UNDERSTANDING MENTAL HEALTH LITERACY OF HISPANIC PATIENTS IN PRIMARY CARE SETTINGS: EXAMINING THE RELATIONSHIP BETWEEN DEPRESSION STIGMA, DEPRESSION KNOWLEDGE, AND EDUCATION LEVEL

by

VERONICA LOPEZ

Presented to the Faculty of the Graduate School of

The University of Texas at Arlington in Partial Fulfillment

of the Requirements

for the Degree of

MASTER OF SOCIAL WORK

THE UNIVERSITY OF TEXAS AT ARLINGTON

May 2017

Acknowledgements

I want to thank Dr. Katherine Sanchez, for her mentorship, guidance and continuous support. Thank you for the opportunity to be part of the DESEO Project and allowing me to use a portion of the data to write a thesis that incorporates my passion for decreasing health disparities affecting Hispanic communities. Thank you to Dr. Michael Killian, for your support with helping me conceptualize my thesis and with assistance in my data analysis. Thank you, Dr. Diane Mitschke, for your insight, and helping me find a way to bridge health promotion and social work. I want to thank my family and friends for their constant support, for being there when I needed them most and motivating me every day. My parents, Maria and Juan, they've encouraged me to stay connected to my roots, to enjoy learning languages and travel. They have pushed me to do what I love while reminding me to do it in a way that benefits my community. Ruth, my sister, my best friend, and mentor, has always believed in me and has been my academic guide for as long as I could remember. My brothers, Juan and Jose, are my anchors, who give me the tough love I needed to push through challenges. I'm honored to be surrounded by an amazing supportive community.

March 21, 2017

Abstract

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Veronica Lopez, MSW

The University of Texas at Arlington, 2017

Supervising Professor: Katherine Sanchez

Hispanics are less likely to access mental health care services due to stigma related to depression and lack of cultural effective education, along with other socioeconomic factors. Hispanics are more likely to access care through a primary care provider, making a primary care setting with an integrative behavioral health program an ideal place for early mental health interventions. Understanding the mental health literacy of patients in a healthcare setting may improve quality of care, that can lead to early detection of mental illness and can help engage a patient into treatment.

The present study seeks to add to the research on mental health literacy by applying four quantitative measures examining stigma and knowledge of depression to the mental health literacy framework. In doing so, this study seeks to understand the relationship between depression knowledge and stigma and how depression knowledge and depression stigma vary by education level. Baseline data collected from DESEO: Depression Screening and Education:

Options to Reduce Barriers to Treatment project, that recruited 350 participants who screened positive for depression at a Tarrant County community clinic was analyzed. The baseline measures, from which the data was collected and examined were the Stigma Concerns About Mental Health Care (SCMHC), Social Distance (SD), Latino Scale for Antidepressant Stigma (LSAS), Depression Knowledge (DKM) Measures, and education level. All the data was collected prior to the education intervention. The study examines the relationship between stigma and depression knowledge and examines if education level can predict stigma and depression knowledge. Of the 350 participants, almost two-thirds of the sample had less than a high school education (63.7%) and 14.0% had at least some college education. DKM scores were significantly correlated with lower SCMHC scores and with higher SD. DKM scores, SD scores and LSAS scores significantly varied amount education groups. In each case, participants with some or more college education reported significantly greater depression knowledge and less stigma surrounding mental health issues than participants with lower education levels.

In conclusion, the study suggests that there is an association between depression knowledge and stigma and between education level and mental health literacy (measured through the stigma and depression measures). Obtaining a well-rounded picture of the client's education level, depression stigma and depression knowledge, may allow for a more thoughtful application of an intervention that can help engage a Hispanic client into treatment. Although the measures do not tie into every component of the mental health literacy framework, they do provide of the factors that can influence engagement into care. This understanding can lead to improved health outcomes of Hispanics and quality of culturally effective mental health care.

Keywords: Mental Health Literacy, Depression, Stigma, Education Level, Hispanic, Culturally Effective, Social Work.

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Chapter 1

Literature Review

History of Health Literacy and Mental Health Literacy

Health literacy is a term used in public health and healthcare settings to explain the capacity to understand health related information (Parker, Ratzan, & Lurie, 2003). Applying the health literacy concept, means making sure that health information is given in a simple manner that is easy to comprehend (Parker et al., 2003). Health literacy has been used as a predictor of health outcomes (Barrett & Puryear, 2006). In healthcare settings, it is useful for healthcare professionals to understand the patients' health literacy level to deliver more effective health education that can prevent negative health outcomes.

