will assist in identifying the causal pathways and antecedents that contribute to health disparities in this population (Oliver & Hayes, 2008; Williams, 2003). Despite providing a good indicator of health disparities, social structure cannot be assessed exclusive of social environment if health status of the indigenous Mayas is to be understood. It has been noted that refugees and immigrants who typically hold on to their culture lack formal education, language skills of the dominant culture, and are more likely to be unemployed; the ensuing material deprivation results in rates of higher depression, jeopardizing overall mental and physical health (Beiser & Hou, 2006).

Social Environment

The social relationships and the environment in which people live and work influence social status, community affiliation, and overall health status (Shaw, Dorling, & Davey-Smith, 1999). When the Mayas immigrated to the United States in search of a better social and economic life, they often experienced prejudice and discrimination in their new home (Foster, 2007). This experience has thrust many into enclave communities, where it is possible to escape racism and the discrimination associated with retaining one's cultural values, clothing, language, and other ethnic behaviors (Burns, 1993; Linstroth, 2009). This social isolation further adds to the invisibility of native groups and the disregard of their social and health needs (Linstroth, 2009; Lowe, 2006). Displays of ethnic pride invite additional criticism from the dominant host culture, compounding psychological distress and mental disorders (Beiser & Hou, 2006; Nesdale, Rooney, & Smith, 1997).

Harrell (2000), in a discourse on racism and stress, offered the following definition of racism:

A system of dominance, power, and privilege based on racial-group designations; rooted in the historical oppression of a group defined or perceived by dominant-group members as inferior, deviant, or undesirable; and occurring in circumstances where members of the dominant group create or accept their societal privilege by maintaining structures, ideology, values, and behavior that have the intent or effect of leaving nondominant-group members relatively excluded from power, esteem, status, and/or equal access to societal resources (p. 43).

Mena, Padilla, and Maldonado (1987) explained that those immigrants who experienced higher and more intense levels of culture- or race-related stressors have been those who made a conscious effort to retain their ethnic identity, which contributes to a

sense of not belonging, and the intensified perception of discrimination. Race-related stress affects well-being (Harrell, 2000). Perceived racism was noted among Asian/Pacific Islander (80%) and Hispanic/Latino (32.4%) adolescents, contributing to increased environmental risk, such as violence, drug use, and worries about safety (Surko, Ciro, Blackwood, Nembhard, & Peake, 2005). Perceived racism and accumulation of traumatic experiences increased with age; early adolescents (11-14 years old) reported less exposure than middle (15-16 years old) or late (17-21) adolescents, but early adolescents were more willing to talk about their concerns, while late adolescents were more reticent. Racism is highly correlated with negative health and well-being; the stress of racism, in turn, affects psychological and physiological responses that undermine health; coping ability deteriorates, thereby increasing the likelihood of developing mental or substance use disorders (Harrell, 2000; Surko et al., 2005).

In addition to enduring past and current discrimination, the Mayas also have to cope with the disruption to their social support networks. This includes the loss of formal support systems, including access to health care, as well as the loss of informal support systems, such as family and friends. Stress associated with the loss of these systems is negatively related to physical and mental health (Shaw et al., 1999). In one of the few studies with a Mayan sample, Warner (2007) explored social support of Mayan women living in a refugee community in Mexico. This research indicated that Mayan women with weak social support systems complained more of emotional, social, and psychological somatic symptoms than those with strong support systems. Warner also indicated that the absence of a mother (maternal social support system) among Mayan women, while having a negative influence upon culture- and gender-related traditional

roles, placed women at higher risk for isolation and domestic violence. Ethnic identity, racism, discrimination, lack of social support, and mental health are all closely connected for Mayan people who suffer extra ordinary trauma (Harrell, 2000; Warner, 2007).

Pathological differences in a person or group cannot be differentiated without understanding the culture at hand, since presentation varies across cultures (APA, 2013).

Trauma

Despite the vast amount of literature describing the suffrage, genocide, colonization, and enslavement that many groups have experienced since the 1500s, the discussion of ‘trauma’ did not begin until 1866 in Europe (Fassin & Rechtman, 2009). In the 1800s, nervous disturbances that many railroad workers experienced after accidents at work caught the attention of John Eric Erichsen who attributed the changes to the nervous system describing the cluster of clinical symptoms as “railway spine” (Fassin & Rechtman, 2009, pg. 31). From the beginning, psychologists and psychiatrists debated this phenomena leading to a change in name to “railway brain” and finally given the label “trauma neurosis” by the psychiatrist, Dr. Oppeneheim (Fassin & Rechtman, 2009). Much of the discourse about trauma neurosis related to the possible intention behind the creation of the label as facilitating employee financial compensation, and the creation of new policies related to accidents at work, resulting in increased demand for the same mental health professionals who were primarily responsible for diagnosis of the illness (2009).

Not until the 1940s was the idea of trauma moved from one of convenient compensation to victimization by Bruno Bettelheim, a psychologist who developed the

“survival model” of trauma, with the added aspect of collective social memory, thus giving birth to what is known today as historical trauma (Fassin & Rechtman, 2009).

Historical Trauma

Historical trauma is defined as cumulative emotional and psychological wounding over the lifespan and across generations, emanating from massive group trauma (Brave Heart & DeBruyn, 1998). Kira (2001) defined historical trauma as an imprint of the complex trauma that was externally inflicted on a group of people based on characteristics specific to the group and remains a part of their everyday lives. Historical trauma can be trans-generationally transmitted, as it is embedded in a lifetime of victimization and social structure consistently linking the past, the present, and the future (Fassin & Rechtman, 2009; Kira, 2001; Linstroth, 2009). Prolonged life exposure and the accumulation of trauma and stressful circumstances related to poor social, economic, and environmental factors may result in poor mental and physical health, as well as a premature death (Marmot & Wilkinson, 2006). Much like other native people in North America (Charbonneau-Dahlen, 2010), the Mayan native people from Central America have experienced centuries of stress and trauma from invasions, land capture, forced cultural transformation, erosion of their language, and loss of social and human capital (Foster, 2007; Montejo, 1999). In 2012, sixteen years after the end of the Guatemalan civil war, uprooted Guatemalans who sought refuge in the United States still live in extreme poverty, violence, distrust, and fear (Hiller et al., 2009; Dockterman, 2011), resulting in high levels of stress and trauma.

Although it may be assumed that Mayas experienced historical trauma, it is also important to assess all potential traumas that may impact their morbidity and mortality.

Kira (2001) and Kira, Aboumediene et al. (2008, 2013) proposed a taxonomy to trauma that is theoretically and empirically based upon examining four types of traumas that include personal and collective experiences across a lifespan. The traumas are: Type I - looks at events that happened one time only, Type II- looks at events that occurred multiple times and stopped, Type III-looks at events that are consistent and never stopped, and the last is Type IV- that looks at the accumulation of Type I-Type III across the lifespan. Some examples of the different types of trauma are Type I: bike accident, Type II: physical abuse, Type III: discrimination, and Type IV: all of the above (Kira et al., 2008). As the levels of trauma increase, so do the intensity and the potential impact on the individuals' or groups' mental and/or physical health (Kira et al., 2008). The concept of cumulative trauma (Type IV) is relatively new, and trauma that goes beyond the person is just beginning to be addressed in the new DSM-5; it indicates that “comprehensive use of lifespan information to assist in diagnostic decision making” is imperative (APA, 2013, p. 13). In the new DSM-5, trauma is now more inclusive of different forms of trauma and emotional reactions, allowing for diverse cultural groups' perception and expression of trauma (2013).

Any apprehension that may have come with the label of trauma was removed with the publication of the DSM-III that introduced the new diagnosis of post-traumatic stress disorder (PTSD; Fassin & Rechtman, 2009). A traumatic event was defined in the DSM-IV as an event “the person experienced, witnessed, or was confronted with...that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others... [and invoked] intense fear, helplessness, or horror” (APA, 2000, p. 467). This definition ignored historical types of trauma that could be transmitted from

one person to another or to a group. A traumatic event in the new DSM-5 is now inclusive of, but not limited to, direct experiences, medical incidents that qualify as traumatic, witnessed events, and indirect exposure, such as trans-generational trauma (APA, 2013, p. 274). Specific emotional reactions such as fear, horror, or helplessness have been removed as part of the criteria in recognition that different cultural groups experience and express trauma differently (2013). In effect, cumulative trauma is now a part of the new DSM-5. It is vital to recognize the psychological trauma the Mayan people face as the result of multigenerational trauma instilled early in life, which continually resurfaces through current fear of deportation and poor environmental factors, together with uncertainty about the future.

Complex and Cumulative Trauma Developed to complete the perception of trauma, the concept of complex trauma encompasses specific types of forced and vicious trauma that persist indefinitely (Solomon & Heide, 1999). Exiled groups like the Mayas have multilayered trauma they have to cope with, particularly the trauma of forced loss and settling into a new social hierarchy and culture (Fassin & Rechtman, 2009; Linstroth, 2009). Victims of complex trauma have greater risk of suffering severe psychological effects. The classification of cumulative trauma is appropriate in situations where clients face persistent and multidirectional stressors, which may or may not be accompanied by extreme trauma.

Cumulative trauma has been defined as “a sequence of similar and or dissimilar traumas across the life span” (Kira et al., 2008, p. 64). Cumulative trauma involves a core traumatic experience (such as historical trauma) that sets the cornerstone for traumatic stress, triggering traumatic experience, which ignites psychological symptomology

(Charbonneau-Dahlen, 2010; Kira et al., 2008). Individuals who experience cumulative trauma can experience negative effects in multiple developmental functioning subsystems (Kira, 2001). Mayas who have experienced genocide, exile, and severe poverty are at high risk for manifestation of the multiple consequences of trauma, including identity, interdependence, attachment, and survival trauma. It is important to combine this information with external characteristics of the trauma to obtain an accurate traumatic assessment.

Mayas typically do not connect the accumulation of multiple stressors to their mental illness and alcohol use status. Instead, they use terminology such as “thinking a lot” when asked about stress related to their social and environmental experiences here in the United States, including the inability to provide financial support for themselves or their families (Millender, 2010). When assessing this situation, one informant explained, “If I had work, I would not worry about my family back home and would not be thinking so much.” And another explained “If you don't work, this is stressful because if you don't have money to survive, pay the rent, and eat, you have nothing.” Both informants described social factors that impacted their day to day stress level, but there was no mention of mental illness; instead, they mention somatic symptoms such as lack of sleep or not eating because of their worries, which contributed to “thinking a lot” (p. 213). In a dissertation titled “Speaking in Their Own Voice, a Mayan adult informant described the combined history of trauma and current migration stressors:

There is a relationship between the history of immigration and the history of trauma. The immigration is related to the trauma of the violence. But what I am saying that the war left poverty that the people have to migrate to find a better life, a job, because the violence caused a psychological trauma for the entire people. And from that poverty surfaces immigration.

And the immigration is causing trauma which is a separate psychological problem” (Conroy, 2006, p. 123).

Part of the stress and trauma from immigration relates to social isolation, resulting in a wide range of health problems (Wilkinson & Marmot, 2003).

The same sentiment of immigration stress in addition to trauma was noted in a study that included Somali adolescent refugees (11-20 years old), indicating that cumulative trauma correlated with PTSD and depression symptoms (Ellis, MacDonald, Lincoln, & Cabral, 2008). In this study, trauma was the primary predictor of PTSD, but post-resettlement stressors, acculturative stressors, and perceived discrimination further contributed to severity of PTSD and depression (2008). These results indicated that populations with previous traumas and current multiple stressors are at a particularly high risk for mental and physical health issues that contribute to disparities.

When compared to specific subgroups within the larger Hispanic umbrella, Central American ethnic groups with similar history, such as the Mayas, have been shown to have higher levels of conflict, perceived stress, and lower self-esteem (Kliwer & Murrelle, 2007). Low self-esteem can play a vital health role- compromising for any individual, but especially for unique ethnic groups, like the Mayas, whose coping abilities may have been diminished by cumulative trauma making them more vulnerable to physical and mental disorders.

Despite having a strong ethnic identity and proud cultural heritage, not being accepted by the dominant culture negatively influences the self-worth and self-esteem of an individual or group, thereby increasing the risk for psychological distress (Nesdale et al., 1997). Many minority adolescents in the United States find that the sense of being

different based on ethnicity and culture prevents them from developing positive self-esteem; consequently, they develop higher risk for social stress and mental stress, and they have fewer resources compared to their European American counterparts (Choi et al., 2006).

In recent years, the concept of trauma has evolved from physical and psychological trauma to cumulative trauma. This expansion is crucial in understanding patients that suffer from non-physical, diverse, and compound stressors, which were inadequately described by the DSM-IV definition of trauma, but now expanded in the new DSM-5. Nael (2012) measured cumulative trauma among a group of 290 Native Americans and identified that secondary trauma, survival trauma, personal identity trauma and collective identity trauma were the most frequent traumas experienced among this group of Native Americans. This study suggested that individuals may engage in unhealthy behaviors such as binge eating to avoid or deal with trauma throughout their lifespans. The accumulation of trauma, such as struggles to sustain cultural identity, can lead to physical and mental disorders (Kira et al., 2010). Knowledge of cumulative trauma and its effects are necessary for the development and utilization of appropriate intervention and assessment tools, which will assist in halting multigenerational mental illness among Mayas.

Psychological Characteristics

Traumas, stressors, and losses have earned indigenous groups like the Mayas a place on the list of the top ten most traumatized groups in the global community (WHO, 2007, October). The accumulation of stressors and continual worrying increases the prevalence of psychiatric disorders among these groups (Laban et al., 2005). Much of the

research on Mayan mental health has focused on the country of first asylum, Mexico. However, there is little research literature focused on the Mayan population living in the United States, and the cumulative effects of previous and current traumas such as the fear of deportation. The combination of these traumatic experiences may explain why Central American populations like the Mayas have high need for mental health care (USDHHS, 2001), and why their unique mental health needs in the United States should be assessed.

Psychological characteristics and ethnicity/culture. Caution must be used when examining the risk of psychiatric disorders, as great variability exists among ethnic subgroups (Alegria et al., 2009). For example, Puerto Ricans have a higher prevalence of anxiety and are more likely to suffer from PTSD, whereas Mexicans tend to suffer more from depression disorders (Alegria et al., 2007). First-generation immigrants from Hispanic countries living in the United States appear to have lower rates of mental illness compared to second- and third-generation Hispanic immigrants (Choi et al., 2006; Mui & Kang, 2006). Grouping all Hispanics beneath one umbrella promotes dismissal of ethnicity and culture, creating barriers to mental health services (U.S. Public Health Service, 2000). Without appropriate ethnicity identification, one cannot accurately measure population changes, mental health outcomes, and emerging mental problems. Nor can one improve mental health systems, or develop effective culturally relevant interventions. The Mayas struggle under the misclassification of Hispanic along with the cultural impetus to obliterate their identity. Health professionals must come to know specific minority cultures if promoting and maintaining well-being is the goal (Leininger & McFarland, 2002).

The Mayas are committed to sustaining their ethnic and cultural indigenous identity, which creates numerous traumas (Born, 1970). The constant struggle to validate ethnic identity and individuation can potentially lead to a sense of alienation and loss of control (Kira, 2001); furthermore, isolation does not come without some effect on mental health status (Lipsedge & Littlewood, 1997).

Psychological characteristics and trauma. Sabin, Cardozo, Nackerud, Kaiser, and Varese (2003) provided the first epidemiological study that assessed the prevalence of mental illness among Mayas living in a Chiapas refugee camp located in Mexico. The sample was composed of 170 Mayan refugees, with women making up 58.2% of the sample. The results indicated that each participant experienced at least one traumatic event, with the mean average being 8.3 traumatic events. Lack of food, water, and housing were identified as the top three traumatic events. In another study, Sabin, Sabin, Kim, Vergara, and Varese (2006) assessed the mental health status of Mayas who lived in refugee camps in Mexico for 12 to 18 years before being repatriated to Huehuetenango, Guatemala. This study was made up of 176 participants, with an age range from 17 to 81, and a mean age of 38.8 years. Age difference was assessed by subgroup (17-35 and 36-81), and the majority of the sample were women (64.2%). The study reported that participants had experienced 5.5 traumatic events on average, and had observed 7.3 traumatic events. Post-traumatic stress disorder was associated with being seriously wounded or having a close alliance with a person who had been mutilated. Anxiety was associated primarily with being sexually assaulted, being female, and having 6-12 children. Depression was associated with having 6-12 children. As with the previous study, lack of food, water, and housing were identified as the top three traumatic

experiences. The Sabin et al. (2006) study, unlike the previous study (Sabin et al., 2003), expanded the timeline to include traumatic events which may have occurred pre-immigration.

Melville and Lykes (1992) assessed systemic violence, trauma, psychological symptoms, and sociocultural effects among Mayan children, ages 8 to 16 years, living in orphanages in Guatemala, and Mayan children exiled in Mexico refugee camps. The study found that the social structure of both sets of Mayan children promoted a life full of fear, anxiety, and uncertainty. Both groups identified losing a parent as the most traumatic experience, and they believed that violence was still prevalent in Guatemala. Children who lived in the orphanages in Guatemala were fearful of talking about their experiences due to suspicion of retaliation, thus enforcing a culture of silence. On the other hand, the Mayan children living in Mexican refugee camps demonstrated willingness to share their experiences; however, fear of deportation forced them to hide their Mayan cultural identity.

Conroy (2006) assessed the mental health of adult Mayas living in the United States from the perspective of resilience in the light of a history fraught with extreme trauma. He examined the range of emotions revolving around survival, such as memories of rationing food to stay alive. Conroy observed that some Mayas remained completely overcome by their negative traumatic experiences. Linstroth (2009) also indicated that memories from traumas influenced a small group of Mayas living in Southeast Florida by developing a sense of “we” that manifested in a collective trans-generational trauma that derived from narratives as a larger cultural transmission. In this case, traumatic memories of genocide and discrimination were shared from community members and/or family

members as a method of sustaining their culture and unique history, resulting in individuals regarding the group's experience as their own. Sharing memories by storytelling allows a person or group to make meaning of their experience by connecting their past, present, and future and provide healing potential for their traumatic experiences (Liehr & Smith, 2008). Other important factors associated with overcoming negative experiences were time, which is necessary to help heal emotional wounds, the sense of community, family, and religion as a way of making sense of the war experience, particularly due to the way that religion brought together the cultural and communal way of life of the Mayan people (Conroy (2006). Challenges related to coping and violation of the Mayan culture were exemplified when participants described situations when there could be no actual burial of the deceased due to the lack of a physical body; this represented a grievous violation of Mayan cultural respect for life and death (Conroy, 2006; Linstroth, 2009). Such ongoing trauma, which had its beginning at the time of initial Spanish conquest, means the Mayas have endured unceasing onslaught with multiple stressors; this makes assessing the effect of that stress essential to understanding the mental health of this group.

Cumulative trauma and mental disorders. The accumulation of stress stemming from racism and discrimination is pathogenic to the overall mental health of Mayas. In Sabin et al. (2003), exposure to multiple trauma resulted in 11.8% of a sample of 170 meeting symptomology criteria for PTSD, 54.4% had anxiety symptoms, and 38.8% had symptoms of depression. Post-traumatic stress disorder symptoms were identified more frequently among those participants who had reported being close to death and/or had witnessed the disappearance of others. Participants, who witnessed a

massacre, were wounded, and who experienced more than seven traumatic events were more likely to have symptoms of heightened anxiety. Depressive symptoms were associated with being a woman, a widow, experiencing more than 13 traumatic events, and/or witnessing the disappearances of others (2003).

Sabin et al. (2006), during comparison of both studies, showed no significant statistical differences on the level of PTSD (11.8% vs. 8.9%) or depression (38.8% vs. 47.8%), but the anxiety level among Mayas in Mexican camps was significantly higher than that of Mayas who were repatriated back to Guatemala (54.4% vs. 17.3%). Anxiety may have been higher among Mayas in Mexican refugee camps due to their belief that returning to Guatemala might result in their death (Sabin et al., 2006). Women were significantly more likely to be affected by mental illness than were men (23.8% vs. 15.6%). Women, in general, are more likely to suffer from depression than are men, which may be attributed to a combination of factors, such as a family history, hormonal changes during specific times of life (e.g. puberty, postpartum, and menopause), and their response to stressful and traumatic events (National Institute of Mental Health, 2009).

