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# The Associations between Socioeconomic Status and Childhood and Adult Psychosocial Experiences Among Men Living in El Paso, Texas

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THE ASSOCIATION BETWEEN SES CHARACTERISTICS AND CHILDHOOD  
AND ADULT PSYCHOSOCIAL EXPERIENCES  
AMONG MEN LIVING IN EL PASO, TEXAS

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Dean of the Graduate School

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by

Sophia Ornelas

2020

## **DEDICATION**

### **This research is dedicated to:**

the loving memory of my mother, Margaret Servantez, the hardships she overcame, and the love and encouragement she gave me. Thank you, mom, for passing down your love, wisdom, and courage to all your children: Elizabeth, Beatrice, Thomas, and Adam.

Your sense of humor, strength and love will always be with us.

the memory of my father, Gilbert Servantez, who always instilled in his children the importance of pursuing higher education;

my youngest sister, Elizabeth Servantez, for always being there for me to help with the kids, listen and console. Sisters my chance and friends by choice;

my children, Kaitlynn, Alexander, and Nathan, who have been patient and understanding through this extended time. I love you all dearly.

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CHILDHOOD AND ADULT PSYCHOSOCIAL EXPERIENCES  
AMONG MEN LIVING IN EL PASO, TEXAS

by

SOPHIA M. ORNELAS, B.S.

THESIS

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for the Degree of

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## ABSTRACT

**BACKGROUND:** Substantial evidence indicates that low levels of Socioeconomic Status (SES) can have adverse psychosocial health implications in early childhood that can persist into adulthood. While there is extensive research about this relationship very little is known about the relationship between SES characteristics and adult psychosocial burden among Hispanic men.

**OBJECTIVE:** This research aims to explore the associations between SES characteristics and childhood adverse experiences, adult perceived stress burden, and depressive symptoms among

Hispanic men living in El Paso, Texas. **METHODS:** This research used data from a cross-sectional study of 100 adult men residing in El Paso, Texas in 2018. Participants completed a series of self-reported questions, including the Adverse Childhood Experiences (ACE), a short 10-item scale (abuse problems, parental separation or divorce, and four types of caregiver dysfunctional exposures such as witnessing domestic violence, parental mental illness, and parental incarceration), psychosocial feelings of perceived stress burden, depressive symptoms and SES characteristics described as education, income, employment status and health insurance coverage.

This research proposed that low levels of educational attainment, annual household income, employment status would have an inverse relationship with psychosocial factors (ACE, perceived stress burden and depressive symptoms). To identify self-reported responses of ACE, perceived stress burden and depressive symptoms questions, a score was created for each dependent variable. After adjusting for certain demographic characteristics (i.e., age, ethnicity), linear regression analyses were conducted to examine the relationship between SES characteristics and psychosocial experiences (ACE, perceived stress burden, and depressive symptoms), generating six models.

**RESULTS:** 1) The top reported ACE score among Hispanics was between 1-3, indicating the score of self-reported adverse childhood experiences; the top PHQ-2 score reported by Hispanics

was between 1-3, indicating the number of self-reported experiences of depressive symptoms within the past two weeks; and the top reported score for perceived stress burden among Hispanics was zero, indicating not having had a stressful problem lasting more than 6 months. 2) After controlling for certain demographic and psychosocial factors, two linear regression models were statistically significant, perceived stress burden and depressive symptoms. **CONCLUSION:** Results for the linear regression did not show statistically significant associations in all the models, however, there was some evidence that household income and employment status were associated with ACE, however the models were not significant, and health insurance with perceived stress burden, were statistically significant, consistent with published literature but given the low R-squared values, which suggest that the models really don't explain much variation of the dependent variables and the large number of models increases the threat of false positive (type 1 error). **RECOMMENDATIONS:** Understanding the relationship between SES and psychosocial factors could give health care providers a deeper understanding on how to help patients experiencing psychosocial burden. Moreover, more population-based longitudinal studies are needed to clarify the mechanisms leading to Hispanic men's psychosocial burden.



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## **CHAPTER 1: BACKGROUND AND SIGNIFICANCE**

### ***Introduction***

Socioeconomic Status (SES) is defined as the economic and sociological combined measure of a person's work experience and of an individuals or a family's economic and social position in relation to others (American Psychological Association, 2015). SES has been associated as a reliable predictor for determining a person's physical and mental health across the lifespan (APA, 2020; Luo & Waite, 2005). A considerable body of evidence has established that individuals of low SES are more likely to suffer from disease, experience a loss of functioning, be cognitively and physically impaired, and experience higher mortality than compared to individuals with high SES (Anderson, 2004). Moreover, social, and financial limitations may further increase psychosocial burden. Over time, the wear and tear from repeated physiological stress responses, combined with unhealthy coping strategies, take their toll, increasing vulnerability to disease and possibly accelerating the biological aging process (Epel, Crosswell, Mayer, Prather, Slavich, Puterman, & Mendes, 2018). While sociologist and psychologist have published numerous articles about low SES, understanding its relevance to psychosocial burden has been limited.

### **1.1. SOCIOECONOMIC STATUS INDICATORS**

To describe the class standing of an individual or group, SES is typically measured in terms of income, educational attainment, and employment status(Hernandez & Blazer, 2006; Chan, Na, Agres, Savalia, Park, & Wig, 2018). These indicators can help to examine the relationship between SES and health which often reveal inequities in access to social and financial resources and can potentially increase psychosocial burden issues (APA, 2020). Someone living in poverty, or low SES, do not have the same equal access to healthcare, as one living in high SES.

## ***Income***

According to the Health Resources and Services Administration (2017), income is defined as total annual cash receipts before taxes from all sources, with certain exceptions and exclusions. There is substantial evidence that household income is strongly associated with morbidity and mortality across the income distribution (Mattsson, Fors, & Kreholt, 2017). For example, low-income U.S. adults have higher rates of heart disease, diabetes, stroke, and other chronic disorders than wealthier U.S. adults (CDC, 2015).

Income has also been associated with mental health. For example, individuals with families who earn more than \$100,000 are four times more likely to report a type of psychosocial burden and five times more likely to report sadness “all or most of the time” compared to those with family incomes below \$35,000 a year (Urban Institute, 2015). Reasons for lower mental health in low-income individuals includes the lack of resources to pay for health care. Contrary to low-income individuals, higher income people are more likely to have the means to pay for healthcare that can potentially improve health outcomes.

## ***Educational Attainment***

Educational attainment refers to the highest level of education that an individual has completed and is perhaps the most widely used SES indicator (U.S. Census Bureau, n.d). This is likely due to the ability of its influence on employment opportunities and salary potential (Sasson, Hayward, 2019). Data shows that persons with higher education may develop better information processing and critical thinking skills, skills in navigating bureaucracies and institutions, and abilities required to effectively communicate with healthcare providers (Destin, 2019 & Hummer & Hernandez, 2013). Those with more years of schooling are less likely to smoke, to drink heavily, and to be overweight or obese. Interestingly, individuals with better education, report having tried

illegal drugs more frequently, but they gave them up more readily (National Bureau of Economic Research [NBER], 2007; Villarreal, Torres, Stotts, Ren, Sampson, & Bordnick, 2017).

Contrary to individuals with high educational attainment, low educational attainment inhibits social mobility and access to financial resources and has been linked with increased rates of death and illness in adults for a wide range of health conditions from the most common acute and chronic diseases (e.g., heart condition, stroke, hypertension, cholesterol, emphysema, diabetes, asthma attacks, and ulcer).