Mental health literacy is similar to health literacy but adds to the concept by incorporating belief systems about mental health and the role that stigma has on mental health treatment engagement (Jorm, Korten, Jacomb, Christensen, Rodgers, & Pollitt, 1997). Mental health literacy consists of knowledge of a mental health illness, knowledge of stigma associated with mental health, and the client's willingness to seek help in relation to a mental health concern and seek treatment (Wei, McGrath, Hayden & Kutcher, 2015). Jorm (2000) introduced a conceptual framework to understand mental health literacy, which examines the knowledge and beliefs surrounding mental health and adherence to treatment. There are six components of mental health literacy (Figure 1-1), consisting of knowledge and beliefs about (1) recognizing disorders and types of distress; if an individual has difficulty recognizing symptoms it may make it hard for a person to talk to their doctor about what they are feeling; (2) causes; an individual's understanding and their ideas behind causes effect receptiveness to treatment; (3) self-help; looks

into an individual's ability to seek alternative interventions that will help them cope with mental illness such as physical activity, social support, hobbies; (4) professional help; an individual's thoughts about medication usage, psychotherapy usage and other remedies, will influence their willingness to engage in to treatment; (5) attitudes; the stigma associated with mental health that may influence treatment outcomes, such as higher stigma may lead to negative treatment outcomes;(6) mental health information; where an individual seeks information is important, if the information is sought from friends, family, television, newspapers, or other literature, this effects what they know about mental illness (Jorm, 2000).

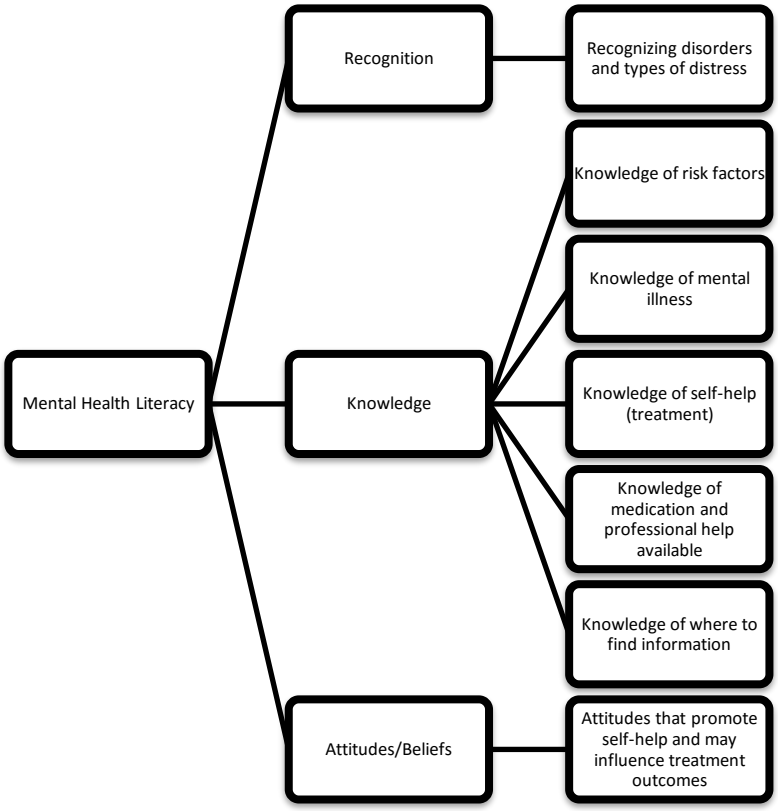

Figure 1-1 Mental Health Literacy Model (Jorm, 2000)

Research suggests that quantitative assessments that measure mental health literacy should be utilized in primary care settings to help determine most appropriate mental health educational material to provide to patients and to test effectiveness of the educational intervention (Mancuso, 2008). Quantitative measures have previously been used to evaluate mental health literacy through surveys that ask about belief systems and vignettes that provide scenarios that depict mental illness (Conner, Casey & Clough, 2014). Jorm (2015) suggests that measures used to assess mental health literacy be tailored to the target audience and be relevant for the aim of interventions.