A study in Guatemala (Rivera, Mari, Andreoli, Quintana, & Ferraz, 2008) measured the prevalence of mental illness among Mayas who were disabled during the civil war. Post-traumatic stress disorder was prevalent among this sample, with women again making up the majority of this group; dysthymia (persistent heaviness of heart and pervasive sadness), and depression were the prevalent mental illnesses. Forty-four of the 99 participants were identified as having endured a lifetime of mental illness. Miller (1996) looked at the mental health of second-generation Mayan children living in refugee camps in Mexico. This study found that the mental health of Mayan girls was positively

correlated to the mental health of their mother. The results pivoted around the traditional cultural duties of boys, who are expected to perform labor-consuming tasks, and girls, who traditionally perform domestic tasks, so the cultural duties of girls promoted increased time between mother and daughter. Daughters were more likely than were sons to display symptoms that mirrored the same depression symptomology as their mothers.

These studies indicate that Mayan people have suffered considerable damage related to their socio-emotional status and the accumulation of trauma and stressors, and which inexorably link the past, present, and future. The studies revealed that a lack of early detection and treatment might result in trans-generational traumatic experiences and psychological problems. This study was designed to assess the mental health of adult Mayas who live in the United States.

Health Behavior

Behavior is linked to ethnic patterns, history, and identity (Anderson & Kelley, 1998). Research on Mayan mental health has shown that this group experiences high levels of perceived stress, high levels of conflict, and low self-esteem (Kliwer & Murrelle, 2007). The accumulation of trauma and stressors is alarming; studies indicate that mental illness among immigrants may lead to increased alcohol use, drug use, and risky behaviors (Johnson, VanGeest, & Cho, 2002; Larson & McQuiston, 2008). Individuals and populations that have experienced trauma and multiple stressors are a much higher risk for dysfunctional behavioral consequences, such as co-occurring mental health and substance abuse disorders; these may be the result of cumulative traumatic experiences (Kira, 2001). However, there is no data linking cumulative trauma and alcohol use among indigenous Mayas living in the United States.

Larson and McQuiston (2008) studied a group of predominantly Mexican adolescents (11 to 13 years old) and found a correlation between acculturation and health concerns that were gender-specific. Girls were more concerned with unsolicited physical contact and aggressive male behavior, which could potentially increase their risk for emotional, physical, and domestic abuse. On the other hand, boys experienced more stress over money and alcohol. At the same time, both boys and girls expressed concern for the health of their family regarding diabetes, cancer, and excessive drinking (2008). This study concluded by showing that life transitions such as immigration affected the community, the family, and the children in many ways; the health of all was affected by others who indulged in unhealthy behaviors to alleviate stress, such as excessive drinking, as this impaired the ability to provide socio-economic stability for their families. Financial instability potentially necessitated that boys engage in farm labor during their school summer break, introducing stress early in their lives, as well as potential exposure to alcohol (2008).

The majority of alcohol consumption is done by Mayan males who drink at irregular intervals, but indulge in long periods of binge drinking (Kanteres, Lachenmeier, & Rehm, 2009). A number of Mayan women expressed concern about their spouses' alcohol consumption, mainly because this habit resulted in less money for food (Nagata, Valeggia, Barg, & Bream, 2009). Mueser et al. (1998) explained that between 51 and 98 percent of public mental health clients diagnosed with severe mental illness have trauma histories, and high prevalence for substance abuse. Alcohol is the drug of prevalence among immigrants and indigenous populations (Duke et al., 2010). In a study that assessed Mayas living in Guatemala who suffered disabilities as a result of the civil war, alcohol use was

not prevalent (Rivera et al., 2008), but the study explained that this may have been related to the fear to disclose alcohol use, due to the potential for such disclosure to jeopardize disability benefits. The opposite was found in a group of California day laborers that included adult Mayas. Duke, Bourdeau, and Hovey (2010) indicated that alcohol use was a prevalent lifetime difficulty that correlated with stress, such as anxiety and depression. Some of the anxiety and depression stemmed from concerns over leaving families and loved ones behind and a lack of support systems. Similar results were noted in a small pilot study indicating that some Mayas used destructive approaches like alcohol use to deal with daily stress (Millender, 2010).

The review of the literature as it relates to alcohol use among Mexican and Central American immigrant laborers indicated that alcohol use behaviors might lead to other unhealthy behaviors, such as unprotected sex, driving while drinking, increased violence, injury, and loss of income (Worby & Organista, 2007). Whereas this article does not speak of Mayas specifically, it is assumed that they were included under the umbrella Central American. The study found a number of explanations for male immigrant drinking behaviors, including working at low-paying and physically dangerous jobs, living in substandard housing, discrimination, emotional stress, and lack of support systems (2007). The study also found that the longer an immigrant remained in the United States and began to assimilate to the host culture, the more likely they were to drink alcohol; with more moderate drinking occurring daily or frequently, and heavy drinking occurring sporadically.

Summary

In conclusion, investigating the influence of social determinants of health on cumulative trauma profiles, the mental, and health behaviors of adult Mayas living in the United States may provide valuable insight into identification of possible risk factors unique to this population. This knowledge will facilitate the fields of nursing and mental health to bridge the gap by coming to know the relationship between traumatic experiences and health outcomes, creating a foundation for promoting culturally relevant care. Nurses and health professionals must be made aware that mental health conditions, behavior, and culture are closely connected (Schim, Doorenbos, Benkert, & Miller, 2007). Often times, behaviors are expressions of complex culture-stress connectives, signaling the need for treatment, observation, or intervention. Understanding culture-stress connections may help professional healthcare providers to understand what triggers health threatening behaviors in a culturally unique population like the Mayas.

CHAPTER 3: METHODS

The purpose of this chapter is to briefly describe this descriptive-correlational study. The overall purpose of the study was to explore the relationship of social determinants of health and cumulative trauma as they related to the alcohol use and depression symptoms of adult Mayas living in Southeast Florida. This chapter begins by describing the research design such as setting and sample, including sampling procedure. This chapter ends by discussing a small pilot study, each measurement instrument, data collection, including data management, data storage, and data analysis.

Research Design

This study used an exploratory descriptive and correlational research design. This design allowed the researcher to identify and explore relationships between variables (Brink & Wood, 1998), such as social determinants of health, cumulative trauma, alcohol use, and depression symptoms. The predictive variables for the study were social determinants of health (age, gender, marital status, and years in the United States) and cumulative trauma. The relationship of the predictive variables with depression symptoms and alcohol use was evaluated.

Setting

The participants were recruited from two community centers that serves adult Mayan people and other underserved populations in Southeast Florida. The directors and other key stakeholders of these community centers had expressed concern about the

mental health status and alcohol use of the Mayas. These community centers serve approximately 90-110 individuals each day from diverse backgrounds with a large portion having Guatemalan Maya ancestry. They provide a number of services that include providing a safe environment, assisting those who seek day labor employment, language proficiency and computer classes, and a link to community health services. Another location that was used for data collection was a community-based clinic operated by the Christine E. Lynn College of nursing. This clinic serves diverse populations, including Guatemalan Mayas that either are at high risk for or have diabetes.

Sample

Data was collected from a sample of 102 adult Guatemalan Mayas (39 female, 63 male) between the ages of 18 and 70 living in an urban community area in Southeast Florida. Participants were required to (a) self-identify as Guatemalan Maya, (b) be 18 to 70 years old, (c) be able to speak and understand Spanish or English, and (d) be interested in participating in the research study. The exclusion criteria were those who were: (a) not self-identifying as Maya, (b) younger than 18 years of age or older than 70 years of age, (c) unable to speak or understand Spanish or English, and (d) not interested in participating in the research study.

Sample recruitment. The researcher was familiar with the community centers, having volunteered with them for four years prior as a nurse. The researcher recruited volunteers by being present at the centers daily. The visits began with a visit to the first center from 6:00 a.m. and 8:00 a.m., followed by a visit to the second center from 8:30 a.m. to 10:00 a.m., and ending at the third site for the rest of the day for five days a week until sample size was obtained. Participants typically came into the centers seeking

assistance and a safe place to obtain day labor employment; this population tends to be made up largely of males. No flyers were used for recruitment. Because the literacy of this population is low, only face-to-face interaction was used for recruitment; furthermore, this allowed the researcher to build trust and a nurse-client relationship by being present to offer an invitation to participate. The researcher returned to the centers one afternoon a week when family activities were taking place to recruit female participants. Participants were also recruited from Christine E. Lynn College of nursing Diabetes Education and Research Clinic. Participants and community leaders were asked to inform community members, family, and friends to contact the researcher if others were interested in participating in the study.

Sample size. The G*Power 3 computer software (Version 3.1.3) was used to calculate the required sample size (Faul, Erdfelder, Lang, & Buchner, 2007). Based on a formulation of 80 percent power, an effect size of 0.15 ($R^2 = 0.13$), five predictors, and a significance level of 0.05 for a two-tailed test, a sample of 92 subjects was deemed sufficient to address research questions. Therefore, the information from a sample of 102 provided relatively high reliability.

Tool Language Validation

The primary assessment tools that were used in this research, namely, the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST; see Appendix C), the Cumulative Trauma Scale (CTS; see Appendix D), and the Beck Depression Inventory-II (Beck-II) were given to three bilingual (Spanish and English) experts of the Mayan community for wording usage unique to this population. The experts were selected based on their daily exposure and communication with the Mayan community.

Wording suggestions were made once agreed upon by at least two of the three experts and noted by the researcher. Some of the word change included changing *solia* (used to) to *queria* (wanted), and *patron* (boss; person in charge) to *forma* (form; way of being; Beck-II). The leaders of the community center were instrumental in the implementation of this validation process.

Measurements

Four measures were used in the study. They include the ASSIST (WHO ASSIST, 2002; see Appendix C), the CTS (see Appendix D), the demographic survey (see Appendix E), and the Beck-II (Beck, Steer, & Brown, 1996). Figure 4 presents a visual representation of the relationship between the various measurement tools. These were explained in the following paragraphs.

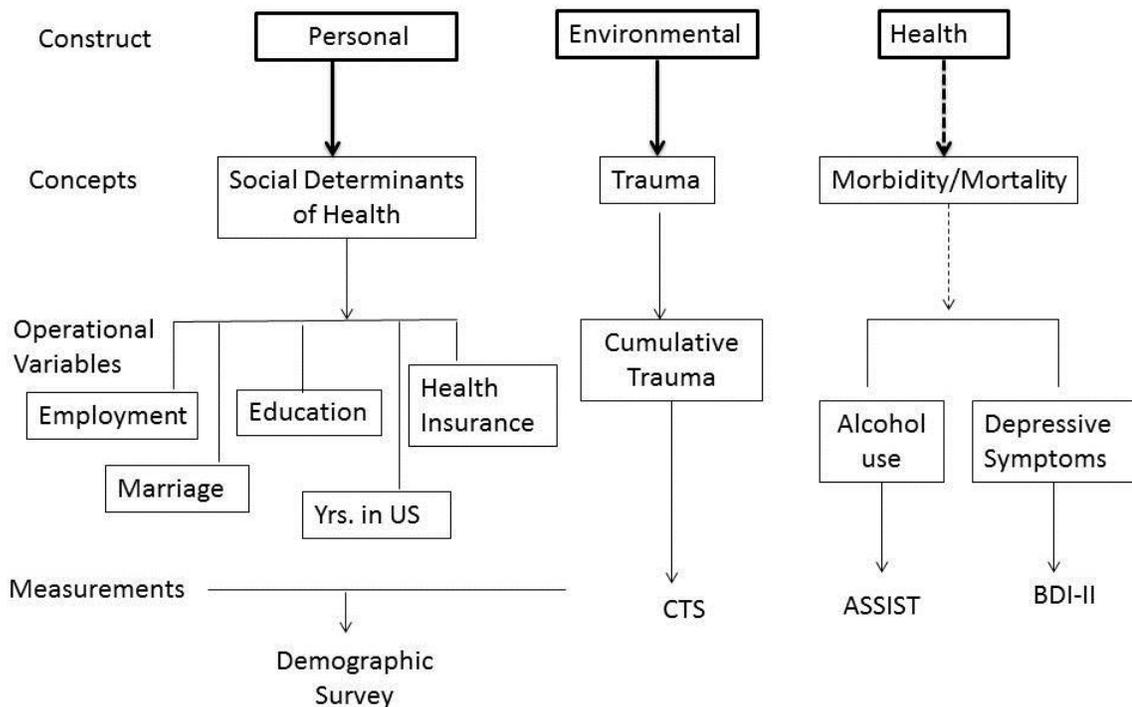


Figure 4. Interrelationship of measurement tools used in this study.

Demographic survey. Participants provided information on the demographic survey regarding highest level of education completed, marital status (*unemployed, part-time, day labor, full time*), age, gender, years in the United States, languages spoken (*English, Spanish, other*), and health insurance (*yes, no*). The demographic survey also assessed employment status (*unemployed, day labor, part-time, full-time*), and, in deference to the knowledge that many Mayas in Florida are day-laborers, weekly, rather than monthly income was assessed (*\$0; < \$100.00; \$100.01-\$200.00; \$200.01-\$300.00; \$300.01-\$500.00; > \$500.00*);

Cumulative Trauma Scale short form. The Cumulative Trauma Scale short form is based on the taxonomy of trauma theoretical model (Kira, 2001). The 32-item scale was developed using an Iraqi refugee sample to decrease Western influence on the tool and to make it culturally sensitive to refugee populations (Kira et al., 2008). The short form was created to incorporate the possibility of the short attention span and intolerance for long surveys of refugee populations (2008). The short form measures trauma type, trauma occurrence, trauma frequency, and trauma appraisal (2008). The trauma types are *gender discrimination trauma* (2 items), *personal identity trauma* (6 items), *collective identity trauma -social structure* (3 items), *torture* (1 item), *attachment trauma* (2 items), *achievement trauma* (2 items), *survival trauma* (6 items), *secondary trauma* (7 items), *uprootedness* (1 item), *divorced/remarried* (1 item), *cumulative stress trauma* (1 item), and *cumulative trauma* (32 items). Each question can be assessed for occurrence based on experiencing or not experiencing the trauma. Each question can also be assessed for frequency, ranging from *never* to *many times*, and appraisal, ranging from *extremely positive* to *extremely negative*. The cumulative trauma profile and dose of

trauma experienced by an individual or group can be assessed by compiling the scores of each subscale.

Table 1

Cumulative Trauma Scale Sample Questions

Type of Traumatic Experiences	Sample Questions
Collective Identity Trauma	Genocide, slavery, and discrimination
Historical/Discrimination Trauma	History of being oppressed, discriminated against
Poverty	Experienced being part of poor family
Survival Traumas	Life-threatening accident
Achievement Trauma	Unexpectedly fired, or failed or dropped out of school
Secondary Traumas	Witnessed violence
Gender Discrimination	Discriminated against because of gender
Uprootedness Trauma	Forced to move from favorite town, village or country.
Personal Identity Trauma	Violation of self/autonomy
Sexual Abuse	Sexually abused or raped or involved in unwanted sex
Physical Abuse	Physically abused or beaten up
Cumulative Stress Trauma	Nervous breakdown due to small but recurrent stressors
Torture	Jailed and/or tortured
Attachment Trauma	Abandonment
Divorce/Remarriage Stress	Remarried
Cumulative Trauma	Combination of similar and dissimilar traumas

Reliability and validity of the Cumulative Trauma Scale-short form. Kira et al. (2008) tested the scale on 501 Iraqi refugees, ranging in age from 12 to 79 years old, who had faced previous traumas. The psychometric properties for this study indicated that the

reliability was adequate for adults overall ($\alpha = .850$) both males ($\alpha = .839$), and females ($\alpha = .854$). The total average number of traumas experienced by this sample was 7.20 with a standard deviation of 7.25. The construct validity was supported through the emergence of six factors that accounted for 58.73% of the variance: (1) collective identity/discrimination, (2) family, (3) secondary trauma, (4) personal identity or autonomy, (5) survival, and (6) attachment, resulting in the development of the short scale. Some items such as torture and warfare experiences loaded equally on collective identity, survival traumas, and secondary trauma, indicating multilateral traumas, as noted by the trauma taxonomy theory (Kira, 2001; Kira et al., 2008). In addition, the Cumulative Trauma Scale was found to have adequate convergent validity when compared with torture severity scores (.66), backlash trauma scale (.34), sociocultural adjustment (-.29), PTSD (.54), cumulative trauma disorder (.24), and poor health (.37). Furthermore, the cumulative trauma scale showed significant predictive validity for poor health ($\beta = .24$) and PTSD ($\beta = .57$) (Kira et al., 2008).

In a recent dissertation, Nael (2012) tested the cumulative trauma scale on a group of 290 Native American adults ages 18 to 69 from 45 different tribes in Oklahoma. The scale yield a Chronbach alpha of $\alpha = .88$ in this native population with the sample experiencing an average of 12.89 different types of traumas throughout their lifespan. In this sample of Native Americans, 81.9% reported traumatic experiences related to growing up in an impoverished home, 62% reported experiences related to discrimination, and 44% reported witnessing the assault of another person (Nael, 2012). This particular sample shares a similar history of trauma of oppression, genocide, and discrimination like the Maya, but they lack additional traumas related to migration and

language barriers. The Cumulative Trauma Scale short form was translated into a Spanish (*Castellano*) version (see Appendix D) and piloted on two focus groups in South America (Robles, Badosa, Roig, Pina, & Feixas, 2010). Results are currently being analyzed and forthcoming.

Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). In response to the overwhelming burden on health related to substance use, in 1997, the World Health Organization (WHO) developed the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST; see Appendix C). This tool was selected due to its ability to identify current dependency, lifetime use, and risk of substance use (Humeniuk et al., 2008). Throughout the years, the tool has been revised and the latest version (V3.0) consists of eight questions covering tobacco, alcohol, cannabis, cocaine, amphetamine-type stimulants, inhalants, sedatives, hallucinogens, opioids, and other drugs. The total score, ranging from 0-37, can be translated into the risk of health problems and type of intervention needed as follows: low health risk and no intervention (0-10), moderate risk and brief intervention (11-26), and high risk and more intensive treatment (27+; Solar & Irwin, 2007).

This study will only use the alcohol subscale sections of the tool. This tool allows the researcher to obtain an alcohol involvement score (sum of questions 2-7), current frequency (past 3 months) of alcohol use score (question 2), dependence score (sum of questions 1, 2, 3, 6, 7), and abuse score (sum of questions 1, 2, 4, 5, 6).

Reliability and validity of the ASSIST. The initial ASSIST (V1.0) consisted of 12 questions and was intended to be culturally neutral. Between 1997 and 1999, phase I testing of the ASSIST took place with a sample made up of 236 participants from nine

different sites around the world, including the United States, Australia, Brazil, India, Ireland, Israel, UK, Gaza Strip, and Zimbabwe, yielding reasonable internal validity and reliability (WHO ASSIST, 2002). The results from Phase I resulted in a decrease of questions, from 12 to 8, and creation of the ASSIST (V2.0). In 2000, phase II of the ASSIST (V2.0) was tested in on 1047 participants from the United States (148), Brazil (147), Zimbabwe (150), Australia (150), India (150), UK (149), and Thailand (153). The internal consistencies (Cronbach's Alpha), of the domains of the V2.0 were .80. Only specific substance involvement domain (*hallucinogens* and *other*) and current frequency of substance use domain internal consistency were less than .80. Alcohol subscale scores were correlated with those recorded by the Alcohol Use Disorders Identification Test (AUDIT; $r = 0.82$, $p < 0.001$; Humeniuk et al., 2008). The Cronbach's alpha for the alcohol domain was 0.84. In addition, the ASSIST (V2.0) showed significant concurrent, construct, predictive, and discriminative validity (WHO ASSIST, 2002).