The magnitude of the relationship between education and health varies across conditions but is generally large. An additional four years of education lowers five-year mortality by 1.8 %, it also reduces the risk of heart disease by 2.16 %, and the risk of diabetes by 1.3 % (NBER, 2007). Four more years of schooling lowers the probability of reporting oneself in fair or poor health by 6 % and reduces lost days of work to sickness by 2.3 % each year (NBER, 2007).

The possible rationale for education and poor health outcomes include the idea that individuals may be unaware of the health benefits to make an informed decision about their health. Hummer & Hernandez, (2013), suggest that an important overall indicator of adult population health is about a decade shorter for people who do not have a high school degree compared with those who have completed college.

### ***Employment status***

Employment status refers to the status of a worker in a company on the bases of the contract of work or duration of work done and is used to examine the effects of SES on health because of its role in positioning individuals within the social structure (Centers for Disease Control and Prevention [CDC], 2015).

A good-paying job makes it easier for workers to live in healthier neighborhoods, provide quality education for their children, secure childcare services, and buy more nutritious food, all of which affect health. Good jobs also tend to provide good benefits. Higher earning also translates to a longer lifespan. In 2016, the life expectancy of a U.S. female at birth (81.1 years) averaged a 5-five -year difference between the average U.S. male (76.1 years) lifespan expectancy (CDC, 2016).

On the contrary, unemployed individuals with less education have fewer employment choices, which may force them into positions with low levels of control, job insecurity, and low wages (ODPHP, 2018). Thus, potentially increasing adverse health outcomes. According to Avendano & Berkman (2014), unemployed individuals report higher feelings of depression, anxiety, low self-esteem, tend to suffer more from stress-related illnesses such as high blood pressure, stroke, heart attack, heart disease, and arthritis (Murray, 2003).

Noteworthy, despite high poverty rates, low income, less education, and less access to health care, Hispanic health outcomes are similar or better than those of non-Hispanic whites (Franzini et al., 2004). This paradox, known as the “Hispanic paradox”, is mostly apparent for mortality and life expectancy, less so for morbidity, and is stronger among Mexican-origin individuals (Franzini et al, 2004).

Nevertheless, research has shown that both low and high SES are correlated with psychosocial burden such as Adverse Childhood Experiences (ACE), depression and stress. However, persons with low SES are at much higher risk given the lack of social and financial resources.

## 1.4 PSYCHOSOCIAL FACTORS

### *Adverse Childhood Experiences*

Adverse Childhood Experiences, or ACEs, are potentially traumatic events that occur in childhood (0-17 years), (CDC, 2020). For example, experiencing violence, abuse, or neglect, witnessing violence in the home or community, or having a family member attempt or die by suicide (CDC, 2020; Suglia, Shakira, Clark, Cari, Link, Bruce, Koenen, & Karestan, 2015).

Individuals with a history of ACEs are at greater risk for developing an array of health issues, and low SES may compound these factors (Cheong, Sinnott, Dahly & Kearney, 2017). For instance, the Centers for Disease Control and Prevention estimated the link between self-reported ACEs and 14 negative health conditions and socioeconomic factors, using 2015-2017 survey data for more than 144,000 adults from 25 states. They found that 60.9% of adults reported at least one adverse childhood experience, while 15.6% reported four or more types. Such experiences were statistically significant and indicated an association with poorer health outcomes, health risk behaviors, and socioeconomic challenges, including, heavy drinking, smoking, lower educational attainment, unemployment, and depression (Metzler, Merrick, Klevens, Ports & Ford, 2017). These experiences also are closely tied to the top ten causes of death in the U.S. heart disease, cancer, respiratory diseases, diabetes, and suicide (CDC, 2018; Su, Jimenez, Roberts, & Loucks, 2015).

Preventing ACEs could potentially reduce many top health conditions. For example, 1.9 million cases of heart disease and 21 million mental health cases of depressive symptoms could be reduced by preventing ACEs, according to the CDC (2020).



## ***Depression***

Depression is one of the most common forms and symptoms of mental illness in the United States, with around 7.4 percent of adults suffering from depression (National Institute of Health, 2020). Depression is characterized by prolonged feelings of sadness and hopelessness that can affect a person's sleeping and eating habits, social and work life, and daily activities (Martin J Arostegui, Loroño, Najera-Zuloaga, & Quintana, 2019). Symptoms of depression include a loss of interest in things that used to be enjoyable, loss of energy, feelings of worthlessness and guilt, difficulty concentrating, anxiety, and thoughts of death or suicide (NIH, 2020; CDC, 2020).

There is substantial evidence that lower socioeconomic status is associated with a higher risk of depression (Lara, 2008 & Villarreal, Torres, Stotts, Ren, Sampson, & Bordnick, 2017). Furthermore, literature suggests that depression is associated with higher rates of chronic disease, increased health care utilization, and impaired functioning, and often associated with the presence of acute stress, with 60% to 79% of depressed episodes being preceded by a stressful life event (Lara, 2008 & Villarreal, et al., 2017; CDC, 2017).

## ***Stress***

Stress is an emotional and physical response to any type of burden or challenge such as a life change or traumatic event (Gallo, Shivpuri, Gonzalez, Fortmann, Roesch, Matthews, 2013). In most cases, stress promotes survival because it forces organisms to adapt to rapidly changing environmental conditions. Stress may be acute, chronic, or traumatic. The long-term activation of the stress-response system and the overexposure to cortisol and other stress hormones that follows can disrupt almost all your body's processes (Agency for Toxic Substances and Disease Registry [ATSDR], 2020; McCurley, Mills, Roesch, Carnethon, Giacinto, Isasi, Teng, Sotres-Alvarez, Llabre, Penedo, Schneiderman; Gallo, 2015). This puts you at increased risk of many health

problems, including anxiety, depression, heart disease, sleep problems and memory and concentration impairment (Gallo, et al., 2013; Wang, Zhang, Kong, Hong, Cheon, & Liu, 2016).

Some studies suggest that health risks such as stress is a key psychosocial conduit through which low SES is fostered. This perspective is based on evidence linking low SES with psychological markers of stress and, in turn, connecting stress with physical health conditions that show notable SES disparities (Gallo, et al., 2013). For example, residing in disadvantaged neighborhood (e.g., living in poverty) and family conflicts/difficulties (e.g., Adverse Childhood Experiences, ACEs). For instance, low-income parents are often overwhelmed by depression and a sense of powerlessness and inability to cope, feeling may get passed along to their children in the form of insufficient nurturing which can increase physical punishment towards the children or with one another (Gallo, et al., 2013).

## CHAPTER 2: HISPANIC, SES, AND PSYCHOSOCIAL FACTORS

Hispanics or Latinos are the largest racial/ethnic minority population in the United States (U.S.). According to the U.S. Department of Health and Human Services Office of Minority Health [OMB] (2019), there are 58.8 million Hispanics living in the U.S. This group represents 18.1 percent of the U.S. total population. In 2017, among Hispanic subgroups, Mexicans ranked as the largest at 62.3 percent. Following Mexicans are Puerto Ricans (9.5 percent), Central Americans (9.5 percent), South Americans (6.3 percent), and Cubans (3.9 percent), (OMB, 2019).

Historical and sociocultural factors suggest that, as a group, Hispanics need mental health services. Given the growing size and well documented economic challenges they face to reach optimal health, there is an increased risk for mental and physical health problems, lower educational attainment and annual household income earnings, and criminal offending and violence (Martin, Conger, & Robins, 2019). According the OMB (2019), Hispanics living in the U.S., about 1 in 3 has not completed high school; about 1 in 4 lives below the poverty line and about 1 in 3 does not speak English well (OMB, 2019).