The measures utilized in the Depression Screening and Education: Options to Reduce Barriers to Treatment (DESEO): Protocol for an Educational Intervention Study and analyzed for this study touch on many of the components of the mental health literacy. In addition, the study evaluates the role education level plays in determining mental health literacy. The four measures analyzed, are used to assess depression knowledge and stigma. The Depression Knowledge Measure (DKM) asked questions about symptoms, medication, depression diagnosis and professional help; the Stigma Concerns about Mental Health Care (SCMHC) asked questions about the persons opinion on receiving treatment for depression; the Social Distance (SD) measure asked questions about the persons willingness to engage with someone who has been treated for depression; the Latino Scale for Antidepressant Stigma (LSAS) asked questions about what the person thinks other people's opinion are about antidepressant usage (Interian, Ang, Gara, Link, Rodriguez, & Vega, 2010).

These four measures touch on the recognition of depression, the knowledge of mental illness, the knowledge of medication and professional help, and attitudes that promote self-help

and may influence treatment. However, these measures do not evaluate some of the concepts that are a part of Jorm's mental health literacy framework, such as knowledge of risk factors associated with depression, knowledge of self-help or knowledge of where to obtain information. Research suggests that mental health or medical providers who apply mental health literacy components to their practice may be able to more effectively engage patients into care (Parslow & Jorm, 2002). An individual is more likely to have better health outcomes if they can recognize modifiable risk factors, can seek help, believe it will help them, recognize symptoms related to depression (for intervention), complete treatment as prescribed, believe that treatment will help them and use self-help to identify interventions that will help them such as exercise or support groups (Parslow & Jorm, 2002). A person's willingness to treat their depression is largely influenced by their attitudes and stigma associated with having depression and is also based on what their support group, such as family and friends, may think or know about depression (Parslow et al., 2002).

Parslow et al. (2002), suggest that education alone will not help someone who has a strong belief system. Using stigma and knowledge measures during initial visits along with a PHQ-9 screening or prior to deciding on an education intervention can benefit the client as well as the provider. It gives a provider an understanding of what would be the most appropriate culturally effective education to provide. Culturally effectiveness is similar to cultural competence, it stresses the importance taking the time to comprehend client's cultures particularly if it can lead to improving health (Britton, 2004). It also helps determine which intervention approaches may be needed for the client to fully adhere to treatment recommendations.

Hispanics in the United States (U.S.)

The majority of Hispanics in the United States live in California and Texas, and the population of Hispanics continues to grow in other states (Passel, Cohn, & Lopez, 2011). In the year 2000, first generation Hispanic immigrants accounted for 14.2 million of the Hispanics population (40%), second generation U.S. born Hispanics accounted for 9.9 million of the Hispanic population (28%), and third generation U.S. born Hispanics accounted for 11.3 percent of the population (32%) (Suro & Passel, 2003). By 2020, the overall Hispanic population is expected to grow by 25.7 million, first generation Hispanic immigrants are projected to account for 25% of the Hispanic population growth, second generation U.S. born Hispanics are projected to account for 47% of the Hispanic population growth, and third generation U.S. born Hispanics are projected to account for 28% of the Hispanic population growth (Suro & Passel, 2003). By 2050, Hispanics are projected to make up 24% of the population (Alegria, Mulvaney-Day, Torres, Polo, Cao & Canino, 2007). In 2013, an estimated 8.7% of Hispanic adults utilized mental health services and most individuals were also more likely to see their primary care provider for depression (Substance Abuse and Mental Health Services Administration [SAMSHA], 2014). In Texas, Hispanics accounted for 39% of the population, and in Tarrant County, the area this study took place in, Hispanics account for 28% of the population (Pew Research Center, 2017). In Texas, 31% of Hispanics do not have health insurance and 21% of adults between the age of 18-64 live in poverty (Pew Research Center, 2017). Given the projections of growth and considering that Hispanics are less likely to seek mental health services (NCHS, 2009). It is important mental health professionals to advocate and assess for

mental health literacy, these efforts to improve mental health outcomes are beneficial to the community.