Beck Depression Inventory-II (BDI-II). The Beck Depression Inventory II enables measurement of the presence of depression symptoms within the past week; it also allows measurement of the severity of these symptoms with the inventory of 21 questions (Beck, Steer, Ball, & Ranieri, 1996). The Beck-II was the result of a revision on the BDI that included the addition and deletion of questions, and a closer alignment with the DSM-5 diagnosis for depression. The questions present psychological and physical symptomology of depression. The answers to the questions were scored on a Likert scale ranging from 0-3 with a total scoring ranging from 0-63. The scores can indicate the severity of depression symptoms and can be translated into the risk for health problems ranging from 0-13: *minimal depression*, 14-19: *mild depression*, 20-28:

moderate depression, to 29-63: *severe depression* (Beck, Steer, Ball et al., 1996; see also Beck, Steer, & Brown, 1996; Beck, Steer, & Garbin, 1988).

Reliability and validity of the BDI-II. The BDI-II has been widely used and has yielded an alpha coefficient of $\alpha = .93$ for college students and $\alpha = .92$ in outpatients (Beck, Steer, Ball et al., 1996). In further testing with an undergraduate student sample of 1022 undergraduate college students, an alpha coefficient of $\alpha = .91$ was achieved (Dozois, Dobson, & Ahnberg, 1998), indicating good internal consistency. These studies indicate that the BDI-II has a significantly high internal consistency and adequate validity. Wiebe and Penley (2005) compared the psychometrics of the English and Spanish versions of the BDI-II with a sample of 937 undergraduate psychology students. Again, the BDI-II yielded a coefficient of .89 for the English version and .91 for the Spanish version. Last, this study also indicated adequate validity; items were positively skewed in both languages, and there was not significant change in model from the English BDI-II version to the Spanish BDI-II version (2005).

Wilson-VanVoorhis and Blumentritt (2007) examined depression symptoms on a group of 131 Mexican American youth ages 13 to 19. The sample was created of youth from a residential treatment facility, juvenile correctional facility, and alternative education facility. This sample yielded an internal consistency of the BDI-II of .90. This study described that symptomology of depression presented differently in this group loading high on cognitive-somatic factor and affective factor than other groups.

Grothe et al. (2005) explored the use of the BDI-II on a group of 220 African American adults ages 20 to 81. This study showed an internal consistency of .90 and high cognitive as well as somatic factors. These studies indicate that different groups have

different presentation of depression symptoms; therefore, it is important to assess the Mayan population separately.

Prior to Data Collection

This study was presented at a health committee meeting, including key stakeholders in the Mayan community, volunteers that have devoted time to improve the health of the Mayas, and the director of the community center. A letter of support was obtained from the director of the community center.

Research Procedures and Data Collection

Prior to beginning recruitment, approval for this study was obtained from The Florida Atlantic Institutional Review Board. Participants were recruited from three different sites in Southeast Florida. The researcher obtained prior approval from the directors of each site to recruit participants. Recruitment and data collection were designed to occur concurrently during one visit lasting 30 to 45 minutes. Potential subjects were approached by the researcher to participate in the study. The researcher held data collection sessions where the researcher talked about the study and instructed participants how to complete the information packet, which contained six questionnaires that were filled out with pencils. Due to the low literacy level of this population, the researcher read the complete data collection package aloud in Spanish to each participant. Volunteers from each site were available to provide personal assistance for subjects who were not able to read the research tools in English or Spanish by reading each tool to the subject. Data collection packets included (a) an informed consent script (see Appendix F), (b) a demographic survey (see Appendix E), (c) Cumulative Trauma Scale (see

Appendix D), (d) ASSIST: Alcohol subscale (see Appendix C), and (e) Beck-II: Beck Depression Inventory-II. Data collection lasted less than 60 minutes.

Each data collection session was conducted in the same sequential pattern to maintain consistency and prevent discrepancies. The sessions began with the researcher providing the subjects with the purpose of the study, procedures, benefits, and risk factors. The researcher focused on explaining confidentiality and providing a safe environment by indicating that subjects had freedom to withdraw from the study at any time. The participants were given the opportunity to address any concerns that they may have had regarding their role in the study. The researcher obtained written signed informed consent from the participants, and s/he was given a folder that included all surveys with a unique number to protect personal identity.

After completing all documentation, each participant was given the results of their surveys. Participants that scored 21 or greater, indicating moderate depression on the Beck-II, and/or 27 or greater, indicating high risk on the ASSIST alcohol-subscale, were referred to the local healthcare district if they had insurance. Participants who did not have insurance were referred to a local, free clinic, or other community clinics that provide care at a reduced price. Participants that scored from 17 to 27 in the ASSIST alcohol-subscale were given the ASSIST feedback report card (see Appendix C). The researcher had the clinic address and phone number of these clinics ready for the participants. These clinics were known to the clients and the researcher, and have been frequently used by the Mayan population. The researcher assisted participants to make an initial appointment, and thanked them for their participation by way of a \$10 gift certificate to a local retail store.

Data Management

Data storage. All hard copies of surveys are being kept in the Christine E. Lynn College of Nursing office of the researcher in a locked cabinet. The researcher has also secured the master list with participants' names and unique number. Surveys were labeled with the participants' identification number to ensure confidentiality and privacy. Only the researcher retains access to the list with participants' names and identification numbers, which are being kept in a separate locked cabinet.

Derivation of General Research Hypotheses and Specific Research Hypotheses

The first four questions were created to investigate the unique nature of the adult Mayan population. As one can see by examining the model for this research (Figure 4), the derivations of General Research Questions 1 through 6 represent the theoretical relationships that were proposed by the model itself.

General Research Questions:

Research Question 1: What are the social determinants of health (education, health insurance status, employment, marital status, and years in the United States) among adult Mayas living in Southeast Florida?

Research Question 2: What is the level of cumulative trauma among adult Mayas living in Southeast Florida?

Research Question 3: What is the level of depression symptoms among adult Mayas living in Southeast Florida?

Research Question 4: What is the level of alcohol use among adult Mayas living in Southeast Florida?

Research Question 5: What is the relationship of the social determinants of health (education, health insurance status, employment, marital status, and years in the United States), cumulative trauma, depression symptoms, and alcohol use among adult Mayas living in Southeast Florida?

Hypothesis 5a: There will be a significant relationship between social determinants of health and cumulative trauma among adult Mayas.

Hypothesis 5b: There will be a significant relationship between social determinants of health and depression symptoms among adult Mayas.

Hypothesis 5c: There will be a significant relationship between social determinants of health and alcohol use among adult Mayas.

Research Question 6: What are the relationships between cumulative trauma, alcohol use, and depression among adult Mayas living in Southeast Florida?

Hypothesis 6a: There will be a significant relationship between self-reported cumulative trauma and depression symptoms among adult Mayas.

Hypothesis 6b: There will be a significant relationship between self-reported cumulative trauma and alcohol use among adult Mayas.

Data Analysis

All data obtained from this study was entered into a computer file for analysis using SPSS Windows, version 19.0 (Raynald, 2007). The data analysis took place in three phases that included reliability and potential validity of survey, descriptive statistical analysis, and multiple linear regressions.

Phase I: Reliability and potential validity of survey. SPSS was used to complete reliability analyses for each scale to determine internal consistency for this unique Mayan population.

Phase II: Descriptive statistical analysis. Descriptive and inferential statistics were utilized in this study. Means, standard deviations, and frequencies were used to answer the first three research hypotheses. The fourth and fifth research hypotheses were tested using correlations and multiple linear regression. Correlations and an alpha = .05 was used for statistical significance to test the first order relationships between the key independent and dependent variables. This technique is the most appropriate when one is interested in assessing the strength and directionality of first-order relationships (Newman, Newman, Brown, & McNeely, 2006).

Phase III: Multiple linear regression. Multiple linear regression (MLR) was used in analyzing the variance when predicting the criterion variable from the predictor variables, while controlling for (covarying) variables to test the possible alternative explanations for the alternative hypotheses (Stevens, 2009). Multiple linear regression is the most general case of the least squares solution, and it can be used any time any special case of the least sums of squares is used. Multiple linear regression was selected because it is more flexible than traditional analysis of variance and covariance. With MLR, one can write models that reflect the specific research questions being asked. This makes every test of significance a test of a specific hypothesis (Newman et al., 2006; Pedhazur, 1982; Pedhazur & Schmelkin, 1991).

Details regarding the methodology and research design of this study have been presented in this chapter. Little research has addressed social determinants of health,

cumulative trauma, depression symptoms, and alcohol abuse among adult Mayas living in the United States prior to this study. Therefore, this research proposed to collect information that would have the potential to determine how this culturally unique population experiences and deals with cumulative trauma in the United States.

CHAPTER 4: FINDINGS

Result of Data Analysis

The results of the data analysis are presented in this chapter. The first part of this analysis used descriptive and inferential statistics to answer research questions one through four to provide essential information about this unique population. The second section addressed reliability of the surveys. The third data analysis section used multiple linear regression (MLR), ordinal regression, and bivariate correlation to answer questions five and six and address their hypotheses. The purpose of this study was to explore the relationship of cumulative trauma as it relates to social determinants of health (education, health insurance status, marital status, employment, and years in the United States), psychological health (depression symptoms), and health behavior (alcohol use) among Guatemalan Mayas living in Southeast Florida. The research questions of this study were:

Research Question 1: What are the social determinants of health (education, health insurance status, employment, marital status, and years in the United States) among adult Mayas living in Southeast Florida?

Research Question 2: What is the level of cumulative trauma among adult Mayas living in Southeast Florida?

Research Question 3: What is the level of depression symptoms among adult Mayas living in Southeast Florida?

Research Question 4: What is the level of alcohol use among adult Mayas living in Southeast Florida?

Research Question 5: What is the relationship of the social determinants health (education, health insurance status, employment, marital status, and years in the United States), cumulative trauma, depression symptoms, and alcohol use among adult Mayas living in Southeast Florida?

Hypothesis 5a: There will be a significant relationship between social determinants of health and cumulative trauma among adult Mayas.

Hypothesis 5b: There will be a significant relationship between social determinants of health and depression symptoms among adult Mayas.

Hypothesis 5c: There will be a significant relationship between social determinants of health and alcohol use among adult Mayas.

Research Question 6: What are the relationships between cumulative trauma, alcohol use, and depression among adult Mayas living in Southeast Florida?

Hypothesis 6a: There will be a significant relationship between self-reported cumulative trauma and depression symptoms among adult Mayas.

Hypothesis 6b: There will be a significant relationship between self-reported cumulative trauma and alcohol use among adult Mayas.

Descriptive Analysis

Descriptive analysis explored the characteristics of the sample concerning social determinants of health. The sample size totaled 102 respondents, adults identifying themselves as Guatemalan Maya living in Southeast Florida. A majority of the respondents were males, 61.8% (n = 63) compared to females 38.2% (n = 39).

Participants ranged in age from 18 to 69, with the mean age of 35.6 years (SD = 11.3). Participants were measured for height, weight, and waist circumference, and some of this information was utilized to calculate Body Mass Index (BMI). The sample's mean BMI was 28.1 (SD = 4.3), with only 24.5% of participants having a BMI of less than 25. It was also noted that 16.5% of this sample had a waist circumference of 40 inches or greater, with a mean of 36.1 inches (SD = 4.0). The majority of the sample (72.5%) reported being in the United States six or more years with a mean of 9.3 years (SD = 5.6). The mean for formal years of education was 5.5 years (SD = 4.4) with 72.5% of participants having six or fewer years of formal education (see Table 2, for comparison by gender and total sample).

Table 2
Mean for Descriptive Data by Gender

Variables	Females		Males		Total Sample	
	M	SD	M	SD	M	SD
Age	36.6	9.1	34.9	12.5	35.6	11.3
BMI	28.8	5.0	27.6	3.7	28.1	4.3
Waist	36.5	4.3	35.8	3.9	36.1	4.0
Yrs in the US	10.5	6.1	8.6	5.2	9.3	5.6
Yrs of Education	4.5	4.6	6.1	4.1	5.5	4.4

All participants spoke Spanish and survey questions were read in Spanish. One survey question asked if the participant spoke a Mayan language and 63.7% reported that they spoke at least one Mayan language. The top two Mayan languages spoken were Quiche: 16.7%, followed by Popti: 14.7% (see Table 3, for other common Mayan languages spoken within this sample).

Table 3

Frequencies and Percentages for Mayan Languages

Mayan Language	n	%
Spanish Only	37	36.3
Awakatek	2	2.0
Kaqchikel	3	2.9
Mam	13	12.7
Popti	15	14.7
Q'anjob'al	11	10.8
Quiche	17	16.7
Tzujutujil	4	3.9

Note. n = 102.

Almost all (97.1%) of the participants did not have health insurance. The majority of respondents were single, separated, or living with someone (86.2%), while only 10.8% reported being married. In terms of income and employment, 59.8% of the sample reported not employed or only employed as day labor, 32.4% reported having full time jobs, and 7.8% reported having part-time jobs. Income for this sample was measured by the amount of money the participant brought home each week. The majority (61.8%) of the participants reported a weekly income ranging from \$200 to \$500 per week. Only 3.9% made more than \$500 per week, while 34.3% made less than \$200 per week (see Table 4, for gender-specific distribution of insurance, employment, income, and marital status).

Table 4

Social Determinants Distribution by Gender

Characteristic	Female		Male		Total Sample	
	n	%	n	%	n	%
Health Insurance						
Yes	2	5.1	1	1.6	3	2.9
No	37	94.9	62	98.4	99	97.3
Current Employment						
Unemployed	16	41.0	6	9.5	22	21.6
Day Labor	14	35.9	25	39.7	39	38.2
Part-Time	4	10.3	4	6.3	8	7.8
Full-Time	5	12.8	28	44.4	33	32.4
Weekly Income						
\$0-100	20	51.3	7	11.1	27	26.5
\$100.01-200	6	15.4	2	3.2	8	7.8
\$200.01-300	6	15.4	27	42.9	33	32.4
\$300.01-500	6	15.4	24	38.1	30	29.4
> \$500	1	2.6	3	4.8	4	3.9
Marital Status						
Married	7	17.9	4	6.3	11	10.8
Separated	9	23.1	21	33.3	30	29.4
Divorced	2	5.1	0	0.0	2	2.0
Living with someone	15	38.5	9	14.3	24	23.5
Single	6	15.4	28	44.4	34	33.3
Widowed	0	0.0	1	1.6	1	1.0

Reliability Analysis

Reliability analyses were conducted to determine internal consistency of the three scales: the Cumulative Trauma Scale (CTS), the Beck Depression Inventory-II (Beck-II) and the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). The CTS is composed of four subscales; the first two-measure cumulative trauma dosage: occurrence and frequency of trauma. The last two measure trauma appraisal: negative and positive appraisal. For this analysis, only the cumulative trauma scales (32 items) of the CTS were used. For the ASSIST, the alcohol subscale (7 items) was included and all questions (21 items) from the Beck-II were used. All three scales had Cronbach's alpha over .80: Cumulative Trauma Scale (.82), ASSIST Alcohol subscale (.84) and the Beck-II (.82). The cumulative trauma and ASSIST scale reliability are consistent with the literature. Cronbach's alpha for the CTS ranged from .85 to .88 (Kira et al. 2008; Nael 2012), and previous research with the ASSIST scale reported an alpha of .80 (Humeniuk et al., 2008). Measures of the BDI-II have reported Cronbach's alphas of .90 to .91 (Wiebe & Penley. 2005; Wilson-VanVoorhis & Blumentritt, 2007) -a slightly higher reliability than the .82 for this sample, but within the range of acceptable reliability (>.80; see Table 5).

Table 5

Internal Consistency of CTS, Beck-II and ASSIST Using Cronbach's Alpha

Scales	Alpha	Number of Items
CTS (Occurrence and Frequency Subscales only)	0.82	32
ASSIST (Alcohol Subscale only)	0.84	7
Beck-II Depression Inventory Scale	0.82	21

Cumulative Trauma Scale Descriptive Analysis

The mean overall cumulative trauma occurrence for this sample was 14.3 events (SD = 4.7), with all participants experiencing at least four traumatic events. The average trauma frequency was 37.2 (SD = 16.4), with a minimum of four and maximum of 88 exposures. Females' trauma occurrence (15.2) and frequency (38.6) were slightly higher than males' trauma occurrence (14.6) and frequency (36.3). The overall sample showed exposure to high rates of diverse forms of trauma. All participants reported experiencing collective identity trauma, 96% reported survival trauma, 94.1% secondary trauma and achievement trauma, 78.4% uprootedness trauma, 71.7% personal identity trauma, 66.7% cumulative stress trauma, and 42.2% torture trauma. Furthermore, 99% experienced being part of a poor family with many hardships, 33.3% reported being physically abused or beaten up, and 18.6% reported being sexually abused or raped or involved in unwanted sex (see Table 6, for trauma types reported by gender).

Table 6

Trauma Types and Experience by Gender

Characteristic	Female		Male		Total Sample	
	n	%	n	%	n	%
Collective Identity Trauma	39	100	63	100	102	100
Historical/Discrimination	39	100	59	93.7	98	96.1
Poverty	39	100	62	98.4	101	99.0
Survival Trauma	37	94.9	61	96.8	98	96.1
Achievement Trauma	36	92.3	60	95.2	96	94.1
Secondary Trauma	36	92.3	60	95.2	96	94.1
Gender Discrimination	35	89.7	45	71.4	80	78.5
Uprootedness Trauma	34	87.2	46	73.0	80	78.4
Personal Identity Trauma	29	74.4	44	69.8	73	71.7
Sexual Abuse	9	23.1	10	15.9	19	18.7
Physical Abuse	17	43.6	17	27.0	34	33.3
Cumulative Stress Trauma	29	74.4	39	61.9	68	66.7
Torture	14	35.9	29	46.0	43	42.2
Attachment Trauma	6	15.4		2.7	4	3.7

Beck-II Scale Descriptive Analysis

The overall Beck-II depression symptom mean score for this sample was 14.1. Females had an overall higher mean score (16.8) than males (12.5). The maximum score for the Beck-II scale is 63 points with the lowest being zero. Depression symptoms levels were based on total score and grouped as follows: *minimal*: 0-13, *mild*: 14-19, *moderate*: 20-28, and *severe*: 29-63. The overall depression symptom level of this sample was 1.82. Females again were slightly higher (2.2) than males (1.6). Questions with the highest percentage for this sample were noted as following: at least 50% of this sample reported mild feelings of sadness (question #1); 42.2% reported mild feelings of lack of satisfaction (question #4); and 33.3% reported mild feelings of lack of interest (question #12). When it came to moderate levels, 36.3% reported having difficulties sleeping (question #16); 33.3% reported moderate feelings of failure (question #3); and 25.5% reported moderate feelings of blame (question #8). When it came to severe levels, 9.8% reported severe feelings of failure (question #3); and 5.9% reported severe feelings of sadness, guilt, and problems sleeping (questions #1, 5, & 16).

ASSIST-Alcohol Subscale Descriptive Analysis

The mean alcohol score for this sample was 10.2 (SD = 9.4) with an average risk level of 1.5 (SD = .64). The total score for the alcohol subscale of the ASSIST ranges from 0-37 and can be translated into risk level and type of intervention needed as follows: *low health risk and no intervention*: 0-10, *moderate risk and brief intervention*: 11-26, and *high risk and more intensive treatment*: 27+ (Solar & Irwin, 2007). Females mean score of alcohol use (3.41) much lower than males mean score of alcohol use (14.4). Seventy-eight (78.4%) percent of the sample reported using alcohol in their lifetime, 50%

reported trying and failing to control, cut down, or stop using alcohol, and 47.1% reported having someone express concern about use of alcohol at some time in their life (see Table 7, for mean distribution by gender).

Table 7
Mean for Scales by Gender

Scale	Female			Male			Total Sample		
	M	SD	n	M	SD	n	M	SD	n
Trauma Occurrence	15.2	4.24	39	14.6	5.03	63	14.82	4.73	102
Trauma Frequency	38.6	14.62	39	36.3	17.46	63	37.19	16.42	102
Depressive Score	16.8	7.59	39	12.5	7.97	63	14.07	8.06	102
Alcohol Use Score	3.41	5.75	39	14.4	8.7	63	10.19	9.36	102

Primary Data Analysis

One component of this research was to examine Question and Hypotheses 5 that addressed the relationships of the social determinants of health (education, health insurance status, employment, marital status, and years in the United States), cumulative trauma, depression symptoms, and alcohol use. Multiple regression analysis was used to assess whether any social determinant of health significantly predicted any or all of these variables.