More specifically, Hispanics along the U.S. border population are at an elevated risk for drinking and associated problems due to the area's low SES, poor infrastructure, and drug-related violence (Caetano, Mills, Vaeth, 2013). The picture that can be drawn from the studies of drinking on the border is complex, with variation in drinking levels and problem prevalence dependent on sociodemographic factors. First, some studies suggest that heavier drinking and associated problems are more prevalent along the border. For instance, the 12-month rate of binge drinking once a month or more among Hispanic men on the border was 36%, compared to 6–7% among Hispanics outside the border (Caetano, et al., 2013; Marquez-Velarde, Grineski, & Staudt, 2015).

Furthermore, in 2017 suicide was the second leading cause of death for Hispanics, ages 15 to 34 and the death rate from suicide for Hispanic men was four times the rate for women (U.S. Census Bureau, 2014).

Provided the high suicide rates it is important to discuss barriers to access mental health services that require a more culturally competent approach and considers factors such as language, and attitudes towards mental health problems and help seeking.

## **2.1 BARRIERS TO ACCESSING MENTAL HEALTH SERVICES**

The Hispanic community faces unique systemic barriers that may impede access to mental health services, resulting in reduced help-seeking behaviors. In 2018, 56.8 percent Hispanic young adults 18-25 years and 39.6 percent of adults 26-49 years with serious mental illness did not receive treatment (OBH, 2019).

Other barriers exist such as religion, which can be a protective factor for mental health in Hispanic communities (e. g., faith, prayer) but can also contribute to the stigma against mental illness and treatment. There is a perception in Hispanic communities, especially among older people, that discussing problems with mental health can create embarrassment and shame for the family, resulting in fewer people seeking treatment (Mental Health America [MHA], 2020).

Poor communication with health care providers is often an issue and a shortage of bilingual or Spanish speaking mental health professionals. Nearly 6 in 10 Hispanic adults have had a difficult time communicating with a health care provider because of a language or cultural barrier (NAMI, 2020). Therefore, lack of information and misunderstanding of information can also be an issue.

Furthermore, mental health problems can be hard to identify because Hispanic people will often focus on physical symptoms and not psychiatric symptoms during a doctor's visit (MHA,

2020). Literature also suggest that Hispanics individuals may not seek treatment because they do not recognize the signs and symptoms of mental health conditions or know where to find help (American Psychiatric Association, 2017 & NAMI, 2020).

Although family support can be positively associated with mental health, sometimes intense family bonds or loyalty can become a source of family conflict and strain, which can result in poorer mental health for individuals (Perreira, Gotman, Isasi, Arguelles, Castañeda, Daviglius, Giachello, Gonzalez, Penedo, Salgado, & Wassertheil-Smoller, 2015). Thus, some aspects of family identity can positively affect mental health while others can have a negative influence.

Collectively, these inequalities put Hispanics at a higher risk for more severe and persistent forms of mental health conditions, because without treatment, mental health conditions often worsen.

## **2.2 IMPORTANCE OF ADDRESSING PSYCHOSOCIAL HEALTH IN THE HISPANIC POPULATIONS**

Hispanics are projected to account for more than 1 in 4 people living in the U.S. by 2060, and there is ample evidence that Hispanics face many obstacles that affect their overall health. These disparities to health vary from SES and psychosocial burden.

High psychosocial burden paired with low SES, makes it difficult to access medical care and receive treatment which poses a great challenge for Hispanics. For example, Hispanics are twice as likely to live below the poverty line and our times as likely not to have completed high school, 20 times as likely not to speak English proficiency compared to whites.

More so, mental health issues exist among this population. For instance, U.S. Hispanic men suicide rate is higher (11.2%), compared to Hispanic women (2.6%). These disparities place men at much higher risk for negative health outcomes compared to women.

While evidence suggest that low SES and psychosocial burden exist among Hispanics. It's important to begin to introduce the setting of El Paso, Texas where the population is predominately Hispanic.

### **2.3 SES CHARACTERISTICS IN EL PASO, TEXAS**

The El Paso, Texas is home to nearly 840, 758 people, almost half of the population is male (49.3%) and predominately Hispanic (83%), (Healthy Paso Del Norte [HPDN], 2018). Within that same year, El Paso median household income (\$44,597) was lower compared to Texas (\$59,570) and the U.S. (\$60,293), and the prevalence of persons 25 and older with a high school degree or higher (77.5 %) was lower compared to Texas (83.2%) and the U.S. (87.7%), (HPDN, 2018). Similarly, the prevalence for persons 25 or older living in El Paso holding a bachelor's degree or higher was also lower (22.8 %) compared to Texas (29.3 %) and the U.S. (31.5%) and the number of people living below the poverty level was lower when compared to Texas (15.5%) and U.S. (14%) between 2014-2018 (HPDN, 2018).

### **2.4 PSYCHOSOCIAL HEALTH IN EL PASO, TEXAS**

In 2018 mental health distress in El Paso was higher (13%) than in Texas (11.9%) and in the U.S. (12.0%) and persons reporting poor mental health lasting 5 or more days was higher (23%) compared to Texas (18.5%) and in the U.S (18.9%). While mental health in combination with substance abuse in El Paso was slightly lower (24%) than in Texas (29%) and U.S. (29%), and the depression for persons 65 and older we can presume that this trend will change given the current pandemic circumstances (HPDN, 2018).

While Hispanics suffer from the same mental health conditions the rest of the country faces, such as depression and other mental health disorders, the severity of health conditions and their ability to cope differs greatly by gender.

## **2.4 PSYCHOSOCIAL HEALTH GENDER DIFFERENCES IN EL PASO, TEXAS**

Over time the El Paso male population is increasing (49.3%) compared to Texas (49.3%) and the U.S. (49.2%). Men living in El Paso are disproportionately at higher risk than women. For instance, men living in El Paso have higher suicide death rates (17.4%) compared to women (4.3%), (HPDN, 2018).

Men are about four times more likely than women to die of suicide, but three times more women than men report attempting suicide. Suicide occurs at a disproportionately higher rate among adults 75 years and older (HPDN, 2018).

Between 2014-2018, males living with a disability was higher (14.0%) than women (13.7%), men who binge drink was higher (25.9%) than women (11.6%), rates for smoke were higher among men (14.7%) compared to women (7.1%), (HPDN, 2018).

Collectively, the El Paso population has unique SES characteristics, psychosocial burden, and mental health challenges, which can be disproportionately affecting men. To further examine this relationship, this study will examine the associations between SES characteristics and childhood and adult psychosocial experiences among men living in El Paso, Texas.

### **CHAPTER 3: GOALS AND OBJECTIVES**

The goal of the study was to understand the association between SES characteristics and psychosocial factors on men living in El Paso, Texas.

The objective to determine whether each SES indicator has an independent association with each adult psychosocial factors of interests (e.g., ACE, depressive symptoms and perceived stress burden) within the study sample population.



## CHAPTER 4: STUDY AIMS AND HYPOTHESIS

### 4.1 AIMS

The current study aims to investigate the relationship between certain SES variables, like household income, educational attainment, employment status and health insurance and how they contribute to the explanation of psychosocial gradient.