Calvo (2015) examined the relationship between health literacy and the quality of care for Hispanic immigrants in the U.S. and found that most of the immigrants in the study had below a high school level of education. Hispanic immigrants with lower socioeconomic status and less education were less likely to seek health services and to engage with their medical providers. They were also less likely to bring up behavioral health concerns because of the cultural stigma attached to a mental health condition (Calvo, 2015). Being able to provide services in the patient's language, at their education level and based on their belief system is necessary to successfully implement behavioral health interventions for Hispanic patients.

Depression in Hispanic Population

Depression is a leading cause of disability in the U.S. (U.S. Preventive Services Task Force, 2009). Hispanics accounted for 5.8% of major depression in 2013 (SAMSHA, 2014). It is estimated that 28% of Hispanic men and 30.2% of Hispanic women in the U.S. will have a psychiatric disorder (Alegria, et al., 2007). Females are more likely than males to have a psychiatric disorder (Alegria, et al., 2007). The National Center for Health Statistics (2015) states that the highest incidence of depression is for women between the ages 40-59. In addition, women of lower socioeconomic status also experience higher rates of depression that other populations.

U.S.-born Hispanics are more likely to have depression compared to Hispanics born in Latin America. Hispanics are more likely to have recurring depression and less likely to follow a mental health professional recommended treatment plan compared to non-Hispanic whites

(González, Tarraf, Whitfield, & Vega, 2010). González et al. (2010), found that reoccurring depression was higher among Mexican Americans, Puerto Ricans, and African Americans compared to whites. Hispanics who spent time spent living in the U.S. or born in the U.S. are more likely to have a psychiatric disorder than compared not non-Hispanic whites (Alegria, et al., 2007). Treatment options related to depression also vary across ethnic groups; Hispanics are more likely to prefer psychotherapy (46.4%) compared to pharmaceutical therapy (31.6%) compared to non-Hispanic whites. Hispanics are also more likely to believe that depression medication is addictive than non-Hispanic whites (Givens, Houston, Van Voorhees, Ford & Cooper, 2007).

Stigma and Mental Health

Concerns about cost of health services can impede someone from accessing health care (SAMSHA, 2014), but beliefs about mental health largely influence a person's capacity to notice symptoms of mental health, willingness to seek care and to engage into care (Jorm, 2000; Calvo, 2015). Vignettes and assessments have been used to assess stigma and knowledge of different mental illnesses. One such study found that being able to identify a depression in a vignette was associated with high mental health literacy, the participants in the study also answered questions similar to those phrased in the Social Distance Measure about interacting with neighbors, friends, coworkers and having a spouse with depression (Svensson & Hansson, 2016). In this study, they found that participants had lower social distance in regard to interacting with someone with depression and also had less self-stigma (Svensson & Hansson, 2016).

The Stigma Concerns About Mental Health Care and Latino Scale for Antidepressant Stigma have been utilized in the past in a population of Hispanics. The samples consisted of

Hispanics who were primarily Spanish speakers and had a less than a high school education. This study found that there is a correlation between high stigma and lower treatment usage (Interian et al., 2010). A survey of a sample (N=172), found individuals are more inclined to use therapy or medication if they have positive attitude about help seeking and if they think treatment will be beneficial at the time baseline measures were collected (Bonabi, Müller, Ajdacic-Gross, Eisele, Rodgers, Seifritz, Rossler & Rüsch, 2016). In a set of interviews with Hispanic patients receiving treatment for depression it was noted that the group expressed high stigma and felt that they were being stigmatized by their family for having a depression diagnosis; they also had deep concerns about depression medication and the possibility of it being addictive (Vargas, Cabassa, Nicasio, De La Cruz, Jackson, Rosario, Guarnaccia, & Lewis-Fernández, 2015).

There are multiple levels of stigma that may influence the ability for someone to be able to express understanding what a mental illness is and that may also influence their desire to talk about their concerns with a mental health professional. Engaging with a client about these concerns is a very important step in getting the client to be receptive to a depression diagnosis and have them recognize the important role that psychotherapy and/or medication can have on their health.