Hypothesis 5a: There will be a significant relationship between social determinants of health and cumulative trauma among adult Mayas. The results of the regression indicated the five predictors of social determinants, as a group, did not predict trauma occurrence, but approached significance with an $R^2 = .16$, $F_{(9, 92)} = 1.9$, $p = 0.06$. The results of the regression equations indicated that only marital status of separated

subjects was a significant predictor of trauma occurrence ($t = 2.78, p = 0.01$). The trauma occurrence score of participants with a marital status of separated was 3.4 points higher than any other marital status category. All the predictors explained 16% of the variance in trauma (see Table 8, for social determinants predicting trauma).

Table 8

Regression Analysis Summary of Social Determinants Variables Predicting Trauma Occurrence

Variables	B	Std. Error	β	t	Sig.
(Constant)	12.12	1.86		6.51	0.00
Education Years	0.10	0.11	0.09	0.90	0.37
Health Insurance	-2.81	2.73	-0.10	-1.03	0.31
Employment Status	-0.06	0.43	-0.01	-0.14	0.89
Years in US	0.15	0.09	0.17	1.59	0.11
Married	-0.80	1.74	-0.05	-0.46	0.65
Separated	3.35	1.21	0.32	2.78	0.01
Divorced	2.36	3.35	0.07	0.70	0.48
Partner	0.42	1.27	0.04	0.33	0.74
Widowed	-3.61	4.93	-0.08	-0.73	0.47

Note. $R^2 = .156, F_{(9,92)} = 1.885, p = .064$

When it came to trauma frequency, the results of the regression equations also indicated that separated marital status was a significant predictor of trauma ($t = 2.6, p = 0.01$). The trauma frequency score of separated subjects was 11.1 points, again the highest of all the other categories of marital status. All the predictors explained 15% ($R^2 = 0.15$) of the variance in trauma (see Table 8, for a summary of variables predicting frequency of trauma).

Table 9

Regression Analysis Summary of Social Determinants Variables Predicting Trauma Frequency

Variables	B	Std. Error	β	t	Sig.
(Constant)	31.36	6.50		4.83	0.00
Education Years	0.24	0.39	0.06	0.61	0.54
Health Insurance	-15.54	9.53	-0.16	-1.63	0.11
Employment Status	-0.58	1.50	-0.04	-0.39	0.70
Years in US	0.35	0.32	0.12	1.06	0.29
Married	-1.40	6.08	-0.03	-0.23	0.82
Separated	11.07	4.21	0.31	2.63	0.01
Divorced	-5.08	11.70	-0.04	-0.43	0.67
Partner	1.42	4.44	0.04	0.32	0.75
Widowed	-14.07	17.20	-0.08	-0.82	0.42

Note. $R^2 = .145$, $F_{(9,92)} = 1.729$, $p = .093$

Hypothesis 5b: There will be a significant relationship between social determinants of health and depression symptoms among adult Mayas. None of the predictors were significant in predicting depression symptoms. The Beck-II was further investigated. The scale was subdivided into the recommended depression levels, *minimal*: 0-13, *mild*: 14-19, *moderate*: 20-28, and *severe*: 29-63. Ordinal regressions were run for the five predictors as a group and individually. As a group overall, all variables were not predictive, but only an education of eight years or greater (lower depressive symptoms) and an employment status of day laborer (higher depressive symptoms) were independently significant (see Table 10).

Table 10

Ordinal Regression Results for Depression Levels

-2 Log Likelihood					
Intercept	Final	Pearson χ^2	df	p	Cox and Snell
240.558	88.666	151.892	47	< .001	0.774

Note. Only education of 8 years or higher lowered depression level, and day laborer employment status increased depression level.

Hypothesis 5c: There will be a significant relationship between social determinants of health and alcohol use among adult Mayas. Social determinants of health variables, as a group, predicted alcohol use, but more specifically, employment status ($t = 2.1$, $p = 0.04$) and marital status of separated ($t = 2.2$, $p = 0.03$) provided the most significance. All the predictors in the regression equation explained 22% ($R^2 = 0.22$) of the variance in alcohol use (see Table 11, for social determinants of alcohol use).

Table 11

Regression Analysis Summary of Social Determinants Variables Predicting Alcohol Use

Variables	B	Std. Error	β	t	Sig.
(Constant)	7.44	3.53		2.11	0.04
Education Years	0.08	0.21	0.04	0.38	0.71
Health Insurance	-5.09	5.18	-0.09	-0.98	0.33
Employment Status	1.69	0.81	0.21	2.08	0.04
Years in US	-0.24	0.18	-0.14	-1.36	0.18
Married	-1.19	3.30	-0.04	-0.36	0.72
Separated	5.09	2.29	0.25	2.23	0.03
Divorced	-0.98	6.35	-0.02	-0.15	0.88
Partner	-4.04	2.41	-0.18	-1.67	0.10
Widowed	5.65	9.34	0.06	0.60	0.55

Note. $R^2 = .224$, $F_{(9,92)} = 2.943$, $p = .004$

Bivariate Analysis

To answer Question 6 and address the associated hypotheses, bivariate analyses were conducted to assess the association between cumulative trauma scores and symptoms of depression and alcohol.

Hypothesis 6a: There will be a significant relationship between self-reported cumulative trauma and depression symptoms among adult Mayas. Results demonstrate a positive, moderate, and statistically significant correlation between trauma occurrence ($r = 0.36, p < 0.0001$) and depression symptom levels as well as trauma occurrence ($r = 0.30, p < 0.002$) and the Beck-II depression score. The results indicated that participants with higher cumulative trauma occurrence were likely to obtain a higher Beck-II depression score and higher depression symptom level. When it came to trauma frequency, both depression symptoms level ($r = 0.30, p < 0.01$) and Beck-II depression score ($r = 0.31, p < 0.01$) showed a positive, moderate, and statistically significant correlation. This indicates that when trauma occurrence and trauma frequency increases, so does depression level and Beck-II depression score.

Hypothesis 6b: There will be a significant relationship between self-reported cumulative trauma and alcohol use among adult Mayas. This study also noted a positive, weak, and statistically significant correlation between trauma occurrence ($r = 0.20, p < 0.04$) and alcohol risk level, indicating that higher trauma occurrence was also likely to be related to higher alcohol risk level. On the other hand, a positive but negligible relationship and almost statistically significant correlation was noted between trauma occurrence ($r = 0.19, p > 0.05$) and alcohol use score. This result points to no relationship between the two variables. Furthermore, no relationships or significant

correlations were noted between trauma frequency and alcohol risk level or alcohol use score (see Table 12). When comparing results by gender, women followed the same relationships as the overall sample in all areas except trauma occurrence ($r = 0.32$, $p < 0.05$) and alcohol use score that showed women with a moderate, positive, and significant correlation. Unlike the overall sample, the men's results showed a weak but positive and significant correlation between trauma frequency and alcohol level ($r = 0.25$, $p < 0.05$) and alcohol use score ($r = 0.29$, $p < 0.05$).

Table 12

Correlation Results for Cumulative Trauma, Depression and Alcohol Use

Measure	1	2	3	4	5	6
Trauma Occurrence	-					
Trauma Frequency	0.88**	-				
Depressive Symptoms Levels	0.30**	0.30**	-			
Beck-II Total Score	0.36**	0.31**	0.91**	-		
Alcohol Use Score	0.19	0.16	0.07	-0.01	-	
Alcohol Risk Level	0.20*	0.19	-0.50	0.01	0.92**	-

Note. ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Hypothesis Testing

Table 13

Hypothesis Summary

	Significant	Not Significant
Question 5		
Hypothesis 5a: SDH and Cumulative Trauma (CTS)	X*	
Hypothesis 5b: SDH and Depressive Symptoms	X**	
Hypothesis 5c: SDH and Alcohol Use	X	
Question 6		
Hypothesis 6a: CTS and Depressive Symptoms	X	
Hypothesis 6b: CTS and Alcohol Use	X	

Note. SDH = Social Determinants of Health; *Only marital status of separated.

**Employment status of day labor and Education of more than 8 years

Results revealed that only marital status (separated) accounted for a significant proportion of unique variance in predicted cumulative trauma dose. The same steps were repeated and the five social determinants of health predictors did not predict Beck-II depression score, but ordinal regression revealed that higher formal education decreased depression symptoms, and day-labor employment status increased depression symptoms. As a group, the five social determinants of health predictors were significant for predicting alcohol use. This study showed that as cumulative trauma increases so do depression symptoms and alcohol use among adult Guatemalan Mayas living in Southeast Florida.

CHAPTER 5: DISCUSSION OF THE FINDINGS

The purpose of this study was to assess the relationship between the social determinants of health (education, health insurance status, marital status, employment, and years in the United States), cumulative trauma dose, alcohol use, and depression symptoms among 102 adult Mayas (39 female, 63 male) living in Southeast Florida. In addition, the study collected demographic and medical information, such as age, gender, income, language, body mass index (BMI), and waist circumference. Descriptive statistical analyses and multiple linear regressions were conducted to analyze study data.

The results of the descriptive analysis provided some insight into the Mayan population and some of the social factors that influence their everyday life, areas that have had little prior research. This sample was relatively young ($M = 35.6$, $SD = 11.3$), and the majority (72.5%) reported being in the United States six or more years with 72.5% of participants reporting limited education (six or fewer years of education). All participants spoke Spanish, but more than half (63.7%) spoke a Mayan language as their primary language. Most of the participants had no health insurance (97.1%). Statistics related to marital status indicated that 10.8% were married, and 30% were separated. More than half (59.8%) were unemployed or day laborers, and 96.1% of the sample made \$500 or less a week. Given the fact that health consequences are influenced by social structure and social stigma that shapes the availability of resources (Smith, 2007), these descriptive statistics are alarming.

The sample of Mayas in this study were predominantly overweight or obese (75.5%) with a mean BMI of 28.1 (SD = 4.3) and a mean waist circumference of 36.1 (SD = 4.0) inches, placing them at higher risk for diabetes and cardiovascular disease. Reports indicated that obesity has reached epidemic proportions in the United States and is influenced by age, gender, race, ethnicity, and socioeconomic status (USDHHS, 2001a). When it comes to race, Native Americans are at least three times more likely to suffer from obesity and diabetes than Whites (OMHHD, 2007; USDHHS, 2010). Furthermore, as income decreases, the prevalence toward obesity increases, possibly indicating that overeating could be a maladaptive coping skill for dealing with the decreased sense of hope that may be linked to decreased income (Foster, 2007; Ogden, Lamb, Carroll, & Flegal, 2010). Other possible explanations for obesity among the Mayas include a high level of illiteracy combined with previous experiences of food deprivation; therefore, getting more food for less money may occupy higher priority than eating healthy (Nagata et al., 2009). There also appears to be a lack of understanding of the resultant health repercussions involved in the transition from Guatemalan to U.S. lifestyles, evidenced by such factors as the availability of junk food and the influence of neighborhood safety upon an active lifestyle (Bogin, 2002; Wilkinson & Marmot, 2003). The quantity of factors that describe the grave poverty status of the Mayas indicate that they are at high risk for health disparities (Oliver & Hayes, 2008; Williams, S., 2008).

Given these social determinants of health, it is no surprise that this population faces many physical, economic, and emotional stressors as a result of their collective cultural trauma experiences. The fear of not having enough to eat among the Maya population is founded upon a complex traumatic history of genocide combined with a

self-perpetuating cycle of perceived deprivation (Sabin et al., 2003; Sabin et al., 2006). Historically, trauma and the ensuing complications were only assessed by accident on immigrant populations. Observations of the effects of trauma were done reluctantly, tainted by the perception that immigrants presenting with signs and symptoms of injuries or physical illness were no longer socially useful; this provided the foundation for stigmatization (Fassin & Rechtman, 2009). This reactive attitude dismissed possible links between trauma and culture. This study provides a foundation for a proactive response by caregivers by demonstrating a link between trauma and culture within this sample of Mayas.

The concept of cumulative trauma dose and trauma profile calls for a comprehensive assessment of both collective and individual experiences. The Mayas in this sample reported high levels of trauma dose and diverse forms of trauma; the average experience in this study was in excess of 14 different types of trauma. Even more disheartening, this population had repeated exposure to traumatic events (37.2 times average, $SD = 16.4$), with one participant having a total of 88 exposures. Two studies that assessed trauma among Mayas living in refugee camps in Mexico showed lower traumatic experiences than those reported in this study, with one finding an average of 8.3 traumatic events and the other 5.5 (Sabin et al., 2003; Sabin et al., 2006). By comparison, this sample of Mayas in the United States had higher exposure to trauma than Mayas in Mexico. In comparison, this sample of Mayas in the US had higher exposure to trauma than Mayas in Mexico. When comparing cumulative trauma dose to other groups, (using the same cumulative trauma measure) Mayas experienced more trauma (14.3), than Native Americans in the US (12.9), adults with mental illness in the

US (10.3), Palestinians in Gaza (9.3), Iraqi refugees in the US (7.2), and adults with mental illness in Egypt (6.5; Kira, Aboumediene, et al., 2013; Kira, Fawzi, & Fawzi, 2012; Kira et al. 2008; Nael, 2012). This finding of high cumulative trauma dose among the Mayan population can be considered a call for action and demonstrates a need for early culturally sensitive trauma assessment.

Disparity in mental health occurs when assessing a complex phenomenon such as trauma in the lens of the clinician instead of the lens of the patient. Many immigrants feel they are “caught between two histories and two worlds.” It is valuable for care givers to seek understanding of the cultural experiences from the motherland together with the current experiences of the new land (Fassin & Rechtman, 2009, p. 232). Different populations experience different types of trauma, creating their own unique cultural trauma profile. Knowing such profile helps identify what types of trauma have the greatest impact on a group and the dynamics behind any potential successful interventions (Kira et al., 2008, Kira et al., 2010). Being mindful of a population’s traumatic experiences is important, since the likelihood of developing a pathological stress response increases with specific types of trauma and repeated exposure to trauma (Cloitre et al., 2009).

For the adult Mayas in this sample, collective identity trauma (those shared as a group, such as discrimination or genocide) scored higher than any other type of trauma, with every member having experienced at least one event. Historical trauma and genocide (combined: 89%), and poverty (99%) are part of this type of trauma. This comes as no surprise; the Maya Indians have experienced more than five centuries of devastation, with a history of genocide as native people of Central America. These types

of traumas seem to be more prevalent in immigrant groups and can be linked to persecution types of mental illnesses, such as paranoia and depression (Lipsedge & Littlewood, 1997). With the continuation of these unique experiences in the United States, Hiller et al. (2009) made the point that this cultural group should not be included under the Hispanic label. Mayas have a very distinct history and distinct set of trauma pattern experiences, as noted in this study.

Survival trauma (96%), achievement trauma (94.1%), and secondary trauma (94.1%) were the next most frequently reported traumas. Examples of survival trauma include war, combat, robbery, and life-threatening experiences. A perception of self-failure at work or school, or loss of life savings are examples of achievement trauma. Secondary trauma examples include loss of a child or spouse through separation, or the death of a loved one. Unrelenting shattered hopes and unrealized ambitions disrupt wellbeing, physically, emotionally, and spiritually, exacerbating vulnerability to mental illness, such as depression (Lipsedge & Littlewood, 1997, p. 96). Individuals who migrate in the pursuit of a better life have high expectations. Unfortunately, there is a high failure rate due to the lack of education, resources, and language barriers (1997). This sample of Mayas experienced layers upon layers of survival and secondary trauma; most recently, was the 1990s civil war in Guatemala. This war brought more victimization to this population by both the Guatemalan army and the guerrilla paramilitary, resulting in torture, uprootedness, exile, and loss of loved ones due to death or separation (Linstroth, 2009; Montejo, 1999).

Other frequently experienced traumas included gender discrimination trauma, uprootedness trauma (consequence of the refugee experience), personal identity trauma,

cumulative stress trauma, and torture trauma. Social determinants of health, particularly the marital status of being separated from loved ones, accounted for 16% of cumulative trauma variance in this study, suggesting that social factors have a bearing upon the trauma this population has experienced. Of all the traumas, social traumas, such as collective and achievement traumas, and social disparities that are inflicted on a group based on race, ethnicity, or religion have the greatest personal impact. However, the impact extends beyond the person to families and communities, with transmission in one step from parent to child or in multi-steps in the course of cross-generational transmission among individuals, families, and/or groups (Kira et al., 2008). These types of trauma did not meet the DSM-IV definition of trauma, which made diagnosis a problem; the new DSM-5 is inclusive of indirect exposure to trauma such as that which is passed from generation to generation (APA, 2013). Findings of this study support previous research, completed outside the United States, indicating that Mayas have experienced substantial levels of diverse and repeated social traumas (Kira, Aboumediene, et al., 2013; Sabin et al., 2003; Sabin et al., 2006) Collective traumas that impact a group should be incorporated as a part of mental health assessment in the United States. Traumatic experiences leave psychological imprints that burden the future if not addressed promptly and appropriately; this is true even of mildly traumatic events. The pervasiveness of trauma contributes to the perception that trauma results in common expressions of symptomology. Within diverse cultural groups, the repercussions of trauma are manifested in ways that are unique to that culture (Fassin & Rechtman, 2009).

Due to the high frequency of reported traumatic experiences, depression was assessed in this population. Depression is such a familiar word that many hold the

erroneous belief that it is easy to recognize. Particular patterns and presentation of mental illness are found in specific groups based upon their unique cultural, biological, and social experiences. In certain groups, depression is a less common diagnosis, yet it may be found to manifest later in life at a more severe stage (Lipsedge & Littlewood, 1997). In the case of the Mayas, the sample showed mild signs of depressive symptoms with some gender differences; males scored within the lowest possible level, indicating no depression to minimal depression, whereas females showed signs of mild depressive symptoms. A diagnosis of depression is often missed or ignored because mild cases are not seen as a nuisance to the greater society. In the few studies that included Mayas living in Mexico (Sabin et al., 2003; Sabin et al., 2006), depression was linked to being a woman, experiencing 13 traumatic events, having 6-12 children, and being widowed. In the studies by Sabin et al. (2003) and Sabin et al. (2006), women were more likely than men to suffer from mental illness such as depression, supporting the findings in this study. Possible contributors to the increased incidence of depression for women may be hormonal differences (post-partum, menopause), family history of depression, and how women respond to traumatic events (NIMH, 2009). The combination of trauma and social determinants can potentially trigger major depression and the trans-generational transmission of depression symptomology from mothers to daughters (Miller, 1996). Feelings of sadness -or “thinking a lot,” as described by Mayas in a previous study (Millender, 2010), was related to feelings of failure (achievement trauma), leaving family behind in Guatemala (social determinant), and cultural differences (social determinant) that are associated with depressive symptoms in this population (2010). Different cultural groups make sense of their experiences, such as trauma, with tools available to them

within their environment and culture (Lipsedge & Littlewood, 1997, p. 68). The findings of this research support previous research, indicating that a main stressor among Mayas originates from feelings of sadness and lack of success; these stem from the individual's inability to make money and provide for family members in the United States and in Guatemala (Millender, 2010; Worby & Organista, 2007). Early depression screening of multi-traumatized populations, including Mayas, should always be considered as part of comprehensive assessment. These findings are important since depression often presents as physical symptoms. The difference between depression and suicide frequently depends on support offered, community perception of the mentally ill person, and recognition of varied manifestations of mental illness among culturally diverse groups (Lipsedge & Littlewood, 1997).

Whereas women showed higher depression levels than men, the opposite was true when it came to alcohol use. The overall group scored 10.2 in alcohol use, indicating low health risk due to alcohol, not requiring intervention. When looking at the alcohol scores by gender, females' mean score of alcohol use was 3.4, more than 10 points lower than the mean score for males (14.4). Based on these results, females were very low risk, whereas males were at moderate risk for problems related to alcohol use requiring brief intervention to improve health outcomes. The differences in trauma and social factors experienced between the males and females could be related to cultural and social expectations of coping with daily stressors.