- ***Aim 1:*** Describe SES characteristics (e.g., income, educational attainment, and employment status) among 100 adult men living in El Paso, Texas.
- ***Aim 2:*** Describe psychological status (ACE, depressive symptoms, perceived stress burden) of 100 men living in El Paso, Texas.
- ***Aim 3:*** Determine the association between SES indicators and psychological factors (ACE, depressive symptoms, perceived stress burden).

### 4.2 HYPOTHESIS

This research proposes that low levels of income, employment and education will have an inverse relationship with psychosocial factors (ACE, depressive symptoms, and perceived stress burden).

- ***Hypothesis 1:*** Low SES Characteristics is associated with high ACE scores self-reported scores among adult men living in El Paso, Texas.
- ***Hypothesis 2:*** Low SES Characteristics is associated with depressive symptoms among adult men living in El Paso, Texas.
- ***Hypothesis 2:*** Low SES Characteristics is associated with perceived stress burden among adult men living in El Paso, Texas.

We explore our findings within a larger context to understand socioeconomic status as more than the attributes of individuals, but as potential consequences of early experiences, and concerns for increasing the likelihood of experiencing depressive symptoms and perceived stress burden in adulthood. We raise question about what this means in terms of the current narrative around men's mental health and life opportunities.

## CHAPTER 5: METHODS AND MATERIALS

### 5.1 PARENT SAMPLE

The parent study, *Expansion of a Community-Based Diabetes Risk Assessment in Men: Perceived vs. Biological Risk*, is a study funded by the National Institute of Minority and Health Disparities via the UTEP Border Biomedical Center. The goal of the parent study was to examine the role of diabetes related biopsychosocial factors and pro-inflammatory conditions in association with diabetes risk and engagement in diabetes prevention and self-management among Hispanic adult men living in El Paso, Texas.

#### *Study Participants*

The inclusion criteria included adult males over the age of 18 years. Given the goal of this project, females, and persons younger than 18 years were excluded from participating the study. The consent process involved having participants agree electronically and a hard copy was provided to each participant for their files.

#### *Sample Size*

In 2018, recruited a total of 100 adult men who were predominantly Hispanic (81.1%) to complete a series of computer-based questionnaires relating to psychosocial life experiences (i.e., chronic stress, depressive symptoms, adverse childhood experiences, self-regulation to stressful events, diabetes risks and causation health beliefs, and intent to engage in healthy lifestyle modification) behaviors. The survey included up to 40 questions and was made available both in English and Spanish languages.

#### *Target Sample*

Participants were recruited from male-targeted events in the community such as car shows/exhibits, and car clubs. Men were also recruited from local diabetes resource organizations,

health clinics, and worksites. Men were invited to participate by the research team and through written informational flyers that were made available at local events, organizations, and health clinics. Each participant received a \$10 gas card for completing the series of surveys and an additional \$50 for completing the clinical diabetes risk assessment.

### ***Study Design***

The parent study was a cross-sectional study; hence information was collected one point in time. The survey included both qualitative and quantitative data.

### ***Instrument***

The questionnaire assessed the role of psychosocial stress across the lifespan as a potential moderator for the effect of risk (perceived and biological) on engagement. These include: (1) An expanded version of the Chronic Stress survey (eight items) to assess the degree of perceived stress (i.e. very stressful, moderately stressful, very stressful) to everyday life stressors, (2) the A-COPE inventory to measure participants' capacity to manage stressful situations (54 items), (3) the Adverse Childhood Experiences Questionnaire (ACE) to measure exposure to early life stressors (10 items). The amount of time to complete all three questionnaires was 20 to 25 minutes. To assess an in-depth profile of psychological factors and because these questionnaires are more personal in nature, completion of the questionnaires was reserved for a private setting.

## **5.3 THESIS STUDY**

This research design is a secondary analysis from the cross-sectional study parent study, *Expansion of a Community-Based Diabetes Risk Assessment in Men: Perceived vs. Biological Risk*. Data analyzed includes information gathered from the parent study to include SES characteristics (e.g., household income, educational attainment, employment status and health

insurance coverage) and psychosocial factors, Adverse Childhood Experiences (past 18 years), depressive symptoms (within the last 2 weeks and perceived stress burden (had a problem that was stressful, persisting longer than six months).

The purpose of this study is to extend the knowledge of SES variables, like income, employment, and education and examine the relationship between socioeconomic characteristics and psychosocial experiences, ACE, depressive symptoms, and perceived stress burden (i.e., higher socioeconomic status predicts better psychosocial health outcomes).

## **Socioeconomic Status Study Measures**

### ***Educational Attainment***

To describe our sample and investigate how SES relates to our dependent variables, educational attainment was assessed by the self-reported question “What was the highest grade/level of education achieved? Due to limited responses within some of the original categories, responses were recoded into ordinal categories: 1=Elem/primary/middle/high/GED, 2=Trade/vocational and 3=University/other.

### ***Household Annual Income Measure***

Total annual household income was determined via self-report using the question “Counting the income of all members of your household, what is your household income of the year?” Income categories recoded and divided into quartiles (1= $\leq$  \$30,000, 2=\$30,001-\$60,000, and 3= $\geq$  \$60,001- $\geq$ 100,000) due to limited responses with some of the original categories.

### ***Employment Status***

To investigate how SES relates to employment status, employment status was assessed by self-report using the question “Please indicate your current employment status.” Due to the limited responses in original categories, data was recoded into three categories (1=Not currently

employed/retired, 2= Employed part time (<35), and 3=Employed Fulltime (>35). We also controlled for those that indicated being retired versus those that indicated they were not retired.

### ***Ethnic Background***

To investigate how SES relates to Ethnic Background, this was assessed by self-report using the question “Which best describe your ethnic/racial background?” Due to the limited responses in original categories, data recoded into four categories: Hispanic, White, Black, African American or more than one race and Other and we controlled for those that self-reported Hispanic versus those who reported that they were not Hispanic.

### ***Insurance Coverage***

To investigate how SES relates to employment status, this was assessed by self-report using the question “Are you covered by health insurance or some other kind of health care plan?” and coded as nominal dichotomous measures (0=No, 1= Yes).

### **Control Measures**

#### ***Age***

Age was controlled and measured by analyzing the self-reported question “How old are you? Due to the limited responses in original categories, data was recoded into three categories: 18-34, 35-49 and  $\geq 50$  years of age or older.

#### ***Ethnicity***

Ethnicity was controlled and measured by creating a dichotomous measure, Hispanic: 0=Not Hispanic, 1=Hispanic.

### **Psychosocial Measures**

#### ***Adverse Childhood Experiences***

An Adverse Childhood Experiences (ACE) questionnaire based on the Kaiser Permanente’s San Diego Health Appraisal Clinic Study was used to measure exposure to early life

stressors (Felitti, et al., 1998). The questionnaire represents ten experiences of psychological, physical and sexual abuse, emotional and physical neglect, parental substance abuse problems, parental separation or divorce, and four types of caregiver dysfunctional exposures such as witnessing domestic violence, parental mental illness, and parental incarceration. For each respondent, the number the total number of adverse childhood experiences reported were summed based on exposure; the possible number of exposures ranged from 0 (unexposed) to 10 (exposed to all the categories). Categories recoded to range from a response score of 0=0 ACE-None, 1= 1-3 ACE, 2= $\geq$ 4 ACE. The cutoff point to determine high risk individuals was  $\geq$ 4 ACE experiences (Felitti, et al., 1998).