Education Level and Mental Health Literacy

HealthyPeople2020, a ten-year set of goals and objectives used as a national guideline to improve health in the U.S., lists education as one of the five social determinants of health, stating that education and the access to education are factors that can influence health outcomes (Healthy People, 2017). In addition, the amount of education a person has completed has been associated with life span (Bound, Geronimus, Rodrigues & Waidmann, 2015). Education level

has been found to play a role in health literacy and quality of care a patient receives (van der Heide, Wang, Droomers, Spreeuwenberg, Rademakers, & Uiters, 2013; Calvo, 2015). There was research collected on a sample of 2,863 women over the age of 25 that suggest that lower education level is associated with lower health literacy, those who completed secondary education and primary education had poor health literacy; they also had poor reported health outcomes compared to those who completed higher education (van der Heide, et al., 2013).

Lower levels of education (less than high school education) have been associated with less use of outpatient care, those with less than high school education (43%) are less likely to use outpatient services than those with some college (56%) or a college degree (64%) (Ojeda & McGuire, 2016). Lower levels of education have been associated with more psychological distress for men and women, while higher levels of education (high school diploma or higher education) have been linked to better health and health literacy (Yamashita & Kunkel, 2015; Khlat, Legleye, & Sermet, 2014). Higher levels of education have also been associated with more knowledge about mental illness (Mendenhall & Frauenholtz, 2013). While education level or educational attainment are variables often collected, and utilized to understand the demographics of a population or as a control, there is limited research on the effects that education level can have on stigma and depression knowledge.

Barriers to Care

The reasons why Hispanics might not seek care are multifaceted. Confidentiality of appointments, being able to connect with their provider, taking time to talk to their provider, having an interpreter if they are Spanish-speakers, having a provider who has an understanding of Hispanic cultures and having a provider who has a willingness to learn about their culture and

family are some of the many reasons Hispanics have listed as motives for why they may not engage into health care (Uebelacker, Marootian, Pirraglia, Primack, Tigue, Haggarty, Velazques, Bowdoin, Kalibatseva, & Miller, 2012).). Stigma of depression is also considered a barrier to care, concerns include perceptions of what friends or family might think, and the idea that they can overcome depression alone (Uebelacker et al., 2012). Limited access to information about depression and about treatment is also a barrier to treatment (Uebelacker et al., 2012). Limited knowledge about depression may also lead to somatization of symptoms where a patient may not initially realize that what they are experiencing maybe caused by depression (Hansen & Cabassa, 2012).

One study found that younger Hispanic Immigrants who have lived in the United States for less years reported lower quality of care than older Hispanic immigrants who have lived in the United States for more time (Calvo, 2015). Education level also influenced quality of care that was reported; many of those who had lower quality of care had less than a high school education (Calvo, 2015). Receiving services in preferred language also influenced quality of care (Calvo, 2015). Braur et al. (2010) found that Hispanics with low English proficiency are less likely to access mental health services and were more likely to delay needed care. After diagnosis of a mental health disorder, Hispanics with less English proficiency are less likely to look for treatment and engage in treatment (Braur et al., 2010). If a person had a negative experience in a health care setting, this decreases their likelihood to seek care again (Guy, Sterling, Walker, & Harrison, 2014). Finally, fear of medication and their possible side effects may act as a barrier to medication treatment options (Guy, Sterling, Walker, & Harrison, 2014).

Integration into Healthcare Settings

Applying mental health literacy techniques can be an effective tool to use in healthcare settings as minorities are more likely to look for health care services with their primary care physician (U.S. Department of Health and Human Services, 2001). Using the mental health literacy framework can improve the quality of the tools used for early detection of mental illness (USHHS, 2001). Staff in primary care settings can apply a mental health literacy framework to improve the quality of services provided to patients. Medical professionals can engage patients into care and connect them to appropriate mental health care services by assessing a patient's health literacy level, their attitudes, their beliefs and knowledge about a diagnosis. The combination of using demographics, culturally designed stigma measures and depression knowledge measures, as a quantitative assessment for mental health literacy may allow for more thoughtful application of mental health educational interventions for Hispanic patients in primary care.

By addressing stigma, clinics can improve quality of care and health outcomes (Vega et al., 2010). Understanding stigma specifically can help keep patients engaged in treatment. Hispanic patients who report having more stigma about antidepressants and therapy are less likely to take medication and may be more likely to miss appointments (Vega, Rodriguez, & Ang, 2010). However, the U.S. Preventive Services Task Force (2009) recommends that adults should be screened for depression during routine care only if a clinic has the staff in place to provide support for depression patients. It is important for clinics wanting to implement behavioral health support to take these recommendations into consideration.