Social determinants of health explained 22% of the variance in alcohol use, with employment status and separated marital status being most highly related to alcohol use score. As Mayas are exposed to multiple traumas and social barriers, many may be

placing themselves at higher risk for mental and physical illness due to harmful or hazardous alcohol use (moderate score) in the attempt to deal with the burdens that accompany trauma. This has the potential to create a burden on the community, and health care system; it can lead to health problems and progress to alcohol dependency (WHO, 2010).

Larson and McQuiston (2008) found that many participants drink alcohol in order to deal with emotional stress and financial instability. Alcohol use is perceived to numb the pain by allowing many to temporarily forget about worries resulting from having left families behind in their home country (Millender, 2010). In the same study, one informant explained that he would be happier with his family back in Guatemala and that he was always thinking about the family back home (Millender, 2010). Among this population, success is often measured in terms of ability to make money; consequently, alcohol-drinking patterns typically do not interfere with work (Larson & McQuiston, 2008). Kanteres et al. (2009) and others found that, whereas this population drinks heavily, it is not necessarily a daily activity; instead, they are more likely to indulge in binge drinking (Larson & McQuiston, 2008; Worby & Organista, 2007). For these reasons, qualitative information in the form of interviews gathered about the alcohol-drinking pattern of the Mayas may have helped in deciphering cultural patterns of alcohol use and its effect upon individuals, communities, and society as a whole. Resultant health problems are not only personal, but also trans-generational, with increased risk for physical abuse, domestic violence, and traffic accidents (Worby & Organista, 2007). Indigenous groups similar to the Mayas also suffer disproportionately from alcohol abuse (OMHHD, 2007). The results of this study indicated that, as social determinants of health

and cumulative trauma increase, the risk for harmful and hazardous alcohol use score increased and depression symptoms increased accordingly. Identifying risk factors at an early stage before serious disease or problems are manifest, provides room for early screening leading to early identification, early treatment, and better outcomes.

Strengths of the Study

It is rare that mental illness is the result of one single event. Collecting information about a variety of experiences culminating in a wide range of outcomes, including trauma and social factors, has the potential to broaden insight into trauma and the effects of trauma (APA, 2013; Lipsedge & Littlewood, 1997, p. 79). This study utilized an innovative scale, the Cumulative Trauma Scale (Kira, 2001), which assessed cumulative trauma dose among a unique group, a new concept within the DSM-5. It was designed to go beyond a single episode and a single type of trauma, inclusive of lifespan experiences from childhood to adulthood. This information was combined with the social determinants of health derived from the demographic survey, the Beck-II Depression Scale, and the Alcohol, Smoking and Substance Involvement Screening Test (alcohol risk scale). This study used tools and concepts that were addressed in the new DSM-5 such as social determinants of health, and alcohol use (rather than alcohol abuse), and placed culture at the center of research, eliciting culturally relevant information to assist in the understanding, description, diagnosis, and treatment of unique groups like the Mayas. The results provide a foundation of understanding of the effects of trauma endured by Mayans in the United States. The perspective that can be gained from this assessment tool is a step in the right direction toward understanding the circumstances of Mayas in the United States. The Guatemalan Mayas population is one of the fastest growing groups

in the United States, especially in Southeast Florida, but no study has heretofore been completed that assesses cumulative trauma and how it may influence depressive symptoms and alcohol use health risk among this population. This is the first study that has assessed the cumulative trauma dose among Mayas in the United States, providing a foundation for other studies to come. This study provided insights to improve the overall health of this unique population. This study also addressed social determinants of health that have been described in Healthy People 2020. It provided information to guide the accomplishment of Healthy People 2020. This study contributes to the conversation concerning inclusion of all forms of trauma in a multi-global assessment that considers social, environmental, physical, and mental experiences. A holistic approach to care for victims of cumulative trauma will provide meaningful opportunities for developing interventions for clients, groups, and communities that have suffered trauma.

Limitations of the Study

The utilization of dummy variables or categorical data restricted full analysis of the data. Having a small sample ($n = 102$) also contributed to a limited representation of this population and limited the study's ability to perform a robust statistical trauma path analysis for this unique population. This study provided the beginning descriptive structure of a trauma profile for the Mayan population. The use of a convenient sample may not have been representative of the Maya population living in Southeast Florida, and the utilization of a randomly selected sample would be recommended for future studies. This study may have been slightly skewed because it targeted frequent visitors of community resource centers, specifically, day laborers, unemployed individuals, and males. Future studies should address these issues to enhance generalizability of findings. The

use of interviews might have revealed important information that could reveal areas needing closer examination.

Prior to this study, none of the scales (ASSIST, Beck-II, CTS) had been used to evaluate the Maya population specifically; measurements were based on participants' self-report and perception, possibly resulting in over- or under-reporting of events, which may have been exacerbated by low literacy levels among study participants. This population felt more comfortable providing narrative explanations to the questions; therefore, utilizing questionnaires may have limited the richness of the information collected. Possible solutions include using a mixed-method or qualitative approach that facilitates guided interviews and the collection of stories from this population, particularly since, traditionally among indigenous people, cultural beliefs have been passed from one generation to the next via storytelling (Charbonneau-Dahlen, 2010).

Lack of access to care may have limited the accuracy of the responses designed to assess health impact related to trauma experiences, depression, and alcohol use, particularly since over 90% of the sample did not have health insurance; many had not visited a primary health care provider in more than a year, and, in many cases, had never visited a primary health care provider in their adult life. Group results may not apply to every individual in this population.

Implications for Nursing and Health Care

This study is one of the first studies that describes the Maya population in the United States and explores social determinants of health for this population. The findings of this study further elucidate the traumatic experience of the Maya population. Given the

growth of this population, it is important to address the disparities that affect their physical and emotional health outcomes, as well as their overall morbidity and mortality.

Knowing the trauma profile of culturally unique groups or persons can help identify the physical and mental problems they have and enable development of interventions based on their trauma profiles. Each type of trauma experience presents higher risk of certain illnesses or disorders. Therefore, awareness that trauma symptomology can go beyond a singular traumatic event can improve the effectiveness of health care. Ongoing stressors and traumas are an important part of mental health assessment that focuses on depression, alcohol use, and other mental disorders.

The results of this study indicated increased cumulative trauma dose corresponds to an increase in the level of depression symptoms and alcohol use risk level. If these early signs and presentation of trauma are ignored, they can potentially advance to more serious physical and mental health problems. Language as well as literacy level may play a role on how populations such as the Mayas report symptoms. Spanish is a second spoken language among Mayas with few being able to read it fluently. Awareness of literacy levels can facilitate the development and utilization of appropriate screening methods for populations that may not be fluent in the ability to read, write, or speak the common language. The results of this study suggested that adding interviews might have generated more insight into correlations between trauma and social determinants of health, depression, and alcohol use risk among the Maya due to a cultural preference for informal interview methods. Furthermore, the results of this study suggest that the ASSIST did not provide specific enough information to allow insight into the cultural drinking patterns of this population. For example, the ASSIST does not distinguish

between frequent light consumption of alcohol and infrequent binge drinking behavior. If an individual drinks infrequently yet heavily during times when being intoxicated will not affect work, financial problems, or other responsibilities, it would still be possible to truthfully respond to questions as posed by the ASSIST and yet emerge with a score of ‘low health risk and no intervention needed’. Furthermore, questionnaires about substance and alcohol use could be problematic among a population that has a mistrust of filling out forms. There may be culturally accumulated traumas reinforcing a reluctance to provide a hard copy of information that could adversely affect employment prospects, or that might jeopardize the security of family and friends, or that might have a negative effect upon immigration status. More accurate and useful information about alcohol consumption might be obtained through the utilization of informal interview methods.

Potential communication solutions for patients include providing interpreters, using technology such as iPads or tablets with picture recognition, and using audio versions of questionnaires. This study has the potential to increase the awareness level of health care providers that there is no single, ideal way of assessing trauma, or social factors and how they impact the physical or mental health of a culturally diverse population; therefore, the one-size-fits-all mental health care is invalid and should be abandoned.

Cumulative trauma has been identified as a new concept that still needs much research in order to be better understood. It is essential to inform health professionals of its influence on the mental and physical health of individuals, communities, and generations of Mayas that have been dealt a one-two punch of trauma and social determinants of health, such as poverty and chronic discrimination. These circumstances

may even be exacerbated by health care professionals who lack awareness of the Mayas' particular needs. This disparity could be remedied by improving access to care and provision of culturally sensitive screening tools and methods.

Results indicated severe levels of cumulative trauma, especially collective identity type III trauma, historical trauma, and other traumas that are present, perpetual, and continuous in Mayas. Most of the evidence-based interventions with trauma are past-trauma focused. This calls for new models of trauma care and interventions. New models that are current and continuous trauma-focused should be developed. Intervention should address all the traumas: past, present, and historical trauma, and discrimination (e.g., Kira, Ashby, et al., 2013; Kira, 2010; Kira, Ahmed, et al., 2012; Murray, Cohen, & Mannarino, 2013).

Implications for Policy

This study helps to provide an explanation of the consequences of early political and economic decisions of a superior group (Spaniards) on a less powerful group (Mayas). The impact is still affecting Mayan overall well-being five centuries later where many Mayas live in a different land (US). Policies should be examined in relation to granting refugee status to Mayas in the United States so that the impact of the trauma can be addressed. Since Mayas are an indigenous group who are Native to Central America, few are now given refugee status in the United States. The majority of Mayas who have exiled to the United States are left without refugee status resulting in the daily fear of deportation and return to Guatemala where they face even more persecution, poverty, and lack of basic human needs. With refugee status in the United States, Mayas would have

access to health care, including mental health access; basic human needs would be met and constant fear of capture would be removed.

The well-being of Mayas could also be promoted by developing strategies that connect Mayan communities to various Native American communities in the United States. Cultural programs and interventions being implemented by Native Americans that address health disparity and trauma issues could be shared and tailored for implementation among Mayas. Overall, there is a need for the establishment of a strong support system, advocacy, and legislation to enhance the acquisition of resources needed for the well-being of Mayas.

Recommendations for Further Research

Future research should build on this study; it should be replicated with a larger, more representative sample of the Mayan population. This should include an equal sample size of females and males from the broader community. Although the present study used Mayas living in Southeast Florida, additional studies should include Mayas living in other areas of the United States. Future studies might seek inclusion of other unique but similar cultural groups; this would allow for comparison of trauma profiles, contributing to more complete understanding of differences and similarities. The inclusion of a younger sample, such as adolescents and middle-school age children, could provide more trauma profile information for Mayan-Americans. Younger individuals may not have experienced the same traumas as parents; rather, they may have experienced the transmission of trauma from having grown up in an environment where they have heard of their parents' experiences involving genocide and civil war (Linstroth, 2009). Consequently, inclusion of younger participants in studies of trauma could reveal

the pervasiveness of trans-generational trauma. Such studies could provide health care professionals with insights and tools that could assist them in trans-generational trauma assessment. Younger individuals are growing up in an environment that is very different from that of their parents, and may experience traumas that conflict with their cultural views and expectations. The current study identified obesity risk factors; therefore, there may be value in conducting future studies that assess blood sugar levels, cortisol levels, and blood pressure readings to determine if high cumulative trauma levels exacerbate poor health outcomes.

The use of qualitative research methods, such as story path (Liehr & Smith, 2008), is a promising vehicle for obtaining detailed information about the types of trauma the Mayas have experienced. It also reveals information about the perception a person or group has of the effect of trauma upon their daily lives, and the coping mechanisms that are used with different types of trauma. Another area of discussion should address alcohol usage patterns among Mayas, since this study demonstrated the existence of patterns that differ from those typically assessed in questionnaires. Future studies might be designed to examine different alcohol use and abuse patterns among various subgroups of Mayas (Q'anjob'al, Quiche, Mam, etc.). Such a study should utilize assessment tools which are designed to pick up a variety of drinking patterns; for example, the ASSIST, which asks the frequency of drinking does not necessarily differentiate between widely differing amounts of consumption -three-day binge that occurs once a month is vastly different than consuming an alcoholic beverage once a month. Question 2 in the ASSIST assessment tool asks "In the past three months, how often have you used the substances you mentioned? (*Never, Once or Twice, Monthly,*

Weekly, Daily or Almost Daily)". (see Appendix C). Positive outcomes and coping skills that have been developed by those whose traumatic experiences have resulted in resilience should also be assessed by examining religious beliefs and practices, community support, neighborhood enclaves, and sharing of resources.

Conclusion

Various cultural groups have unique methods of making sense of their traumas and misfortunes. The accumulation of trauma is often manifested through feelings of sadness, lack of pleasure, or self-destructive behaviors such as alcohol use. Prolonged mild cases of depression and moderate alcohol use risk can evolve into more severe cases. The findings in this study confirmed that high levels of cumulative trauma dose and the social factors is embedded in the cultural language and history of the Mayan culture, which may present in mild forms of depression symptoms for women and moderate alcohol use risk for males living in Southeast Florida. These mild symptoms should not be ignored. Awareness of lifelong trauma experienced by cultural groups, such as the Mayas, can assist in the effective transformation of techniques for assessment of mental illness in a clinical setting. With this concept in mind, this study provided a preliminary trauma profile for Mayas living in the United States.

Mayas have to deal with past traumatic experiences, including genocide and exile, as well as current stressors related to cultural differences, migration status, economic distress, language barriers, lack of access to care, and uncertainty about the future. The trauma profile for the Mayan population sample in this study reflected high exposure to different types of trauma; collective identity trauma was most frequently reported, followed by survival trauma, achievement trauma, secondary trauma, and personal

identity trauma. There was also a high rate of repetition of the same traumas. When evaluating the effects of different forms of traumas represented in this study, cumulative trauma emerged as the most significant type of trauma in that it addresses the combination of all similar and dissimilar traumas in the lifespan of a person. When cumulative trauma is added together with the social determinants of health, the likelihood for depression and alcohol use increases; this potentially results in higher morbidity and mortality rates. The Mayan population is highly traumatized, and, when compared with other ethnically diverse groups, they are among the most traumatized ethnic groups; however, they present a unique type of trauma profile. Familiarity with the types of traumas that compose such profiles is crucial, since different types of trauma are more likely to influence different types of mental and physical co-morbidities, and inadequate coping styles (Kira et al., 2010).

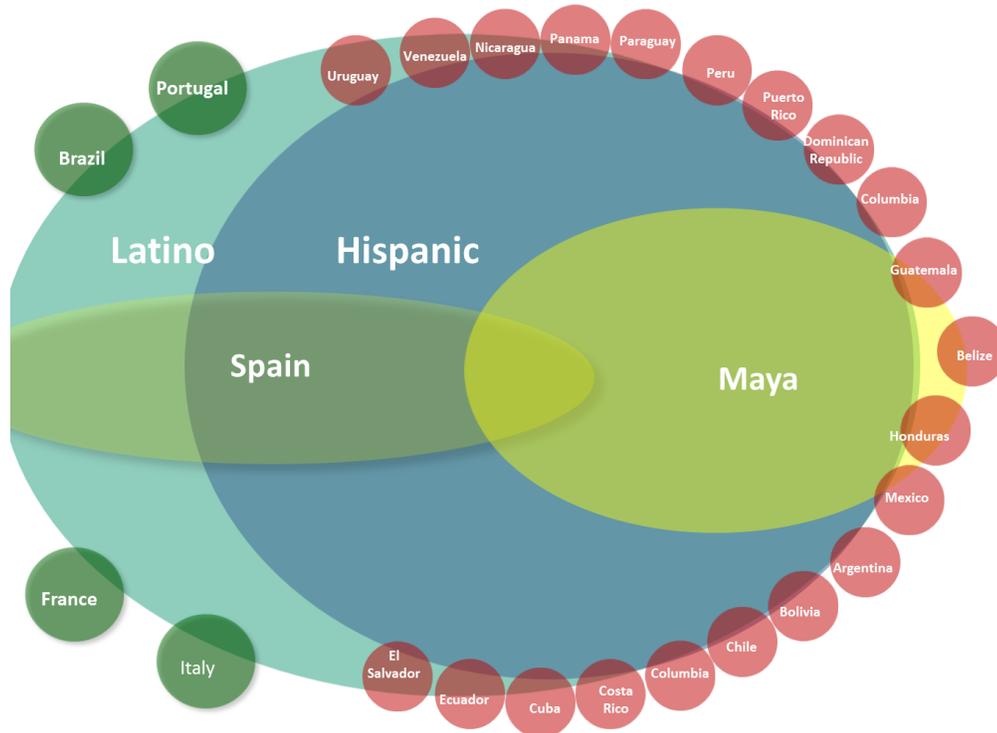
The study results provided evidence that Mayas face a mountain of diverse and repeated exposures to trauma. The effect of chronic traumatic experiences was expressed in different ways; females tended to show mild symptoms of depression, whereas males tended to show moderate levels of alcohol use; these can potentially impact morbidity and mortality. This study suggested that health care providers need to assess for all types of trauma, since a single episode of trauma is the exception. This study demonstrated the importance of assessing similar and dissimilar types of trauma to determine how they affect the physical and mental health of Mayas. Cumulative trauma can be trans-generationally transmitted; it becomes embedded in a lifetime of victimization and social structure, linking the past, the present, and the future. This study suggested that there is a connection between cumulative trauma dose, alcohol use, depression, and social

determinants of health. It underscored the need for culturally sensitive methods of assessment that will pave the way for effective early intervention techniques. This study has laid a foundation, the ultimate outcome of which would be progress toward wellbeing and hope for the Mayan people.

APPENDIX A

HISPANIC, LATINO, AND MAYA INTERRELATIONSHIP

Hispanic, Latino, and Maya Distinctions

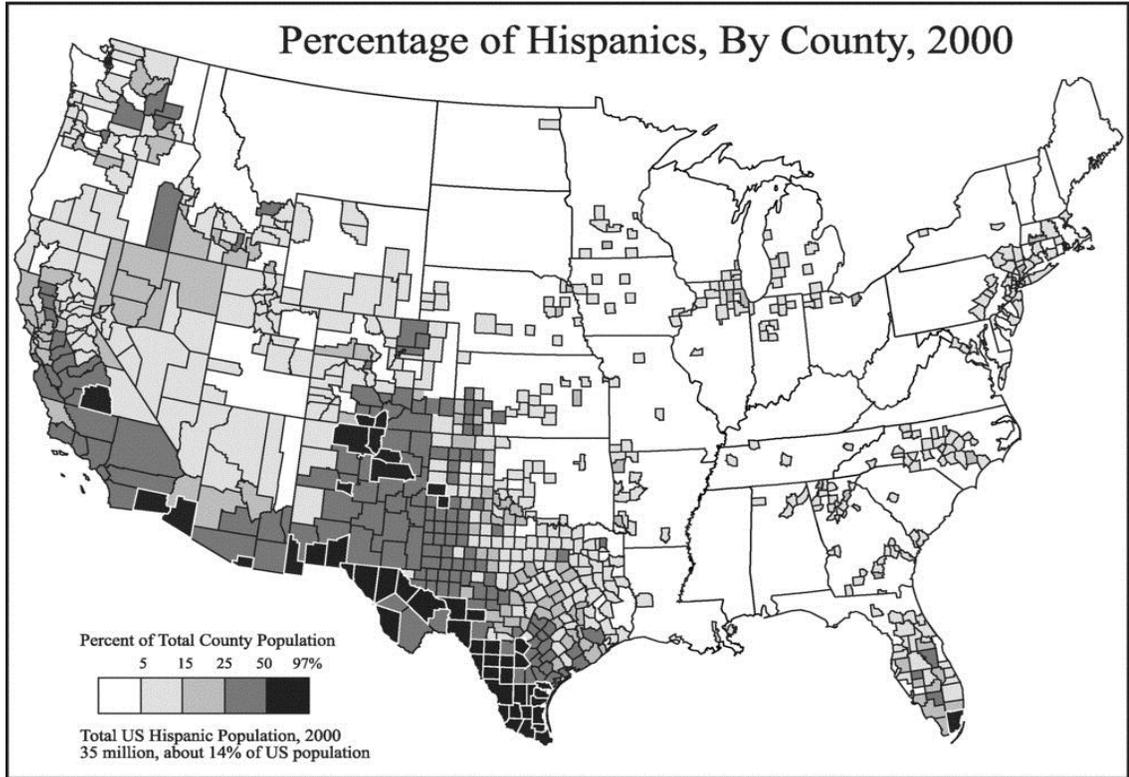


Sources: Mary Neva Kupferschmidt (Graphic Designer). (2011). Adapted from WikiProject Latin America. (n.d.). In *Wikipedia*. Retrieved October 23, 2011 from <http://en.wikipedia.org/wiki/Hispanic>

This graphic conveys that the Mayan originate from the region that now includes Guatemala, Mexico, Belize, and Honduras. Hispanics are of Spanish descent and are from areas that were once colonized by Spain; this includes most of Central and South America. Latino describes those who originate from countries in Latin America. Although all Mayas have come to be referred to as Hispanic, this graphic depicts a portion of Mayas whose bloodlines remain pure, and who, technically, are not Hispanic, despite present-day labeling. The country Belize lies at the center of early Mayan civilization; though not a Hispanic country, it is Latino, and was formerly called British Honduras. Every nation in Central and South America has a portion of their populace who are not of Spanish descent; unfortunately, government agencies do not acknowledge these distinctions, and label them all with the blanket term Hispanic and/or Latino.