### ***PHQ-2 Depressive Symptoms***

Depressive symptoms analyzed using the Patient Health Questionnaire (PHQ-2). The PHQ-2 includes the first 2 items of the PHQ-9 (Kroenke, Spitzer, & Williams, 2003). The stem question is, "Over the last 2 weeks, how often have you been bothered by any of the following problems? "The 2 items are "little interest or pleasure in doing things" and "feeling down, depressed, or hopeless." For each item, the response options are "not at all," "several days," more than half the days," and "nearly every day." Scored as 0, 1, 2, and 3, respectively. The, the PHQ-2 score can range from 0-6 (Kroenke, et al., 2003). Noteworthy, while this study did not evaluate treatment the recommended actions for persons scoring 3 or higher are to administer the full PHQ and to conduct a clinical interview to assess for Major Depressive Disorder (Kroenke, et al., 2003). Thus, nominal dichotomous measures were recoded into, 0= $<$ 3, 1= $\geq$ 3. The cutoff point that was used to determine high risk individuals was  $\geq$ 3 depressive symptom experiences (Kroenke, et al., 2003).

## ***Stress***

Perceived chronic stress burden was evaluated using the Hispanic Community Health Study/ Study of Latinos (HSCHS/SOL), Chronic Stress questionnaire, an 8-item scale that assesses the degree of perceived stress (i.e., very stressful, moderately stressful, very stressful) to the number of current ongoing problems that have lasted for at least 6 months duration in major life domains (i.e., financial, work stress, relationship stress, personal health problems, health problems of close others, drug or alcohol problems in close other, caregiving, other chronic stressor), (Isasi, Parrinello, Jung, Carnethon, Birnbaum-Weitzman, Espinoza, Penedo, Perreira, Schneiderman, Sotres-Alvarez, Van Horn, 2015; Gallo, 2015). A score was created by summing the number of ongoing stressors reported (range 0-8), which was later categorized into the number of reported stressors (0, 1, 2,  $\geq 3$ ). The cut off point to determine high risk individuals was  $\geq 3$  perceived stress burden experiences lasting 6 months or more (Isasi, et al., 2015; Gallo, 2015).

## **5.4 DATABASE MANAGEMENT**

The data of this study was downloaded, transferred, and secured to the thesis PIs secure PC. The data was then analyzed for inconsistencies, errors and corrected to in order analyze variables of interest.

## **5.5 STATISTICAL ANALYSIS**

Descriptive statistics was conducted to describe participant characteristics (e.g., SES via cross-tabulations for each of the dependent measures (ACE, depressive symptoms, and perceived stress burden), and multivariate linear regression was conducted to model the association between SES and psychosocial burden variables. The secondary data analyses were conducted using in SPSS ® version 25, (Statistical Package for the Social Sciences [SPSS], 2013).



## CHAPTER 6: RESULTS

### 6.1 DESCRIPTIVE STATISTICS

#### *Socioeconomic Characteristics*

The data sample analyzed 100 adult men (18 years or older) living in El Paso, Texas. Predominately, the sample population was 83.7% Hispanic, 42.7% over 50 years of age, 45.4% held a University or other type of higher educational background, 39.8% participants reported a household income was between \$30,001-\$60,000, 77.6% reported being employed fulltime and 82% reported having health insurance coverage.

#### *Psychosocial Factors*

The top reported ACE score among Hispanics was between 1-3, indicating the score of self-reported adverse childhood experiences. In our study, using an evidence-based literature to reference ACE measurement at a cut point of 3, would have been a red flag for 11 Hispanic men who self-reported a score of  $\geq 4$ , indicating a higher risk of adverse health outcomes (Felitti, 1998; Roy et al., 2015). See **Table 1**. Sample of Sociodemographic Characteristics by ACE Score (N=100)

The top PHQ-2 score reported by Hispanics was between 1-3. In our study, using an evidence-based literature a PHQ-2 at a cut point of 3, would have been a red flag for 17 Hispanic men who self-reported a score of  $>3$ , triggering administration of PHQ-9 in a different setting. The PHQ-9 would be the preferred instrument when the intent is either to definitively diagnose depressive disorders or to assess depressive outcomes in response to treatment. However, in many settings, the purpose is not to establish final diagnoses or to monitor depression severity, but rather to screen for depression in a “first step” approach (Kroenke, K., 2003). See **Table 2**. Sample of Sociodemographic Characteristics by Frequency Distribution of Depressed PHQ-2 Items (N=100).

The top reported score for perceived stress burden among Hispanics was zero, indicating having had a stressful problem lasting more than 6 months. Our study used evidence-based literature to reference a  $\geq 3$  cut off point. Results showed that 13 Hispanic men self-reported have a stressor lasting 6 months or more, indicating they are at higher risk for adverse health outcomes. See **Table 3**. Sample of Sociodemographic Characteristics by Ongoing Stressors in Important Life Domains Lasting  $\geq 6$  Months (N=100).

<b>Table 4. Sample of Sociodemographic Characteristics by ACE Score (N=100)</b>					
Socioeconomic Characteristics	f/valid %	0	1-3	≥4	Total
<b>Ethnic Background</b>					
Hispanic/Latino	82 (83.7 %)	29 (29.6%)	42 (42.9%)	11 (11.2%)	82 (83.7%)
White	9 (9.2%)	3 (3.1%)	6 (6.1%)	0 (0.0%)	9 (9.2%)
Black or African American or More than one race	7 (7.1%)	0 (0.0%)	4 (4.1%)	3 (3.1%)	7 (7.1%)
<b>Total</b>	98 (100%)	32 (32.7%)	52 (53.1%)	14 (14.3%)	98 (100%)
<b>Age</b>					
18-34	29 (30.2%)	6 (6.3%)	17 (17.7%)	6 (6.3%)	29 (30.2%)
35-49	26 (27.1%)	7(7.3%)	17 (17.7%)	2 (2.1%)	26 (27.1%)
50>	41 (42.7%)	18 (18.8%)	17 (17.7%)	6 (6.3%)	41(42.7%)
<b>Total</b>	96 (100%)	31 (32.3%)	51 (53.1%)	17 (14.6%)	96(100.0%)
<b>Education</b>					
Elementary/primary/middle/ High School/ Prep/GED	26 (26.8%)	9 (9.3%)	16 (16.5%)	1 (1.0%)	26 (26.8%)
Trade/Vocational	27 (27.8%)	10 (10.3%)	13 (13.4%)	4 (4.1%)	27 (27.8%)
University/College/ Other	44 (45.4%)	13 (13.4%)	22 (22.7%)	9 (9.3%)	44 (45.4%)
<b>Total</b>	97 (100%)	32 (33.0%)	51 (52.6%)	14 (14.4%)	97 (100.0%)

Household Income					
<\$30,000	38 (38.8%)	18 (18.4%)	17 (17.3%)	3 (3.1%)	38 (38.8%)
\$30,001-\$60,000	39 (39.8%)	8 (8.2%)	24 (24.5%)	7 (7.1%)	39 (39.8%)
\$60,001-More than \$100,000	21 (21.4%)	6 (6.1%)	11 (11.2%)	4 (4.1%)	21 (21.4%)
<b>Total</b>	98 (100%)	32 (32.7%)	52 (53.1%)	14 (14.3%)	98 (100.0%)
Insurance Coverage					
No	16 (16.3 %)	3 (3.1%)	12 (12.2%)	1 (1.0%)	16 (16.3%)
Yes	82 (83.7%)	29 (29.6%)	40 (40.8%)	13 (13.3%)	82 (83.7%)
<b>Total</b>	98 (100%)	32 (32.7%)	52 (53.1%)	14 (14.3%)	98 (100.0%)
Occupational Status					
Not currently employed/retired	13 (13.3%)	3 (3.1%)	7 (7.1%)	3 (3.1%)	13 (13.3%)
Employed part time (<35)	9 (9.2%)	2 (2.0%)	5 (5.1%)	2 (2.0%)	9 (9.2%)
Employed Fulltime (>35)	76 (77.6%)	27 (27.6%)	40 (40.8%)	9 (9.2%)	76 (77.6%)
<b>Total</b>	98 (100%)	32 (32.7%)	52 (53.1%)	14 (14.3%)	98 (100%)