Health Literacy and Mental Health Literacy Initiatives Tailored to Hispanics

Mental health literacy doesn't end with assessments that measure stigma and knowledge, it helps guide the conversations a provider has with a patient and helps determine an appropriate intervention (Jorm, 2015). One of the interventions that has been used along with the stigma measures and the depression knowledge measure is the fotonovela. This comic book style booklet that incorporates dialogue and pictures has been one of the popular ways to address health behaviors (Unger, Cabassa, Molina, Contreras, & Baron, 2013). The fotonovela, *Secret Feelings,* is culturally adapted and was created for a fourth-grade literacy level, it shares a story of someone who was diagnosed with depression while including interactions with family and friends; in the process of providing a relatable and entertaining storyline the fotonovela provides facts about depression and treatment (Unger, et al., 2013). Research supports that the fotonovela increases depression knowledge and reduces stigma. Individuals were also likely to share the fotonovela with people in their close circle (Unger, et al., 2013). A replication of Unger, et al.'s study, retested the intervention measuring mental health literacy with the stigma and depression measures on a group of women (N= 142), 76% had less than a high school education (Hernandez & Organista, 2013). The study found that the fotonovela increased knowledge and reduced stigma related to education (Hernandez & Organista, 2013).

Attitudes and beliefs about depression play an important role in treatment outcomes. The purpose of this study was to determine if there is a relationship between depression knowledge and stigma of depression, factors that influence help seeking behaviors; while also exploring how depression knowledge and stigma may vary by education level, a social determinant of health.

Research Questions

Research confirms that it can be difficult to engage Hispanics into mental health care services (González et al., 2010). Understanding a patient's mental health literacy by administering brief measures prior to determining an appropriate intervention might improve quality of health care offered to Hispanic patients who may have a difficult time engaging in treatment (Jorm, 2000). This study aims to examine the relationship between stigma and depression knowledge and to understand how stigma and depression knowledge compare across education level. It is hypothesized that there is a relationship with higher stigma of mental health care, social distance, stigma of antidepressants and less depression knowledge and that lower education level is associated with higher stigma of mental health care, higher stigma of antidepressants, and social distance (less willingness to engage with someone who is or has been treated for depression) and lower depression knowledge. Specifically, the study seeks to understand:

1. Is there a relationship between mental health stigma, antidepressant stigma, social distance, and depression knowledge?
2. How do depression stigma and depression knowledge compare across education levels?

Chapter 2

Methods

Design of the Depression Screening and Education: Options to Reduce Barriers to Treatment Project

This study examines baseline data collected during the DESEO Project which was approved by the University of Arlington Institutional Review Board and participants signed an informed consent document to participate in the DESEO study. DESEO took place over 24 months and 350 patients were recruited (Sanchez, Eghaneyan, & Trivedi, 2016). The participants were recruited from North Texas Area Community Clinic, a primary care clinic in Tarrant County (Sanchez et al., 2016). The participants who were recruited screened positive for depression on Patient Health Questionaire-9 (PHQ-9), which was administered through an iPad screening application during a routine office visit with a primary care provider (Sanchez et al., 2016). To qualify for the study, the participant needed to also identify as Hispanic and not previously have been in treatment for depression (Sanchez et al., 2016).

When the participant screened positive for depression, the provider completed the Major Depression Diagnostic Checklist, a tool from the Diagnostic and Statistical Manual of Mental Disorders (DSM V), that included criteria used to confirm a Major Depression diagnosis (American Psychiatric Association, 2013). Although measures were collected at baseline, at the time of the intervention and at the follow-up visit, for the purposes of this study only the data collected at baseline prior to the depression education intervention was analyzed.

Setting and Participants

All participants (N=350), were recruited from North Texas Area Community Health Centers, Inc. (NTACHC), a federally qualified health center, that serves Tarrant County's uninsured or underinsured population. The clinic provides primary care services to children and adults, their services range from chronic disease management, family planning/women health care to chronic disease management and behavioral health care (NTACHC, n.d.). The North Texas Area Community Health Center has three locations, two in Fort Worth, TX and one in Arlington, TX. For this study, participants were recruited from Northside Community Health Center in Fort Worth, TX. The area served by the Northside Clinic is comprised of 77% Hispanics (NTACHC, n.d.). The participants in this study were both Spanish and English speaking Hispanic men and women who received care at the Northside Clinic and call NTACHC their medical home. Of the 350 participants, 93.4% were female (N= 327) and 94.9% were Spanish speaking (N=332). 62.3% had below a high school education (N=218), 21.4% had high school (N=75) and 14% had completed at least some college (N=49) (Table 2-1).