APPENDIX B

GUATEMALAN DISTRIBUTION IN THE UNITED STATES



Guzmán, B. (2001, May). *The Hispanic population* (Census 2000 Brief No. C2KBR/01-3). Washington, DC: U.S. Department of Commerce Economics and Statistics Administration. Retrieved from <http://www.census.gov/prod/2001pubs/c2kbr01-3.pdf>

APPENDIX C

ALCOHOL, SMOKING AND SUBSTANCE INVOLVEMENT SCREENING TEST

(ASSIST)

A. WHO - ASSIST V3.0

INTERVIEWER ID	<input type="text"/>	COUNTRY	<input type="text"/>	CLINIC	<input type="text"/>
PATIENT ID	<input type="text"/>	DATE	<input type="text"/>	<input type="text"/>	<input type="text"/>

INTRODUCTION *(Please read to patient.)*

Thank you for agreeing to take part in this brief interview about alcohol, tobacco products and other drugs. I am going to ask you some questions about your experience of using these substances across your lifetime and in the past three months. These substances can be smoked, swallowed, snorted, inhaled, injected or taken in the form of pills (show drug card).

Some of the substances listed may be prescribed by a doctor (like amphetamines, sedatives, pain medications). For this interview, we will not record medications that are used as prescribed by your doctor. However, if you have taken such medications for reasons other than prescription, or taken them more frequently or at higher doses than prescribed, please let me know. While we are also interested in knowing about your use of various illicit drugs, please be assured that information on such use will be treated as strictly confidential.

NOTE: BEFORE ASKING QUESTIONS, GIVE ASSIST RESPONSE CARD TO PATIENT

Question 1

(If completing follow-up please cross check the patient's answers with the answers given for Q1 at baseline. Any differences on this question should be queried)

In your life, which of the following substances have you <u>EVER USED?</u> <i>(NON-MEDICAL USE ONLY)</i>	No	Yes
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	3
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	3
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	3
d. Cocaine (coke, crack, etc.)	0	3
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)	0	3
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	3
g. Sedatives or Sleeping Pills (Valium, Serenax, Rohypnol, etc.)	0	3
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)	0	3
i. Opioids (heroin, morphine, methadone, codeine, etc.)	0	3
j. Other - specify:	0	3

Probe if all answers are negative:
"Not even when you were in school?"

If "No" to all items, stop interview.

If "Yes" to any of these items, ask Question 2 for each substance ever used.

Question 2

In the <u>past three months</u> , how often have you used the substances you mentioned (<i>FIRST DRUG, SECOND DRUG, ETC?</i>)	Never	Once or Twice	Monthly	Weekly	Daily or Almost Daily
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	2	3	4	6
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	2	3	4	6
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	2	3	4	6
d. Cocaine (coke, crack, etc.)	0	2	3	4	6
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)	0	2	3	4	6
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	2	3	4	6
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)	0	2	3	4	6
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)	0	2	3	4	6
i. Opioids (heroin, morphine, methadone, codeine, etc.)	0	2	3	4	6
j. Other - specify:	0	2	3	4	6

If "Never" to all items in Question 2, skip to Question 6.

If any substances in Question 2 were used in the previous three months, continue with Questions 3, 4 & 5 for each substance used.

Question 3

During the <u>past three months</u> , how often have you had a strong desire or urge to use (<i>FIRST DRUG, SECOND DRUG, ETC?</i>)	Never	Once or Twice	Monthly	Weekly	Daily or Almost Daily
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	3	4	5	6
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	3	4	5	6
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	3	4	5	6
d. Cocaine (coke, crack, etc.)	0	3	4	5	6
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)	0	3	4	5	6
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	3	4	5	6
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)	0	3	4	5	6
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)	0	3	4	5	6
i. Opioids (heroin, morphine, methadone, codeine, etc.)	0	3	4	5	6
j. Other - specify:	0	3	4	5	6

Question 4

During the <u>past three months</u> , how often has your use of (<i>FIRST DRUG, SECOND DRUG, ETC</i>) led to health, social, legal or financial problems?	Never	Once or Twice	Monthly	Weekly	Daily or Almost Daily
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	4	5	6	7
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	4	5	6	7
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	4	5	6	7
d. Cocaine (coke, crack, etc.)	0	4	5	6	7
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)	0	4	5	6	7
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	4	5	6	7
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)	0	4	5	6	7
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)	0	4	5	6	7
i. Opioids (heroin, morphine, methadone, codeine, etc.)	0	4	5	6	7
j. Other - specify:	0	4	5	6	7

Question 5

During the <u>past three months</u> , how often have you failed to do what was normally expected of you because of your use of (<i>FIRST DRUG, SECOND DRUG, ETC</i>)?	Never	Once or Twice	Monthly	Weekly	Daily or Almost Daily
a. Tobacco products					
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	5	6	7	8
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	5	6	7	8
d. Cocaine (coke, crack, etc.)	0	5	6	7	8
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)	0	5	6	7	8
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	5	6	7	8
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)	0	5	6	7	8
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)	0	5	6	7	8
i. Opioids (heroin, morphine, methadone, codeine, etc.)	0	5	6	7	8
j. Other - specify:	0	5	6	7	8

Ask Questions 6 & 7 for all substances ever used (i.e. those endorsed in Question 1)

Question 6

Has a friend or relative or anyone else <u>ever</u> expressed concern about your use of <i>(FIRST DRUG, SECOND DRUG, ETC.)?</i>	No, Never	Yes, in the past 3 months	Yes, but not in the past 3 months
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	6	3
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	6	3
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	6	3
d. Cocaine (coke, crack, etc.)	0	6	3
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)	0	6	3
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	6	3
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)	0	6	3
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)	0	6	3
i. Opioids (heroin, morphine, methadone, codeine, etc.)	0	6	3
j. Other – specify:	0	6	3

Question 7

Have you <u>ever</u> tried and failed to control, cut down or stop using <i>(FIRST DRUG, SECOND DRUG, ETC.)?</i>	No, Never	Yes, in the past 3 months	Yes, but not in the past 3 months
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	6	3
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	6	3
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	6	3
d. Cocaine (coke, crack, etc.)	0	6	3
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)	0	6	3
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	6	3
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)	0	6	3
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)	0	6	3
i. Opioids (heroin, morphine, methadone, codeine, etc.)	0	6	3
j. Other – specify:	0	6	3

Question 8

	No. Never	Yes, in the past 3 months	Yes, but not in the past 3 months
Have you <u>ever</u> used any drug by injection? (NON-MEDICAL USE ONLY)	0	2	1

IMPORTANT NOTE:

Patients who have injected drugs in the last 3 months should be asked about their pattern of injecting during this period, to determine their risk levels and the best course of intervention.

PATTERN OF INJECTING

Once weekly or less or
Fewer than 3 days in a row

INTERVENTION GUIDELINES

Brief Intervention including "risks associated with injecting" card

More than once per week or
3 or more days in a row

Further assessment and more intensive treatment*

HOW TO CALCULATE A SPECIFIC SUBSTANCE INVOLVEMENT SCORE.

For each substance (labelled a. to j.) add up the scores received for questions 2 through 7 inclusive. Do not include the results from either Q1 or Q8 in this score. For example, a score for cannabis would be calculated as: **Q2c + Q3c + Q4c + Q5c + Q6c + Q7c**

Note that Q5 for tobacco is not coded, and is calculated as: **Q2a + Q3a + Q4a + Q6a + Q7a**

THE TYPE OF INTERVENTION IS DETERMINED BY THE PATIENT'S SPECIFIC SUBSTANCE INVOLVEMENT SCORE

	Record specific substance score	no intervention	receive brief intervention	more intensive treatment *
a. tobacco		0 - 3	4 - 26	27+
b. alcohol		0 - 10	11 - 26	27+
c. cannabis		0 - 3	4 - 26	27+
d. cocaine		0 - 3	4 - 26	27+
e. amphetamine		0 - 3	4 - 26	27+
f. inhalants		0 - 3	4 - 26	27+
g. sedatives		0 - 3	4 - 26	27+
h. hallucinogens		0 - 3	4 - 26	27+
i. opioids		0 - 3	4 - 26	27+
j. other drugs		0 - 3	4 - 26	27+

NOTE: *FURTHER ASSESSMENT AND MORE INTENSIVE TREATMENT may be provided by the health professional(s) within your primary care setting, or, by a specialist drug and alcohol treatment service when available.

B. WHO ASSIST V3.0 RESPONSE CARD FOR PATIENTS

Response Card - substances

a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)
b. Alcoholic beverages (beer, wine, spirits, etc.)
c. Cannabis (marijuana, pot, grass, hash, etc.)
d. Cocaine (coke, crack, etc.)
e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)
g. Sedatives or Sleeping Pills (Valium, Serenax, Rohypnol, etc.)
h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)
i. Opioids (heroin, morphine, methadone, codeine, etc.)
j. Other - specify:

Response Card (ASSIST Questions 2 – 5)

Never: not used in the last 3 months

Once or twice: 1 to 2 times in the last 3 months.

Monthly: 1 to 3 times in one month.

Weekly: 1 to 4 times per week.

Daily or almost daily: 5 to 7 days per week.

Response Card (ASSIST Questions 6 to 8)

No, Never

Yes, but not in the past 3 months

Yes, in the past 3 months

C. ALCOHOL, SMOKING AND SUBSTANCE INVOLVEMENT SCREENING TEST (WHO ASSIST V3.0) FEEDBACK REPORT CARD FOR PATIENTS

Name _____ Test Date _____

Specific Substance Involvement Scores

Substance	Score	Risk Level
a. Tobacco products		0-3 Low 4-26 Moderate 27+ High
b. Alcoholic Beverages		0-10 Low 11-26 Moderate 27+ High
c. Cannabis		0-3 Low 4-26 Moderate 27+ High
d. Cocaine		0-3 Low 4-26 Moderate 27+ High
e. Amphetamine type stimulants		0-3 Low 4-26 Moderate 27+ High
f. Inhalants		0-3 Low 4-26 Moderate 27+ High
g. Sedatives or Sleeping Pills		0-3 Low 4-26 Moderate 27+ High
h. Hallucinogens		0-3 Low 4-26 Moderate 27+ High
i. Opioids		0-3 Low 4-26 Moderate 27+ High
j. Other - specify		0-3 Low 4-26 Moderate 27+ High

What do your scores mean?	
Low:	You are at low risk of health and other problems from your current pattern of use.
Moderate:	You are at risk of health and other problems from your current pattern of substance use.
High:	You are at high risk of experiencing severe problems (health, social, financial, legal, relationship) as a result of your current pattern of use and are likely to be dependent

Are you concerned about your substance use?

a. tobacco	Your risk of experiencing these harms is:.....	Low <input type="checkbox"/> Moderate <input type="checkbox"/> High <input type="checkbox"/> (tick one)
Regular tobacco smoking is associated with:		
	Premature aging, wrinkling of the skin	
	Respiratory infections and asthma	
	High blood pressure, diabetes	
	Respiratory infections, allergies and asthma in children of smokers	
	Miscarriage, premature labour and low birth weight babies for pregnant women	
	Kidney disease	
	Chronic obstructive airways disease	
	Heart disease, stroke, vascular disease	
	Cancers	

b. alcohol	Your risk of experiencing these harms is:.....	Low <input type="checkbox"/> Moderate <input type="checkbox"/> High <input type="checkbox"/> (tick one)
Regular excessive alcohol use is associated with:		
	Hangovers, aggressive and violent behaviour, accidents and injury	
	Reduced sexual performance, premature ageing	
	Digestive problems, ulcers, inflammation of the pancreas, high blood pressure	
	Anxiety and depression, relationship difficulties, financial and work problems	
	Difficulty remembering things and solving problems	
	Deformities and brain damage in babies of pregnant women	
	Stroke, permanent brain injury, muscle and nerve damage	
	Liver disease, pancreas disease	
	Cancers, suicide	

c. cannabis	Your risk of experiencing these harms is:.....	Low <input type="checkbox"/> Moderate <input type="checkbox"/> High <input type="checkbox"/> (tick one)
Regular use of cannabis is associated with:		
	Problems with attention and motivation	
	Anxiety, paranoia, panic, depression	
	Decreased memory and problem solving ability	
	High blood pressure	
	Asthma, bronchitis	
	Psychosis in those with a personal or family history of schizophrenia	
	Heart disease and chronic obstructive airways disease	
	Cancers	

d. cocaine	Your risk of experiencing these harms is:....	Low <input type="checkbox"/>	Moderate <input type="checkbox"/>	High <input type="checkbox"/>
	(tick one)			
Regular use of cocaine is associated with:				
	Difficulty sleeping, heart racing, headaches, weight loss			
	Numbness, tingling, clammy skin, skin scratching or picking			
	Accidents and injury, financial problems			
	Irrational thoughts			
	Mood swings - anxiety, depression, mania			
	Aggression and paranoia			
	Intense craving, stress from the lifestyle			
	Psychosis after repeated use of high doses			
	Sudden death from heart problems			

e. amphetamine type stimulants	Your risk of experiencing these harms is:.....	Low <input type="checkbox"/>	Moderate <input type="checkbox"/>	High <input type="checkbox"/>
	(tick one)			
Regular use of amphetamine type stimulants is associated with:				
	Difficulty sleeping, loss of appetite and weight loss, dehydration			
	jaw clenching, headaches, muscle pain			
	Mood swings -anxiety, depression, agitation, mania, panic, paranoia			
	Tremors, irregular heartbeat, shortness of breath			
	Aggressive and violent behaviour			
	Psychosis after repeated use of high doses			
	Permanent damage to brain cells			
	Liver damage, brain haemorrhage, sudden death (ecstasy) in rare situations			

f. inhalants	Your risk of experiencing these harms is:.....	Low <input type="checkbox"/>	Moderate <input type="checkbox"/>	High <input type="checkbox"/>
	(tick one)			
Regular use of inhalants is associated with:				
	Dizziness and hallucinations, drowsiness, disorientation, blurred vision			
	Flu like symptoms, sinusitis, nosebleeds			
	Indigestion, stomach ulcers			
	Accidents and injury			
	Memory loss, confusion, depression, aggression			
	Coordination difficulties, slowed reactions, hypoxia			
	Delirium, seizures, coma, organ damage (heart, lungs, liver, kidneys)			
	Death from heart failure			

D. RISKS OF INJECTING DRUG – INFORMATION FOR PATIENTS

Using substances by injection increases the risk of harm from substance use.

This harm can come from:

- **The substance**
 - If you inject any drug you are more likely to become dependent.
 - If you inject amphetamines or cocaine you are more likely to experience psychosis.
 - If you inject heroin or other sedatives you are more likely to overdose.
- **The injecting behaviour**
 - If you inject you may damage your skin and veins and get infections.
 - You may cause scars, bruises, swelling, abscesses and ulcers.
 - Your veins might collapse.
 - If you inject into the neck you can cause a stroke.
- **Sharing of injecting equipment**
 - If you share injecting equipment (needles & syringes, spoons, filters, etc.) you are more likely to spread blood borne virus infections like Hepatitis B, Hepatitis C and HIV.
- ❖ **It is safer not to inject**
- ❖ **If you do inject:**
 - ✓ always use clean equipment (e.g., needles & syringes, spoons, filters, etc.)
 - ✓ always use a new needle and syringe
 - ✓ don't share equipment with other people
 - ✓ clean the preparation area
 - ✓ clean your hands
 - ✓ clean the injecting site
 - ✓ use a different injecting site each time
 - ✓ inject slowly
 - ✓ put your used needle and syringe in a hard container and dispose of it safely
- ❖ **If you use stimulant drugs like amphetamines or cocaine the following tips will help you reduce your risk of psychosis.**
 - ✓ avoid injecting and smoking
 - ✓ avoid using on a daily basis
- ❖ **If you use depressant drugs like heroin the following tips will help you reduce your risk of overdose.**
 - ✓ avoid using other drugs, especially sedatives or alcohol, on the same day
 - ✓ use a small amount and always have a trial "taste" of a new batch
 - ✓ have someone with you when you are using
 - ✓ avoid injecting in places where no-one can get to you if you do overdose
 - ✓ know the telephone numbers of the ambulance service

E. TRANSLATION AND ADAPTATION TO LOCAL LANGUAGES AND CULTURE: A RESOURCE FOR CLINICIANS AND RESEARCHERS

The ASSIST Instrument, instructions, drug cards, response scales and resource manuals may need to be translated into local languages for use in particular countries or regions. Translation from English should be as direct as possible to maintain the integrity of the tools and documents. However, in some cultural settings and linguistic groups, aspects of the ASSIST and its companion documents may not be able to be translated literally and there may be socio-cultural factors that will need to be taken into account in addition to semantic meaning. In particular, substance names may require adaptation to conform to local conditions, and it is also worth noting that the definition of a standard drink may vary from country to country.

Translation should be undertaken by a bi-lingual translator, preferably a health professional with experience in interviewing. For the ASSIST Instrument itself, translations should be reviewed by a bi-lingual expert panel to ensure that the instrument is not ambiguous. Back translation into English should then be carried out by another independent translator whose main language is English to ensure that no meaning has been lost in the translation. This strict translation procedure is critical for the ASSIST Instrument to ensure that comparable information is obtained wherever the ASSIST is used across the world.

Translation of this manual and companion documents may also be undertaken if required. These do not need to undergo the full procedure described above, but should include an expert bi-lingual panel.

Before attempting to translate the ASSIST and related documents into other languages, interested individuals should consult with the WHO about the procedures to be followed and the availability of other translations. Write to the Department of Mental Health and Substance Dependence, World Health Organisation, 1211 Geneva 27, Switzerland.



OMS - ASSIST V3.0

ENTREVISTADOR	<input type="text"/>	PAÍS	<input type="text"/>	CLÍNICA	<input type="text"/>
Nº PARTICIPANTE	<input type="text"/>	FECHA	<input type="text"/>	<input type="text"/>	<input type="text"/>

INTRODUCCIÓN (Léalo por favor al participante)

Gracias por aceptar a participar en esta breve entrevista sobre el alcohol, tabaco y otras drogas. Le voy hacer algunas preguntas sobre su experiencia de consumo de sustancias a lo largo de su vida, así como en los últimos tres meses. Estas sustancias pueden ser fumadas, ingeridas, inhaladas, inyectadas o consumidas en forma de pastillas (muestre la tarjeta de drogas).

Algunas de las sustancias incluidas pueden haber sido recetadas por un médico (p.ej. pastillas adelgazantes, tranquilizantes, o determinados medicamentos para el dolor). Para esta entrevista, no vamos a anotar fármacos que hayan sido consumidos tal como han sido prescritos por su médico. Sin embargo, si ha tomado alguno de estos medicamentos por motivos distintos a los que fueron prescritos o los toma más frecuentemente o a dosis más altas a las prescritas, entonces díganoslo. Si bien estamos interesados en conocer su consumo de diversas drogas, por favor tenga por seguro que esta información será tratada con absoluta confidencialidad.