<b>Table 5. Sample of Sociodemographic Characteristics by Frequency Distribution of Depressed PHQ-2 Items (N=100)</b>				
<b>Socioeconomic Characteristics</b>	<b>f/valid %</b>	<b>PHQ-2 (&lt;3)</b>	<b>PHQ-2 (≥3)</b>	<b>Total</b>
<b>Ethnicity</b>				
Hispanic/Latino	82 (83.7 %)	63 (65.6 %)	17 (17.7 %)	80 (83.3%)
White	9 (9.2%)	6 (6.3 %)	3 (3.1%)	9 (9.4%)
Black or African American or More than one race	7 (7.1%)	6 (6.3%)	1 (1.0%)	7 (7.3%)
<b>Total</b>	98 (100%)	75 (78.1%)	21 (21.9%)	96 (100%)
<b>Age</b>				
18-34	29 (30.2%)	21 (23.4%)	7 (7.4%)	29 (30.9%)
35-49	26 (27.1%)	19 (20.2%)	6 (6.4%)	25 (26.6%)
50>	41 (42.7%)	32 (34.0%)	8 (8.5%)	40 (42.6%)
<b>Total</b>	96 (100%)	73 (77.7%)	21 (22.3%)	94 (100%)
<b>Education Attainment</b>				
Elementary/primary/middle/ High School/ Prep/GED	26 (26.8%)	21 (22.1%)	4 (4.2%)	25 (26.3%)
Trade/Vocational	27 (27.8%)	16 (16.8%)	10 (10.5%)	26 (27.4%)
University/College/ Other	44 (45.4%)	37 (38.9%)	7 (7.4%)	44 (46.3%)

<b>Total</b>	97 (100%)	74 (77.9%)	21 (22.1%)	95 (100%)
<b>Household Income</b>				
Less than \$10,000-\$30,000	38 (38.8%)	33 (34.4%)	4 (4.2%)	37 (38.5%)
\$30,001-\$60,000	39 (39.8%)	26 (27.1%)	12 (12.5%)	38 (39.6%)
\$60,001-More than \$100,000	21 (21.4%)	16 (16.7%)	5 (5.2%)	21 (21.9%)
<b>Total</b>	98 (100%)	75 (78.1%)	21 (21.9%)	96 (100%)
<b>Insurance Coverage</b>				
No	16 (16.3 %)	14 (14.6%)	2 (2.1%)	16 (16.7%)
Yes	82 (83.7%)	61 (63.5%)	19 (19.8%)	80 (83.3%)
<b>Total</b>	98 (100%)	75 (78.1%)	21 (21.9%)	96 (100%)
<b>Occupational Status</b>				
Not currently employed/retired	13 (13.3%)	12 (12.5%)	1 (1.0%)	13 (13.5%)
Employed part time (<35)	9 (9.2%)	7 (7.3%)	2 (2.1%)	9 (9.4%)
Employed Fulltime (>35)	76 (77.6%)	56 (58.3%)	18(18.8%)	74 (77.1%)
<b>Total</b>	98 (100%)	75 (78.1%)	21 (21.9%)	96 (100%)

**Table 6. Sample of Sociodemographic Characteristics by Ongoing Stressors in Important Life Domains Lasting  $\geq 6$  Months (N=100)**

<b>Socioeconomic Characteristics</b>	<b>f/valid %</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b><math>\geq 3</math></b>	<b>Total</b>
<b>Ethnic Background</b>						
Hispanic/Latino	82 (83.7%)	17 (23.6%)	15 (20.8%)	14 (19.4%)	13 (18.1%)	59 (81.9%)
White	9 (9.2%)	1 (1.4%)	4 (5.6%)	2 (2.8%)	2 (2.8%)	9 (12.5%)
Black or African American or More than one race	7 (7.1%)	1 (1.4%)	1 (1.4%)	1 (1.4%)	1 (1.4%)	4 (5.6%)
<b>Total</b>	98 (100%)	19 (26.4%)	20 (27.8%)	17 (23.6%)	16 (22.2%)	72 (100%)
<b>Age</b>						
18-34	29 (30.2%)	3 (4.2%)	6 (8.3%)	4 (5.6%)	9 (12.5%)	22 (30.6%)
35-49	26 (27.1%)	7 (9.7%)	8 (11.1%)	4 (5.6%)	1 (1.4%)	20 (27.8%)
50>	41 (42.7%)	9 (12.5%)	6 (8.3%)	9 (12.5%)	6 (8.3%)	30 (41.7%)
<b>Total</b>	96 (100%)	19 (26.4%)	20 (27.8%)	17 (23.6%)	16 (22.2%)	72 (100%)
<b>Education Attainment</b>						
Elementary/Primary/Middle/ High School/ Prep/GED	26 (26.8%)	7 (9.9%)	5 (7.0%)	4 (5.6%)	2 (2.8%)	18 (25.4%)
Trade/Vocational	27 (27.8%)	6 (8.5%)	6 (8.5%)	8 (11.3%)	4 (5.6%)	24 (33.8%)
University/College/ Other	44 (45.4%)	6 (8.5%)	8 (11.3%)	5 (7.0%)	10 (14.1%)	29 (40.8%)
<b>Total</b>	97 (100%)	19 (26.8%)	19 (26.8%)	17 (23.9%)	16 (22.5%)	71 (100%)

<b>Household Income</b>						
Less than \$10,000-\$30,000	38 (38.8%)	8 (11.1%)	7 (9.7%)	4 (5.6%)	6 (8.3%)	25 (34.7%)
\$30,001-\$60,000	39 (39.8%)	4 (5.6%)	10 (13.9%)	11 (15.3%)	7 (9.7%)	32 (44.4%)
\$60,001-More than \$100,000	21 (21.4%)	7 (9.7%)	3 (4.2%)	2 (2.8%)	3 (4.2%)	15 (20.8%)
<b>Total</b>	98 (100%)	19 (26.4%)	20 (27.8%)	17 (23.6%)	16 (22.2%)	72 (100%)
<b>Health Insurance</b>						
No	16 (16.3 %)	2 (2.8%)	2 (2.8%)	2 (2.8%)	5 (6.9%)	11 (15.3%)
Yes	82 (83.7%)	17 (23.6%)	18 (25.0%)	15 (20.8%)	11 (15.3%)	61 (84.7%)
<b>Total</b>	98 (100%)	19 (26.4%)	20 (27.8%)	17 (23.6%)	16 (22.2%)	72 (100%)
<b>Occupational Status</b>						
Not currently employed/retired	13 (13.3%)	5 (6.9%)	1 (1.4%)	2 (2.8%)	2 (2.8%)	10 (13.9%)
Employed part time (<35)	9 (9.2%)	2 (2.8%)	2 (2.8%)	2 (2.8%)	1 (1.4%)	7 (9.7%)
Employed Fulltime (>35)	76 (77.6%)	12 (16.7%)	17 (23.6%)	13 (18.1%)	13 (18.1%)	55 (76.4%)
<b>Total</b>	98 (100%)	19 (26.4%)	20 (27.8%)	17 (23.6%)	16 (22.2%)	72 (100%)



## 6.2 LINEAR REGRESSION

In order to examine Aim 3, a linear regression analyses were conducted to examine the relationship between SES indicators and psychosocial experiences (ACE, perceived stress burden, and depressive symptoms), generating six models. See **Table 4. Linear Regression Models Examining the Association Between SES Variables and Psychosocial Factors.**

### ***Model 1:***

After adjusting for age and ethnicity, the linear regression revealed that household income, education, employment status insurance, age, ethnicity together was not statistically significant in predicting Adverse Childhood experiences. However, the independent variable contributing most to the model includes household income  $p < .10$  criterion.