Table 2-1 Characteristics of Participants

Characteristics of Participants

Variables	Number(N)	Percentage (%)
Total	350	100.0
Gender		
Female	327	93.4
Male	23	6.6
Education Level		
Below High School	218	62.3
High School	75	21.4
Higher Education	49	14.0
Spanish Speaking		
Yes	332	94.9
No	17	21.4

Data collection

All patients at NTACHC were universally screened for depression using the PHQ-9, during annual or new/non-acute visits using an iPad depression screening application (Sanchez, Eghaneyan, & Trivedi, n.d.). When a patient scored >10 points on the Patient Health Questionaire-9 (PHQ-9), the physician would then confirm a depression diagnosis (Sanchez et al., n.d.). Then the physician would initiate a "warm hand off", where the patient is referred and introduced to the depression educator (Sanchez et al., n.d.). During the initial visit, the depression educator explained the study to the patient (Sanchez et al., n.d.). If the patient agreed to be part of the study, they signed an informed consent and the baseline measures were read to the patient and administered to the patient in their preferred language (Sanchez et al., n.d.). Recruitment, enrollment, the intervention and follow-ups happened over a 22-month period. All measures were maintained in a database (Sanchez et al., n.d.). The education level of participants was collected from the patient medical record maintained electronically through NextGen electronic health records and then added to the database. Patients' information was given an individually-coded identifier and maintained in a database to maintain patient confidentiality.

Measures

Depression Knowledge Measure. The Depression Knowledge Measure (DKM) was developed to assess knowledge of the symptoms and treatment related to depression (Appendix A). The DKM is comprised of 17 questions. The first ten questions of the DKM consist of a checklist to identify the five symptoms related to depression from a list of ten possible symptoms(Unger, Cabassa, Molina, Contreras, Baron, 2013), and the last questions were adapted

from a true/false measure for depression literacy to assess depression treatment knowledge (Unger et al., 2013; Griffiths, Christensen, Jorm, Evans & Groves, 2004). The true or false statements are phrased to ask if medications can help someone with depression, if depression is a medical condition, if people with depression get better by themselves without professional help, if people with depression should stop taking antidepressants as soon as they feel better, if talking to a counselor can help someone with depression, if antidepressants are addictive, and if antidepressant medications work right away (Unger et al., 2013). One point is earned for every correct response (Unger et al., 2013). The DKM, is coded for a respondent to receive (0) points for responses answered incorrectly and (1) for responses answered correctly. A higher score is associated with more knowledge about depression.

Stigma Concerns About Mental Health Care, Social Distance, and Latino Scale for Antidepressant Stigma Measures. Per Interian, et al. (2010), the Stigma Concerns About Mental Health Care Measure (SCMHC), the Social Distance Measure (SD) and Latino Scale for Antidepressant Measure (LSAS) are effective tools that can be used to assess stigma Hispanics have about depression. The tools have been validated in English and Spanish.

The SCMHC measure consists of three items and has internal consistency within the group of participants (α=.75). The measure assessed barriers to depression treatment by asking if the client agrees or disagrees with three statements phrased to understand if internalized stigma, fear of stigmatization and stigma from family play a role in wanting to receive treatment (Appendix A) (Interian et al., 2010). The Stigma Concerns Mental Health Care measure responses were coded as (0) disagree, (1) Agree, (7) Don't know/Refuse. A respondent received

one point for answering agree to a statement. The higher the overall score, means there was an increased stigma concern about mental health care.

The SD measure consists of six items and has internal consistency within the group of participants (α=.77). The measure assessed the likelihood of the individual to engage with a person who is being treated for depression or has been treated for depression. Questions can be answered by yes, no or maybe responses, the questions are phrased to ask about willingness to engage with someone who is or has been treated for depression, if that person were their neighbor, an acquaintance, a friend, someone they work with and if they would be friends with that person, invite them to their home or marry them (Appendix A) (Interian et al., 2010). When Social distance scores were lowest, an individual was less willing to engage with a person with depression (Interian et al., 2010). The Social Distance Measure responses were coded as (0) no, (1) maybe, (2) yes, (7) don't know/refuse. A respondent received points for every (1) or (2) response. The lower the overall score the greater social distance, meaning less willingness to engage with someone who is or has been treated for depression.