NOTA: ANTES DE FORMULAR LAS PREGUNTAS, ENTREGUE LAS TARJETAS DE RESPUESTA A LOS PARTICIPANTES

Pregunta 1

(al completar el seguimiento compare por favor las respuestas del participante con las que dio a la P1 del cuestionario basal. Cualquier diferencia en esta pregunta deben ser exploradas)

A lo largo de su vida, ¿cual de las siguientes sustancias ha consumido <u>alguna vez</u> ? (SOLO PARA USOS NO-MÉDICOS)	No	Si
a. Tabaco (cigarrillos, cigarros habanos, tabaco de mascar, pipa, etc.)	0	3
b. Bebidas alcohólicas (cerveza, vino, licores, destilados, etc.)	0	3
c. Cannabis (marihuana, costo, hierba, hashish, etc.)	0	3
d. Cocaína (coca, farlopa, crack, base, etc.)	0	3
e. Anfetaminas u otro tipo de estimulantes (speed, éxtasis, píldoras adelgazantes, etc.)	0	3
f. Inhalantes (colas, gasolina/nafta, pegamento, etc.)	0	3
g. Tranquilizantes o pastillas para dormir (valium/diazepam, Trankimazin/Alprazolam/Xanax, Orfidal/Lorazepam, Rohipnol, etc.)	0	3
h. Alucinógenos (LSD, ácidos, ketamina, PCP, etc.)	0	3
i. Opiáceos (heroína, metadona, codeína, morfina, dolantina/petidina, etc.)	0	3
j. Otros - especifique:	0	3

Compruebe si todas las respuestas son negativas:
"¿Tampoco incluso cuando iba al colegio?"

Si contestó "No" a todos los ítems, pare la entrevista.

Si contestó "Si" a alguno de estos ítems, siga a la Pregunta 2 para cada sustancia que ha consumido alguna vez.



Pregunta 2

¿Con qué frecuencia ha consumido las sustancias que ha mencionado en los <u>últimos tres meses</u> , (PRIMERA DROGA, SEGUNDA DROGA, ETC)?	Nunca	1 ó 2 veces	Cada mes	Cada semana	A diario o casi a diario
a. Tabaco (cigarillos, cigarros habanos, tabaco de mascar, pipa, etc.)	0	2	3	4	6
b. Bebidas alcohólicas (cerveza, vino, licores, destilados, etc.)	0	2	3	4	6
c. Cannabis (marihuana, costo, hierba, hashish, etc.)	0	2	3	4	6
d. Cocaína (coca, farlopa, crack, etc.)	0	2	3	4	6
e. Anfetaminas u otro tipo de estimulantes (speed, éxtasis, píldoras adelgazantes, etc.)	0	2	3	4	6
f. Inhalantes (colas, gasolina/nafta, pegamento, etc.)	0	2	3	4	6
g. Tranquilizantes o pastillas para dormir (valium/diazepam, Trankimazin/Alprazolam/Xanax, Orfidal/Lorazepam, Rohipnol, etc.)	0	2	3	4	6
h. Alucinógenos (LSD, ácidos, ketamina, PCP, etc.)	0	2	3	4	6
i. Opiáceos (heroína, metadona, codeína, morfina, dolantina/petidina, etc.)	0	2	3	4	6
j. Otros - especifique:	0	2	3	4	6

Si ha respondido "Nunca" a todos los ítems en la Pregunta 2, salte a la Pregunta 6.

Si ha consumido alguna de las sustancias de la Pregunta 2 en los últimos tres meses, continúe con las preguntas 3, 4 & 5 para cada una de las sustancias que ha consumido.

Pregunta 3

En los <u>últimos tres meses</u> , ¿con qué frecuencia ha tenido deseos fuertes o ansias de consumir (PRIMERA DROGA, SEGUNDA DROGA, ETC)?	Nunca	1 ó 2 veces	Cada mes	Cada semana	A diario o casi a diario
a. Tabaco (cigarillos, cigarros habanos, tabaco de mascar, pipa, etc.)	0	3	4	5	6
b. Bebidas alcohólicas (cerveza, vino, licores, destilados, etc.)	0	3	4	5	6
c. Cannabis (marihuana, costo, hierba, hashish, etc.)	0	3	4	5	6
d. Cocaína (coca, farlopa, crack, etc.)	0	3	4	5	6
e. Anfetaminas u otro tipo de estimulantes (speed, éxtasis, píldoras adelgazantes, etc.)	0	3	4	5	6
f. Inhalantes (colas, gasolina/nafta, pegamento, etc.)	0	3	4	5	6
g. Tranquilizantes o pastillas para dormir (valium/diazepam, Trankimazin/Alprazolam/Xanax, Orfidal/Lorazepam, Rohipnol, etc.)	0	3	4	5	6
h. Alucinógenos (LSD, ácidos, ketamina, PCP, etc.)	0	3	4	5	6
i. Opiáceos (heroína, metadona, codeína, morfina, dolantina/petidina, etc.)	0	3	4	5	6
j. Otros - especifique:	0	3	4	5	6



Pregunta 4

En los <u>últimos tres meses</u> , ¿con qué frecuencia le ha llevado su consumo de (<i>PRIMERA DROGA, SEGUNDA DROGA, ETC</i>) a problemas de salud, sociales, legales o económicos?	Nunca	1 ó 2 veces	Cada mes	Cada semana	A diario o casi a diario
a. Tabaco (cigarrillos, cigarros habanos, tabaco de mascar, pipa, etc.)	0	4	5	6	7
b. Bebidas alcohólicas (cerveza, vino, licores, destilados, etc.)	0	4	5	6	7
c. Cannabis (marihuana, costo, hierba, hashish, etc.)	0	4	5	6	7
d. Cocaína (coca, farlopa, crack, etc.)	0	4	5	6	7
e. Anfetaminas u otro tipo de estimulantes (speed, éxtasis, píldoras adelgazantes, etc.)	0	4	5	6	7
f. Inhalantes (colas, gasolina/nafta, pegamento, etc.)	0	4	5	6	7
g. Tranquilizantes o pastillas para dormir (valium/diazepam, Trankimazin/Alprazolam/Xanax, Orfidal/Lorazepam, Rohipnol, etc.)	0	4	5	6	7
h. Alucinógenos (LSD, ácidos, ketamina, PCP, etc.)	0	4	5	6	7
i. Opiáceos (heroína, metadona, codeína, morfina, dolantina/petidina, etc.)	0	4	5	6	7
j. Otros - especifique:	0	4	5	6	7

Pregunta 5

En los <u>últimos tres meses</u> , ¿con qué frecuencia dejó de hacer lo que se esperaba de usted habitualmente por el consumo de (<i>PRIMERA DROGA, SEGUNDA DROGA, ETC</i>)?	Nunca	1 ó 2 veces	Cada mes	Cada semana	A diario o casi a diario
a. Tabaco					
b. Bebidas alcohólicas (cerveza, vino, licores, destilados, etc.)	0	5	6	7	8
c. Cannabis (marihuana, costo, hierba, hashish, etc.)	0	5	6	7	8
d. Cocaína (coca, farlopa, crack, etc.)	0	5	6	7	8
e. Anfetaminas u otro tipo de estimulantes (speed, éxtasis, píldoras adelgazantes, etc.)	0	5	6	7	8
f. Inhalantes (colas, gasolina/nafta, pegamento, etc.)	0	5	6	7	8
g. Tranquilizantes o pastillas para dormir (valium/diazepam, Trankimazin/Alprazolam/Xanax, Orfidal/Lorazepam, Rohipnol, etc.)	0	5	6	7	8
h. Alucinógenos (LSD, ácidos, ketamina, PCP, etc.)	0	5	6	7	8
i. Opiáceos (heroína, metadona, codeína, morfina, dolantina/petidina, etc.)	0	5	6	7	8
j. Otros - especifique:	0	5	6	7	8



Haga las preguntas 6 y 7 para todas las sustancias que ha consumido alguna vez (es decir, aquellas abordadas en la Pregunta 1)

Pregunta 6

¿Un amigo, un familiar o alguien más <u>alguna vez</u> ha mostrado preocupación por su consume de (PRIMERA DROGA, SEGUNDA DROGA, ETC)?	No, Nunca	Si, en los últimos 3 meses	Si, pero no en los últimos 3 meses
a. Tabaco (cigarrillos, cigarros habanos, tabaco de mascar, pipa, etc.)	0	6	3
b. Bebidas alcohólicas (cerveza, vino, licores, destilados, etc.)	0	6	3
c. Cannabis (marihuana, costo, hierba, hashish, etc.)	0	6	3
d. Cocaína (coca, farlopa, crack, etc.)	0	6	3
e. Anfetaminas u otro tipo de estimulantes (speed, éxtasis, píldoras adelgazantes, etc.)	0	6	3
f. Inhalantes (colas, gasolina/nafta, pegamento, etc.)	0	6	3
g. Tranquilizantes o pastillas para dormir (valium/diazepam, Trankimazin/Alprazolam/Xanax, Orfidal/Lorazepam, Rohipnol, etc.)	0	6	3
h. Alucinógenos (LSD, ácidos, ketamina, PCP, etc.)	0	6	3
i. Opiáceos (heroína, metadona, codeína, morfina, dolantina/petidina, etc.)	0	6	3
j. Otros - especifique:	0	6	3

Pregunta 7

¿Ha intentado <u>alguna vez</u> controlar, reducir o dejar de consumir (PRIMERA DROGA, SEGUNDA DROGA, ETC) y no lo ha logrado?	No, Nunca	Si, en los últimos 3 meses	Si, pero no en los últimos 3 meses
a. Tabaco (cigarrillos, cigarros habanos, tabaco de mascar, pipa, etc.)	0	6	3
b. Bebidas alcohólicas (cerveza, vino, licores, destilados, etc.)	0	6	3
c. Cannabis (marihuana, costo, hierba, hashish, etc.)	0	6	3
d. Cocaína (coca, farlopa, crack, etc.)	0	6	3
e. Anfetaminas u otro tipo de estimulantes (speed, éxtasis, píldoras adelgazantes, etc.)	0	6	3
f. Inhalantes (colas, gasolina/nafta, pegamento, etc.)	0	6	3
g. Tranquilizantes o pastillas para dormir (valium/diazepam, Trankimazin/Alprazolam/Xanax, Orfidal/Lorazepam, Rohipnol, etc.)	0	6	3
h. Alucinógenos (LSD, ácidos, ketamina, PCP, etc.)	0	6	3
i. Opiáceos (heroína, metadona, codeína, morfina, dolantina/petidina, etc.)	0	6	3
j. Otros - especifique:	0	6	3



Pregunta 8

	No, Nunca	Si, en los últimos 3 meses	Si, pero no en los últimos 3 meses
¿Ha consumido alguna vez alguna droga por vía inyectada? (ÚNICAMENTE PARA USOS NO MÉDICOS)	0	2	1

NOTA IMPORTANTE:

A los pacientes que se han inyectado drogas en los últimos 3 meses se les debe preguntar sobre su patrón de inyección en este periodo, para determinar los niveles de riesgo y el mejor tipo de intervención.

PATRÓN DE INYECCIÓN

Una vez a la semana o menos
o
Menos de 3 días seguidos

Más de una vez a la semana o
3 o más días seguidos

GUIAS DE INTERVENCIÓN

Intervención Breve, incluyendo la tarjeta
"riesgos asociados con inyectarse"

Requiere mayor evaluación y
tratamiento más intensivo *

CÓMO CALCULAR UNA PUNTUACIÓN ESPECÍFICA PARA CADA SUSTANCIA.

Para cada sustancia (etiquetadas de la a. la j.) sume las puntuaciones de las preguntas 2 a la 7, ambas inclusive. No incluya los resultados ni de la pregunta 1 ni de la 8 en esta puntuación. Por ejemplo, la puntuación para el cannabis se calcula como: P2c + P3c + P4c + P5c + P6c + P7c

Note que la P5 para el tabaco no está codificada, y se calcula como: P2a + P3a + P4a + P6a + P7a

EL TIPO DE INTERVENCIÓN SE DETERMINA POR LA PUNTUACIÓN ESPECÍFICA DEL PACIENTE PARA CADA SUSTANCIA

	Registre la puntuación para sustancia específica	Sin intervención	Intervención Breve	Tratamiento más intensivo *
a. tabaco		0 – 3	4 – 26	27+
b. alcohol		0 – 10	11 – 26	27+
c. cannabis		0 – 3	4 – 26	27+
d. cocaína		0 – 3	4 – 26	27+
e. anfetaminas		0 – 3	4 – 26	27+
f. inhalantes		0 – 3	4 – 26	27+
g. sedantes		0 – 3	4 – 26	27+
h. alucinógenos		0 – 3	4 – 26	27+
i. opiáceos		0 – 3	4 – 26	27+
j. otras drogas		0 – 3	4 – 26	27+

NOTA: *UNA MAYOR EVALUACIÓN Y TRATAMIENTO MÁS INTENSIVO puede ser proporcionado por profesionales sanitarios dentro del ámbito de Atención Primaria, o por un servicio especializado para las adicciones cuando esté disponible.

OMS ASSIST V3.0 TARJETAS DE RESPUESTA para los Pacientes

Tarjeta de respuesta - sustancias

a. Tabaco (cigarrillos, cigarros habanos, tabaco de mascar, pipa, etc.)
b. Bebidas alcohólicas (cerveza, vino, licores, destilados, etc.)
c. Cannabis (marihuana, costo, hierba, hashish, etc.)
d. Cocaína (coca, farlopa, crack, base, etc.)
e. Anfetaminas u otro tipo de estimulantes (speed, éxtasis, píldoras adelgazantes, etc.)
f. Inhalantes (colas, gasolina/nafta, pegamento, etc.)
g. Tranquilizantes o pastillas para dormir (Diazepam/Valium, Alprazolam/Trankimazin/Xanax, Orfidal/Lorazepam, Rohipnol, etc.)
h. Alucinógenos (LSD, ácidos, ketamina, PCP, etc.)
i. Opiáceos (heroína, metadona, codeína, morfina, petidina/dolantina, etc.)
j. Otros - especifique:

Tarjeta de respuesta (ASSIST Preguntas 2 – 5)

Nunca: no he consumido en los últimos 3 meses.

Una o dos veces: 1-2 veces en los últimos 3 meses.

Mensualmente: 1 a 3 veces en el ultimo mes.

Semanalmente: 1 a 4 veces por semana.

Diariamente o casi a diario: 5 a 7 días por semana.

Tarjeta de respuesta (ASSIST Preguntas 6 - 8)

No, nunca

Si, pero no en los últimos 3 meses

Si, en los últimos 3 meses

**Alcohol, Smoking and Substance Involvement Screening Test
(OMS ASSIST V3.0) TARJETAS DE RESPUESTA para los Pacientes**

Nombre _____ Fecha del Test _____

Puntuaciones Específicas para cada Sustancia

Sustancia	Puntuación	Nivel de Riesgo
a. Productos derivados del tabaco		0-3 Bajo 4-26 Moderado 27+ Alto
b. Bebidas alcohólicas		0-10 Bajo 11-26 Moderado 27+ Alto
c. Cannabis		0-3 Bajo 4-26 Moderado 27+ Alto
d. Cocaína		0-3 Bajo 4-26 Moderado 27+ Alto
e. Estimulantes de tipo anfetamínico		0-3 Bajo 4-26 Moderado 27+ Alto
f. Inhalantes		0-3 Bajo 4-26 Moderado 27+ Alto
g. Sedantes o Pastillas para dormir		0-3 Bajo 4-26 Moderado 27+ Alto
h. Alucinógenos		0-3 Bajo 4-26 Moderado 27+ Alto
i. Opiáceos		0-3 Bajo 4-26 Moderado 27+ Alto
j. Otros – especificar		0-3 Bajo 4-26 Moderado 27+ Alto

¿Qué significan sus puntuaciones?

Bajo:	Su actual patrón de consumo representa un riesgo bajo sobre su salud y de otros problemas.
Moderado:	Usted presenta riesgo para su salud y de otro tipos de problemas derivados de su actual patrón de consumo de sustancias.
Alto:	Usted presenta un riesgo elevado de experimentar problemas graves (de salud, sociales, económicos, legales, de pareja, ...) derivado de su patrón actual de consumo y probablemente sea dependiente.

¿Está preocupado sobre su consumo de sustancias?

a. Tabaco	Su riesgo de experimentar estos daños es:.....	Bajo <input type="checkbox"/>	Moderado <input type="checkbox"/>	Alto <input type="checkbox"/>
	El consumo habitual de tabaco se asocia con:			
	Envejecimiento prematuro, arrugas en la piel			
	Infecciones respiratorias y asma			
	Aumento de la presión arterial, diabetes			
	Infecciones respiratorias, alergias y asma en hijos de fumadores			
	Abortos, partos prematuros y niños con bajos pesos al nacer de madres fumadoras embarazadas			
	Enfermedades renales			
	Enfermedad respiratoria obstructiva crónica			
	Enfermedad cardíaca, infartos cerebrales, enfermedades vasculares			
	Cánceres			

b. Alcohol	Su riesgo de experimentar estos daños es:.....	Bajo <input type="checkbox"/>	Moderado <input type="checkbox"/>	Alto <input type="checkbox"/>
	La ingesta excesiva habitual de alcohol se asocia con:			
	Resacas, conductas agresivas y violentas, accidentes y lesiones			
	Reducción en la actividad y capacidad sexual, envejecimiento prematuro			
	Problemas digestivos, úlceras, inflamación del páncreas, aumento de la presión arterial			
	Ansiedad y depresión, problemas de pareja, problemas económicos y laborales			
	Dificultad para recordar y solucionar problemas			
	Deformidades y daño cerebral en recién nacidos de embarazadas bebedoras			
	Ataque cerebral, lesión cerebral permanente, daño muscular y neurológico			
	Enfermedad hepática, enfermedad pancreática			
	Cánceres, suicidio			

c. Cannabis	Su riesgo de experimentar estos daños es:.....	Bajo <input type="checkbox"/>	Moderado <input type="checkbox"/>	Alto <input type="checkbox"/>
	El consumo habitual de cannabis se asocia con:			
	Problemas con la atención y motivación			
	Ansiedad, paranoia, pánico, depresión			
	Pérdida de memoria y en la capacidad de solución de problemas			
	Aumento de la presión arterial			
	Asma, bronquitis			
	Psicosis en aquellas personas con antecedentes familiares de esquizofrenia			
	Enfermedad cardíaca y enfermedad respiratoria obstructiva crónica			
	Cánceres			

d. Cocaína	Su riesgo de experimentar estos daños es:.....	Bajo <input type="checkbox"/>	Moderado <input type="checkbox"/>	Alto <input type="checkbox"/>
	El consumo habitual de cocaína se asocia con:			
	Dificultades para dormir, palpitaciones, dolores de cabeza, pérdida de peso			
	Sensación de adormecimiento, acartonamiento en la piel, rascado en la piel			
	Accidentes y lesiones, problemas económicos			
	Pensamientos irracionales			
	Cambios de humor - ansiedad, depresión, manía			
	Agresividad y paranoia			
	Craving o deseo intenso, stress debido al estilo de vida			
	Psicosis tras el consumo repetido a altas dosis			
	Muerte súbita debido a problemas cardíacos			

e. Estimulantes de tipo anfetamínico	Su riesgo de experimentar estos daños es:.....	Bajo <input type="checkbox"/>	Moderado <input type="checkbox"/>	Alto <input type="checkbox"/>
	El consumo habitual de estimulantes de tipo anfetamínico se asocia con:			
	Dificultades para dormir, pérdida de apetito y de peso, deshidratación			
	Tensión mandibular, dolores de cabeza, dolores musculares			
	Cambios de humor – ansiedad, depresión, agitación, manía, pánico, paranoia			
	Temblores, palpitaciones y latidos cardíacos irregulares, falta de aire/disnea			
	Agresividad y conducta violenta			
	Psicosis tras el consumo continuado a altas dosis			
	Daño cerebral permanente			
	Daño hepático, hemorragias cerebrales, muerte súbita (del éxtasis) en situaciones raras			

f. Inhalantes	Su riesgo de experimentar estos daños es:.....	Bajo <input type="checkbox"/>	Moderado <input type="checkbox"/>	Alto <input type="checkbox"/>
	El consumo habitual de inhalantes se asocia con:			
	Mareos y alucinaciones, sedación, desorientación, visión borrosa			
	Síntomas pseudo-gripales, sinusitis, hemorragias nasales			
	Indigestión, úlceras estomacales			
	Accidentes y lesiones			
	Pérdida de memoria, confusión, depresión, agresión			
	Alteraciones en la coordinación, enlentecimiento en las reacciones, hipoxia			
	Delirio, convulsiones, coma, daño orgánico (corazón, pulmón, hígado, riñones)			
	Muerte por fallo cardíaco			

g. Sedantes	Su riesgo de experimentar estos daños es:.....	Bajo <input type="checkbox"/>	Moderado <input type="checkbox"/>	Alto <input type="checkbox"/>
	El consumo habitual de sedantes se asocia con:		(marque una)	
	Sedación, mareo y confusión			
	Dificultad para concentrarse y recordar cosas			
	Náuseas, dolor de cabeza, inestabilidad al andar			
	Problemas de sueño			
	Ansiedad y depresión			
	Tolerancia y dependencia después de un período breve de consumo.			
	Síntomas de abstinencia graves			
	Sobredosis y muerte si se consumen con alcohol, opiáceos u otras drogas depresoras.			

h. Alucinógenos	Su riesgo de experimentar estos daños es:.....	Bajo <input type="checkbox"/>	Moderado <input type="checkbox"/>	Alto <input type="checkbox"/>
	El consumo habitual de alucinógenos se asocia con:		(marque una)	
	Alucinaciones (placenteras o molestas) – visuales, auditivas, táctiles, olfatorias			
	Dificultades para dormir			
	Náuseas y vómitos			
	Aumento en la frecuencia cardíaca y de la tensión arterial			
	Cambios de humor			
	Ansiedad, pánico, paranoia			
	Flash-backs			
	Aumento en los efectos de enfermedades mentales como la esquizofrenia			

i. opiáceos	Su riesgo de experimentar estos daños es:	Bajo <input type="checkbox"/>	Moderado <input type="checkbox"/>	Alto <input type="checkbox"/>
	El consumo habitual de opiáceos se asocia con:		(marque una)	
	Picor, náusea y vómitos			
	Mareos			
	Estreñimiento, deterioro de los dientes			
	Dificultad para concentrarse y recordar cosas			
	Disminución del deseo sexual y de la actividad sexual			
	Dificultades de pareja			
	Problemas económicos y laborales, delincuencia			
	Tolerancia y dependencia, síntomas de abstinencia			
	Sobredosis y muerte por depresión respiratoria			

OMS-ASSIST

Tarjeta sobre Riesgos asociados con Inyectarse – Información para pacientes

El consumo de sustancias por vía inyectada aumenta el riesgo de daños debido a las propias sustancias.