### ***Model 2:***

After adjusting for age, ethnicity, depressive symptoms and stress, the linear regression analyses revealed that household income, education, occupational status, insurance, age, and Hispanic origin was not statistically significant in predicting Adverse Childhood Experiences at the  $p < .10$  criterion.

### ***Model 3:***

After adjusting for age and ethnicity, the linear regression analyses revealed that that household income, education, occupational states, insurance, age, and Hispanic origin was not statistically significant.

### ***Model 4:***

After adjusting for age, ethnicity, ACE and perceived stress burden, the linear regression analyses revealed that household income, education, occupational status, insurance, age, and Hispanic origin was statistically significant in predicting PHQ-2 depressive symptoms at the  $p < .05$

criterion. The independent variables contributing 24 percent in shared variability ( $R=.248$ ,  $p<.05$ ). However, the variables contributing most to the association includes perceived stress ( $*=p<.01$ ).  $PHQ-2 = -.477 + .118$  (household income)  $-.059$  (education)  $+ .055$  (occupational status)  $+ .205$  (health insurance)  $+ .012$  (age)  $+ .001$  (Hispanic origin)  $+ .128$  (ACE)  $+ .049$  \*\*\* (perceived stress burden).

***Model 5***

After adjusting for age and ethnicity, the linear regression analysis revealed that that household income, education, occupational states, insurance, age, and Hispanic origin was not statistically significant.

***Model 6:***

After adjusting for age, ethnicity, ACE and depressive symptoms, the linear regression revealed that household income, education, occupational status, health insurance, age, Hispanic origin was statistically significant in perceived stress burden at the  $p<.01$  criterion. The independent variables contributed to 29 percent in shared variability ( $R=.290$ ,  $p<.01$ ). However, the variables contributing most to this association includes insurance ( $*=p<.10$ ), and PHQ-2 ( $***=P<.01$ ).

Perceived stress =  $1.043$   $-.286$  (household income)  $+ .261$  (education)  $+ .197$  (occupational status)  $-.655$  \*(health insurance  $-.025$  (age)  $-.136$  (Hispanic origin)  $+ .312$  (ACE)  $+ .855$  (PHQ-2) \*\*\*

**Table 7. Linear Regression Models Examining the Association Between SES Variables and Psychosocial Factors**

	(Model 1)	(Model 2)*	(Model 1)	(Model 2)**	(Model 1)	(Model 2)***
	<i>ACE</i>	<i>ACE</i>	<i>PHQ-2</i>	<i>PHQ-2</i>	<i>Perceived Stress Burden</i>	<i>Perceived Stress Burden</i>
Household Income	.167*	.084	.061	.118	-.164	-.286
Education	.060	.043	-.035	-.059	.249	.261
Employment status	-1.60	-.160*	.062	.055	.235	.197
Insurance	.053	.025	.094	.205	-.534	-.655*
Age	-.129	-.147	-.026	.012	-.105	-.025
Hispanic	-.064	.089	-.037	.001	-.113	-.136
ACE				.128		.312
PHQ-2		.277				.855***
Perceived Stress Burden		.117		.149**		
R <sup>2</sup>	.104	.191	.047	.248	.110	.290
N	94	69	92	69	70	69

Notes: \* p<.10, \*\*p<.05, \*\*\*p<.01

## CHAPTER 7: DISCUSSION

The present study analyzed the association between SES characteristics and child and adult psychosocial factors. Perceived stress and depressive symptoms did indicate a statistically significant association, and one predictor in the model, non-insured was also statistically significant with perceived stress burden. These findings align with current published research that identify a strong relationship between the two variables (Hernandez, et al., 2014). To date, literature suggests that stressful life situations can increase the risk of developing depressive symptoms if an individual is not coping well with the stress. These findings highlight psychosocial burden broadly and the need to prevent these conditions. Understanding these relations early in life is critical to maximize adult disparities in health.

### 7.1 METHODOLOGICAL STRENGTHS AND LIMITATIONS OF THE STUDY

#### *Strengths*

With regards to the methodology strengths, this study had a unique sample, which included men who were predominately Hispanic. This allows the findings in the study to fill in the gaps in literature regarding SES in relation to the male gender.

Secondly, the recruitment strategy inherited from the parent study allowed the sampling of a hard-to-reach population, without this type of recruitment strategy it may have been difficult to recruit Hispanic men (Upadhyayula, Ramaswamy, Chalise, Daniels, & Freudenberg, 2017). According to World Health Organization, (2014), health behavior paradigms are related to masculinity and the fact that men are less likely to visit a doctor when they are ill and, when they see a doctor, are less likely to report on the symptoms of disease or illness. This strong sense of masculine pride is exaggerated as machismo and can make Hispanic men a population hard to reach (Estrada, Rigali-Oiler, Arciniega, & Tracey, 2011).

### ***Limitations***

Our study also has few potential limitations inherited from the parent study. First, the cross-sectional design can only demonstrate associations between SES and psychosocial factors and is not necessarily indicative of a causal relationship.

Another limitation of the study includes the small sample size, which does not allow for complex analysis and may over-estimate the degree of association between variables. Additionally, participants had to retrospectively recall Adverse Childhood Experiences. It is plausible that some participants may have over or under-reported past experiences of adversity, potentially biasing study results. Most existing studies on ACE have used retrospective recall of ACE in adult study populations, and therefore have the potential to impact internal validity, given the risk of recall bias (Wade, Cronholm, Forke, Davis, Harkins-Schwarz, Pachter, & Bair-Merritt, 2016).

## **7.2 ANALYTICAL STRENGTHS AND LIMITATIONS OF THE STUDY**

### ***Strengths***

A major strength of this study is that we were able to control for variables. By controlling for variables one can come closer to understanding the true effect of the independent variable on the dependent variable.

### ***Limitations***

On the other hand, while depressive symptoms and perceived stress burden was noted as statistically significant its worth mentioning that the models R-square was low. Therefore, really do not explain much about the variation of the dependent variables and the large number of models increases the threat of false positives (type 1 error).

### 7.3 RECOMMENDATIONS

Overall while we were interested in looking at the relationship between low SES and psychosocial outcomes, we did not find that low SES was statistically associated with those outcomes. However, looking at the data, a good representation of low SES individuals was missing. A large majority of the participants were employed, had health insurance, and had higher incomes and education. Therefore, resulting in High SES rather than low SES.

#### *Conclusion*

Despite these limitations, this study is unique because more commonly literature suggest that Hispanics have low SES, putting them at higher risk for poorer health than high-SES individuals across a variety of morbidity and mortality outcomes. There is limited research that focuses high SES among Hispanic men. This could be a great start in research to highlight Hispanic men with high SES and investigate further associated health outcomes.

It would be interesting to explore the use of uncommon practices and behaviors that could be contributing to Hispanic achieving upward mobility opposed to their peers who face the same economic social challenges and barriers. Plausible factors to explore in the future may include identification of generational differences. Second generations often inherit stronger work ethnics from their parents and the children, and grandchildren of Mexican American immigrants are slightly less likely to be raised in poverty therefore are able to explore greater opportunities (Keister, Vallego, & Borelli, 2013).

Nevertheless, our study expands the current understanding between the relationship between SES characteristics and psychosocial factors. Understanding the relationship between SES and psychosocial factors could give health care providers a deeper understanding on how to help patients experiencing psychosocial burden. Moreover, more population-based longitudinal

studies are needed to clarify the mechanisms leading to Hispanic men's psychosocial burden and more importantly exploring contributing factors to help understand Hispanic upward mobility.

## **CHAPTER 8: STRATEGIC FRAMEWORK**

The Masters in Public Health (MPH) Program at the University of Texas at El Paso (UTEP) refers to three strategic frameworks; Healthy people 2020, Healthy Border 2020, and Paso del Norte Regional Strategic Health Frameworks. These frameworks were integrated with thesis study to provide direction for the aims and goals to improve the quality of life of those living along the U.S., specifically along the El Paso-Mexico Border.

### **8.1 HEALTHY PEOPLE 2020**

Healthy People identifies public health priorities to help individuals, organizations, and communities across the United States improve health and well-being. Healthy People 2030, the initiative's fifth iteration, builds on knowledge gained over the first 4 decades. Those objective relevant to this thesis study include:

#### **1. Mental Health and Mental Disorders**

- a. MHMD-DO1 Increase the number of children and adolescents with serious emotional disturbance who get treatment
- b. MHMD-04 Increase the proportion of adults with series mental illness who get treatment
- c. MHMD-05 Increase the proportion of adults with depression who get treatment
- d. MHMD-06 Increase the proportion of adolescents with depression who get treatment
- e. MHMD-07. Increase the proportion of persons with co-occurring substance use disorders and mental health disorders who receive treatment for both disorders

#### **2. Health Care**



- a. AHS-04 Reduce the proportion of people who can't get medical care when they need it
- b. Ahs-R01 Increase the ability of primary and Behavioral health professional to provide high quality care to patients who need it

### **3. Health Communication**

- a. HC/HIT-02 Decrease the proportion of adults who report poor communication with their health care provider

### **4. Health Insurance**

- a. AHS-01 Increase the proportion of people with health insurance

## **8.2 HEALTHY BORDER 2020**

The Healthy Border 2020 objectives aim to improve the U.S-Mexico border health and quality of life by bringing together key regional partners to develop and support policy change and culturally appropriate, evidence-based interventions. The goals and objectives of the effort focuses on public health issues prevalent among binational populations. The area covered includes Texas, New Mexico, Arizona, and California from the U.S. From Mexico, Tamaulipas, Nuevo Leon, Coahuila, Chihuahua, Sonora, and Baja California. The focus of this study relates to Healthy Border 2020 objectives in reducing suicide rates related to psychosocial stress and having access to health care (Healthy Border 2020).

1. Healthy Border 2020: Focus Areas: Access to Health care
  - a. Reduce the population lacking access to a primary care provider in underserved areas by 25%.
2. Healthy Border 2020: Focus Area: Mental Health
  - a. Objective 19: Reduce suicide mortality rate by 15 %.

### **8.3 PASEO DEL NORTE REGIONAL STRATEGIC HEALTH FRAMEWORK 2012**

The Paso del Norte Health Foundation in collaboration with the City of El Paso Department of Public Health developed a regional strategic framework. Priority target areas established to improve the health of the El Paso, Texas, Las Cruces, New Mexico, and Juarez, Chihuahua, Mexico communities. One of the main areas of priority that align with this study includes targeting mental and behavioral health and wellness (Paso Del Norte Health Foundation, 2012).

1. Priority Area 2: Mental Health and Behavioral Health/Wellness
  - a. Objective 2.1: To increase access to high quality mental health services for adults and adolescents in the Paso Del Norte Region.
  - b. Objective 2.2: To increase the number of qualified, culturally competent mental health care providers in the Paso del Norte Region.
  - c. Objective 2.3: To expand mental health care treatment services in the Paso del Norte Region.
  - d. Objective 2.4: To integrate behavioral health with physical health throughout the Paso del Norte Region.

## **CHAPTER 9: MPH CORE COMPETENCIES**

The University of Texas at El Paso Public Health program MPH foundational and concentration competencies help to provide highest quality educational experiences in Hispanic health, health disparities that impact an array of minority populations, and border health issues that are relevant to border communities across the globe (UTEP, 2020). The concentrations approach that apply to this study include the following:

### **9.1 EVIDENCE-BASED APPROACHES TO PUBLIC HEALTH**

1. Apply epidemiological methods to the breadth of settings and situations in public health practice
2. Select quantitative and qualitative data collection methods appropriate for a given public health context
3. Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming, and software, as appropriate
4. Interpret results of data analysis for public health research, policy or practice

### **9.2. HISPANIC/BORDER HEALTH CONCENTRATION COMPETENCIES**

1. State the principles of prevention and control of disease and discuss how these can be modified to accommodate cultural values and practices in Hispanic and border communities.
2. Differentiate quantitative health indicators in major communicable and non-communicable diseases in US/Mexico border vs non-border communities

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## APPENDIX

### Appendix 1: Thesis PI CITI Program Human Subject Research Certification.



Completion Date 02-Jan-2019  
Expiration Date 01-Jan-2022  
Record ID 29791713

This is to certify that:


**sophia ornelas**

Has completed the following CITI Program course:

<b>Human Subjects Research</b>	(Curriculum Group)
<b>Social Behavioral Researchers</b>	(Course Learner Group)
<b>1 - Basic</b>	(Stage)

Under requirements set by:

**University of Texas at El Paso**



Collaborative Institutional Training Initiative

Verify at [www.citiprogram.org/verify/?w6d848bec-228d-4ad6-bae3-409817e7a02c-29791713](http://www.citiprogram.org/verify/?w6d848bec-228d-4ad6-bae3-409817e7a02c-29791713)

## VITA

Sophia Ornelas has a bachelor's degree in health Promotion with a minor in Public Health from the University of Texas of Texas at El Paso (UTEP). In 2016, she worked with Paso Del Norte Health Foundation to pass the Tobacco Free Worksite Policy for all El Paso County Facilities and collaborated with stakeholders to enhance public policy related to underage drinking and binge drinking with the Shift + program. In 2017, created a Community Outreach Information Network (COIN) to help identify traditional and non-traditional ways to identify and notify at-risk populations in the event of a Public Health Emergency. In 2018, she coordinated a county wide community assessment to assess the level of preparedness among 245 randomly selected households and planned the first ever emergency preparedness vulnerable populations conference.

By Summer 2019, Sophia led the Education Task Force for the EP measles outbreak response and was the Incident Commander for the first ever Family Reunification Center during the August 3<sup>rd</sup> mass shooting. Early Spring 2020, Sophia was also a recipient of the El Paso Department of Public Health, *Public Health Pillars Award*. By March, El Paso received its first COVID-19 cases in which Sophia led the COVID -19 Education Task Force and was part of the COVID-10 Cluster Management Task Force.

Currently, Sophia is employed with BorderRAC, which plays an integral role in helping hospitals and other healthcare organizations in emergency preparedness. Sophia's efforts continue to work towards helping vulnerable populations and plans on pursuing a Ph.D. in the future with a special interest in mental health disparities among minorities and how to reduce them.

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