El daño puede provenir de:

- **La sustancia**
 - Si consume cualquier droga inyectada, tiene más probabilidades de desarrollar dependencia.
 - Si se inyecta anfetaminas o cocaína tiene un mayor riesgo de experimentar síntomas psicóticos.
 - Si se inyecta heroína u otro tipo de sedantes tiene más riesgo de sobredosis.
- **La conducta de inyección**
 - Al inyectarse dañar su piel, sus venas y padecer infecciones.
 - Puede provocarse cicatrices, hematomas, hinchazones, abscesos y úlceras.
 - Sus venas pueden colapsar.
 - Si se inyecta en el cuello puede provocarse una embolia cerebral.
- **Compartir material de inyección**
 - Si comparte material de inyección (agujas y jeringas, cucharas, esponjas, filtros, etc.) tiene más probabilidades de transmitir infecciones víricas a través de la sangre como la Hepatitis B, la Hepatitis C y el VIH.

❖ Es más seguro no inyectarse

- ❖ **Si se inyecta:**
 - ✓ use siempre equipamiento limpio (e.g., agujas y jeringa, cucharas, esponjas, filtros, etc.)
 - ✓ use siempre una aguja y una jeringuilla nuevas
 - ✓ no comparta el material con otras personas
 - ✓ limpie el área de preparación
 - ✓ límpiese las manos
 - ✓ limpie el lugar de inyección
 - ✓ utilice un lugar de inyección distinto cada vez
 - ✓ inyéctese lentamente
 - ✓ ponga su aguja y jeringa usadas en un recipiente rígido y deshéchelo de forma segura
- ❖ **Si consume drogas estimulantes como las anfetaminas o la cocaína, los siguientes consejos le ayudarán a reducir el riesgo de psicosis.**
 - ✓ evite inyectarse y fumar
 - ✓ evite consumir a diario
- ❖ **Si consume drogas depresoras como la heroína, los siguientes consejos le ayudarán a reducir el riesgo de sobredosis.**
 - ✓ evite consumir otras drogas el mismo día, especialmente sedantes o alcohol
 - ✓ consuma pequeñas cantidades y "pruebe" la droga cuando tenga una nueva dosis
 - ✓ tenga a alguien cerca cuando consume
 - ✓ evite inyectarse en un lugar en el que nadie pueda llegar a usted si tiene una sobredosis
 - ✓ tenga a mano los números de teléfono de los servicios de urgencia/ambulancia

APPENDIX D
CUMULATIVE TRAUMA SCALE

(Short Form: English and Spanish Versions)

Cumulative Trauma Scale (Short Form)

Directions:

Many people have experienced different kinds of events and situations in their lives. These following questions will ask you about some specific events please indicate how many times happened if happened and how much it affected you negatively or positively on the provided scale.

1. In my life I witnessed or experienced natural disasters, e.g. earthquake, hurricane, tornado or flood.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

2. I have experienced a life threatening accidents, e.g., motor vehicle accidents.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

3. I have been involved in or witnessed a war or combat.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

4. I have experienced sudden death of one of my parents or of close friend or loved ones.

Never	once	two times	three times	many times.		
If this happened, how much this affected you:						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

5. I have experienced a life threatening or permanently disabling event for loved ones (e.g., parents, close friends).

Never	once	two times	three times	many times.		
If this happened how, has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

6. I have experienced life-threatening illness or permanently disabling event (e.g., cancer, stroke, serious chronic illness or major injury).

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

7. I have experienced robbery involving a weapon (robbed or mugged).

Never	once	two times	three times	many times.		
If this happened, how much this affected you:						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

8. I witnessed severe assault of acquaintance or stranger (e.g., got shot, stabbed or severely beaten up).

Never	once	two times	three times	many times		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

9. I have been threatened to be killed or to be seriously harmed.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

10. I have been physically abused, pushed hard enough to cause injury or beaten up by a caretaker, e.g., parent...

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

11. I witnessed heard one of my parents or caregivers hitting, hurting and / or threatening to kill my other parent or caregiver.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

12. I was led to sexual contact by someone older than me.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

13. I was sexually abused or raped or involved in unwanted sex with one or more persons.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

14. I have been jailed and/ or tortured.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

15. My mother has abandoned or left/ or separated from me when I was young.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

16. My father has abandoned or left me or separated from me when I was young.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

17. I was put down, threatened or discriminated against by some others negative attitudes, stereotypes or actions because of my ethnicity, race, culture, religion or national origin.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

18. My parents went through divorce and or separation.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

19. My race has history of being oppressed, discriminated against or threatened by genocide.

Never (1) little like it (2) partially like it (3) moderately like it (4) very much like it (5)

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

20. I have experienced a nervous breakdown or felt that I was about to have one (e.g., about to lose control) due to seemingly small but recurrent or unremitting hassles or chronic stressors.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

21. At least one of my parents or siblings was involved in war, combat, or being tortured.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

22. I experienced frequent failures in school.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

23. I was uprooted and forced to move from my favorite environment in town, village. or country.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

24. I have been physically attacked, beaten up by another stronger person or group of persons, and caused injury.

Never once two times three times many times.

If this happened, how has this affected you?

Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

25. I was led to sexual contact by one of my caregiver/ parents.

Never once two times three times many times.

If this happened, how has this affected you?

Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

26. I was put down, denied my rights, or discriminated against in the society (not by family members), by some others' negative attitudes, stereotypes or actions, or by institutions because of my gender (being a girl/ woman or a boy/ man).

Never once two times three times many times.

If this happened, how has this affected you?

Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

27. I experienced serious rejection or failure in my relationships.

Never once two times three times many times.

If this happened, how has this affected you?

Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

28. I experienced a loss of child or spouse.

Never once two times three times many times.

If this happened, how has this affected you?

Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

29. I experienced employment termination, been laid off, or failed in business.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

30. I remarried.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

31. I experienced being part of poor family with many hardship.

0 Never poor (1) somewhat poor (2) real poor (3) very poor (4) extremely poor

If this happened, how has this affected you?

Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

32. I was put down, threatened or discriminated against by some other family members (e.g., parents, siblings) negative attitudes, stereotypes or actions because of my gender: being a boy or girl.

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative
1	2	3	4	5	6	7

33. Other people and institutions and communities, discriminated against me because of my gender (being girl or boy).

Never	once	two times	three times	many times.		
If this happened, how has this affected you?						
Extremely positive	Very positive	Somewhat positive	Neutral	Somewhat Negative	Very Negative	Extremely Negative

Cumulative Trauma Scale (short form)

-Versión en español-

Mucha gente ha experimentado diferentes tipos de eventos y situaciones a lo largo de su vida. Los siguientes ítems le preguntarán acerca de algunos eventos determinados. Por favor indique cuántas veces le han sucedido. Y **sólo si le ha sucedido**, conteste cómo le ha afectado.

1.- He visto o he sufrido desastres naturales, por ejemplo, huracanes, tornados o inundaciones.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

2.- He sufrido accidentes con riesgo vital; p.ej. accidentes de tráfico.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

3.- Me he visto involucrado o he presenciado un combate o una guerra.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

4.- He sufrido la muerte súbita de uno de mis padres, de un íntimo amigo o de un ser querido.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

5.- He experimentado un acontecimiento que amenazó o incapacitó permanentemente la vida de un ser querido.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

6.- He padecido una enfermedad potencialmente mortal o un acontecimiento que produce una incapacidad permanente.; p. ej. cáncer, accidente vascular, una grave enfermedad crónica.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

7.- He sufrido un robo o asalto a mano armada.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

8.- He sido testigo de un asalto grave hacia un conocido o un extraño (fue tiroteado, apuñalado o severamente golpeado).

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

9.- He sido amenazado de muerte o de ser gravemente herido/apalizado.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

10.- He sufrido abusos físicos, empujado hasta resultar herido o golpeado por un cuidador, p.ej. un padre.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

11.- He visto u oído a uno de mis padres/cuidadores golpeando, hiriendo y/o amenazando al otro padre/cuidador.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

12.- He sido empujado a mantener relaciones sexuales por alguien mayor que yo.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

13.- He sufrido abusos sexuales, he sido violado, o me he visto envuelto en relaciones sexuales no deseadas con una o más personas.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

14.- He sido encarcelado y/o torturado.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

15.- Mi madre me abandonó o se separó de mi cuando yo era joven.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

16.- Mi padre me abandonó o se separó de mi cuando yo era joven.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

17.- He sido menospreciado, amenazado, o discriminado por las actitudes negativas, estereotipos o acciones de otros, a causa de mi etnia, raza, cultura, religión o nacionalidad de origen.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

18.- Mis padres se divorciaron/separaron.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

19.- Mi raza tiene una historia de opresión, discriminación y amenaza de genocidio.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

20.- He experimentado un ataque de nervios o me he sentido a punto de tenerlo (perder el control), debido a factores crónicos de estrés, aparentemente pequeños, pero recurrentes o constantes.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

21.- Al menos uno de mis padres o hermanos-as ha participado en una guerra, combate o, ha sido torturado.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

22.- He sufrido fracaso escolar.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

23.- He sido desarraigado y obligado a desplazarme de mi entorno favorito de la ciudad, del pueblo o del país.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

24.- He sido atacado, golpeado por alguien (persona más fuerte o grupo de personas), resultando herido.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

25.- He sido empujado a mantener relaciones sexuales por uno de mis cuidadores/padres.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

26.- He sido menospreciado, denigrado en mis derechos o discriminado socialmente (no por miembros de la familia), por causa de ciertas actitudes negativas, estereotipos o acciones de otros, o por instituciones, a causa de mi género.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

27.- He sufrido un rechazo evidente o fracaso en mis relaciones.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

28.- He sufrido la pérdida de un hijo o esposo-a.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

29.- He vivido la finalización de un contrato laboral, he sido despedido o he fracasado en los negocios.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

30.- Me he vuelto a casar.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

31.- He formado parte de una familia pobre que ha pasado muchas penurias.

Nunca Algo pobre Realmente pobre Muy pobre Extremadamente pobre

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

32.- He sido menospreciado, denigrado en mis derechos o discriminado por miembros de la familia, por ciertas actitudes negativas, estereotipos, o acciones, a causa de mi género.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

33.- He sido discriminado a causa de mi género por personas ajenas a mi familia, las instituciones o mi comunidad.

Nunca Una vez Dos veces Tres veces Muchas veces

Si esto le ha sucedido, ¿cómo le ha afectado?

Extremadamente positivo	Muy positivo	Algo positivo	Neutro	Algo negativo	Muy negativo	Extremadamente Negativo
1	2	3	4	5	6	7

APPENDIX E
DEMOGRAPHIC SURVEY

Demographic Survey

1. **How old are you?** _____
2. **Height** _____
3. **Weight** _____
4. **Waist circumference:** _____
5. **How do you identify your gender?**
 Female Male
6. **What language are you more comfortable with?**
 English Spanish Other _____
7. **How many years have you lived in the United States?** _____
8. **How many years of formal education have you completed?** _____
9. **Do you have health insurance?**
 Yes
 No
10. **What is your current employment status?**
 Unemployed
 Day labor
 Part-time
 Full-time

11. How much money do you bring home a week?

\$0; <\$100.00

\$100.01-\$200.00

\$200.01-\$300.00

\$300.01-\$500.00

>\$500.00

12. What is your current marital status?

Married

Separated

Divorced

Living with someone

13. Has a medical professional told you that you currently have diabetes?

Yes

No

14. Has a medical professional told you that you currently have high blood pressure?

Yes

No

15. Has a medical professional told you that you currently have heart disease?

Yes

No

APPENDIX F
CONSENT TO PARTICIPATE IN RESEARCH

1) **Title of Research Study:** Cumulative trauma among adult Mayas living in Southeast Florida

2) **Researcher:** John Lowe, PhD, RN and Eugenia Millender (PhD student)

3) **Purpose:** The purpose of this study is to learn how Mayas living in Southeast Florida deal with trauma, depression and alcohol use.

4) **Procedures:** Your participation in this study is voluntary. We will ask you to complete four surveys. We will measure your height, weight and waist size and ask questions about your life, in a private room. Some of the questions will be about stressful events such as abuse, rape, and other crime, and about alcohol use and your feelings. The researcher will read the questions to you in either English or Spanish. It will take about 30–45 minutes to answer all the questions.

5) **Risks:** When you answer the questions about abuse, rape and other crimes, you may feel a fast heartbeat, sadness or anger. You do not have to answer any questions that make you uncomfortable or you do not want to answer. If you feel upset by the questions, tell the researcher. We will help you to get free support services. Your answers will not be shared with anyone unless your safety is at risk. Some examples of safety risks are domestic abuse, rape or sexual abuse. With your consent, we will call the Florida Domestic Violence Hotline. Their number is 1–800–500–1119. The researcher is required to report certain crimes, such as child abuse, to the local police department.

We will refer you to your doctor if you need support. We may also call the crisis line at 561–383–1111, or the crisis mobile team at 561–385–5777. If you do not have a doctor, you can go to Genesis Community Center. This center is open to you if you have insurance or not, but they may charge for their service based on your income.

6) **Benefits:** If you agree to be in this study, there is no direct benefit to you. You may enjoy knowing that you helped scientists begin to understand the Maya culture. If you complete all the questionnaires, even if you do not answer questions that make you uncomfortable, you will receive a \$10 gift card to Wal-Mart.

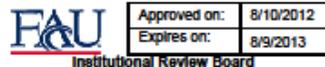
7) **Data Collection & Storage:** We will keep all the information about you private. Only the people working with the study will see your data, unless required by law. We will keep all data in a locked file cabinet in her office. At the end of the study, we will destroy all the information that can identify you.

8) **Contact Information:** *You are welcome to learn more about your rights in this study. Please contact the Research office of Florida Atlantic University to learn more. The number is (561) 297-0777. If you have questions about the study, please call John Lowe PhD at 954–236–1275 or Eugenia Millender at 561–803–8880.

9) **Consent Statement:** *I have read or had read to me the above material explaining this study. All my questions have been answered to my approval. I am 18 years of age or older. I freely consent to participating in this study. I understand that I am free to withdraw from the study at any time without penalty.

Signature of Subject: _____ Date: _____

Signature of Researcher: _____ Date: _____



1) **Título del Estudio de Investigación:** trauma acumulativo entre los Mayas adultos que viven en el sudeste de la Florida

2) **Investigador:** John Lowe, PhD, RN y Eugenia Millender (estudiante de doctorado)

3) **Objeto:** El objeto de este estudio es conocer cómo viven los Mayas en el sureste de la Florida acuerdo con el uso de trauma, depresión y el alcohol.

4) **Procedimientos:** Su participación en este estudio es voluntaria. Nosotros le pedimos que complete cuatro encuestas. Vamos a medir su altura, peso y tamaño de la cintura y hacer preguntas sobre su vida, en una habitación privada. Algunas de las preguntas serán sobre los eventos estresantes, como el abuso, la violación y otros delitos, y sobre el consumo de alcohol y sus sentimientos. El investigador leerá las preguntas a las que, ya sea en Inglés o Español. Se tarda unos 30-45 minutos para contestar todas las preguntas.

5) **Riesgos:** Al responder a las preguntas sobre el abuso, la violación y otros delitos, se puede sentir un latido del corazón rápido la tristeza o la ira. Usted no tiene que responder a cualquier pregunta que le hacen incómodo o no quiere contestar. Si usted se siente molesto por las preguntas, dígame al investigador. Nosotros le ayudaremos a obtener los servicios de apoyo gratuitos. Sus respuestas no será compartida con nadie a menos que su seguridad está en peligro. Algunos ejemplos de los riesgos de seguridad son la violencia doméstica, violación o abuso sexual. Con su consentimiento, que se llame a la Línea de Violencia Doméstica de la Florida. Su número es 1-800-500-1119. El investigador está obligado a reportar ciertos crímenes, como el abuso infantil, al departamento de policía local. Le consulte a su médico si necesita ayuda. También puede llamar a la línea de crisis al 561-383-1111, o el equipo móvil de crisis en el 561-385-5777. Si usted no tiene un médico, usted puede ir al Centro Comunitario de Génesis. Este centro está abierto a que si tiene seguro o no, pero que pueden cobrar por sus servicios sobre la base de sus ingresos.

6) **Beneficios:** Si usted se compromete a participar en este estudio, no hay beneficio directo para usted. Usted puede disfrutar sabiendo que ayudaron a los científicos comienzan a comprender la cultura maya. Si completa todos los cuestionarios, aunque usted no responde a las preguntas que te hacen incómodo, recibirá una tarjeta de regalo de \$ 10 a Wal-Mart.

7) **la recopilación de datos y almacenamiento:** Vamos a mantener toda la información en forma confidencial. Sólo las personas que trabajan con el estudio a ver sus datos, a menos que requerido por la ley. Vamos a mantener todos los datos en un gabinete de archivo bloqueado en su oficina. Al final del estudio, vamos a destruir toda la información que le pueda identificar.

8) **Información de contacto:** * Le invitamos a aprender más sobre sus derechos en este estudio. Por favor, póngase en contacto con la Oficina de Investigación de la Universidad Atlántica de Florida para aprender más. El número es (561) 297- 0777. Si usted tiene preguntas sobre el estudio, por favor llame a John Lowe doctorado en 954-236-1275 o Eugenia Millender en 561-803-8880.

9) **Declaración de Consentimiento:** * He leído o se me ha leído el material anterior que explica este estudio. Todas mis preguntas han sido contestadas a mi aprobación. Tengo 18 años de edad o más. Yo libremente su consentimiento para participar en este estudio. Entiendo que tengo la libertad de retirarse del estudio en cualquier momento sin penalización.

Firma del Sujeto: _____ Fecha: _____

Firma del Investigador: _____ Fecha: _____

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