The LSAS measure consists of seven items and has internal consistency with in the group of participants (α=.84). The measure assessed stigma associated with antidepressant usage, it was created specifically for Hispanics using focus groups (Interian et al., 2010). The seven questions asked about how they think others may perceive people who take prescription medicine for depression based on things they have heard from family, friends and people around them (Interian et al., 2010). The higher the score the higher the stigma associated with antidepressant usage (Interian et al., 2010). The LSAS measure responses were coded as (0) no one thinks that way, (1) some people think that way, (2) everyone thinks that way, (7) don't

know/ refuse. A respondent received points for every (1) or (2) response. The higher the overall score, the increased stigma associated with antidepressant usage.

All three stigma measures have been tested in Spanish and English, with populations comparable to the population served at The North Texas Area Community Health Centers (Interian et al., 2010; Hernandez & Organista, 2013; Unger et al., 2013). Interian et al. (2010) tested the three stigma measures on 220 patients with depression, their study confirmed that the three scales are in fact valid and reliable. The study found that the higher the SD score (more willingness to engage with someone who has depression), the more likely a patient was to receive care (Interian et al., 2010). The higher the SCMHC or LSAS the lower reported use of antidepressants and engagement in treatment (Interian et al., 2010).

Data Analysis

The data analysis was conducted in SPSS software. The analysis included subset of participants (N = 350) who completed the baseline measures and have education level information. For purposes of this study, the overall score of the measures was reviewed. The first analysis run was the correlation (Spearman's rho) to assess the strength, direction and statistical significance of the association between the SCMHC measure's overall score and the DKM overall score, the SD measure's overall score to the DKM overall score, and the LSAS measure's overall score to the DKM overall score. Then a one-way ANOVA Test was run to compare the four measures by education level. The independent variable in this analysis was education level and the dependent variables were the SCMHC, SD, LSAS, and DKM Scores. Education level was divided into three categories; (1) less than high school; which included anyone who didn't complete high school, (2) high school; included those who obtain a high school diploma, and (3)

some or more college; included those who attended trade school, community college or attended a university. It is not clear whether education was obtained in the U.S. or in another country. The test was used to determine if there was a statistical significance between the education level categories and the SCMHC measure mean, education level categories and the SD measure mean, education level and the LSAS measure mean, and education level and the DKM mean. The p-value set at (p=.05) was used to determine the level of significance between the association of education level and the measures and the post hoc test was used to look at the mean differences between the education level categories of each one-way ANOVA test.

Chapter 3

Results

Of the 350 participants recruited, (N= 350) completed the Stigma Concerns About Mental Health Care Measure (SCMHC) at baseline, (N=350) completed the Latino Scale for Antidepressant Stigma Measure (LSAS), (N= 350) completed the Social Distance Measure (SD), (N= 346) completed the Depression Knowledge Measure (DKM), and (N= 342) provided education level during the initial assessment.

Table 3-1 shows the correlation (Spearman's rho, ρ) analyses used to examine the relationship between the three stigma measures and the knowledge measure. The results indicate that the correlation between the SCMHC Measure and the DKM Measure was statistically significant, ρ = -.161, p = .003. This suggests that the more an individual knows about depression, the less stigma concerns they have about mental health. The correlation between SD Measure and the DKM Measure was also statistically significant, ρ = .158, p =.003. This suggests that the more an individual knows about depression, the more likely they are willing to engage with some who is being or has been treated for depression. The correlation between the LSAS Measure and the DKM Measure was not significant, ρ = .075, p = .161. Overall, the results suggest that there is a relationship between stigma and depression knowledge. The more an individual knows about depression, the less stigma they may associate with mental health services and engaging with someone with a depression diagnosis.

Table 3-1 Correlations Spearman's rho

Correlations Spearman's rho

		Depression Knowledge Measure
Stigma Concerns About Mental Healthcare	Spearman's rho Correlation	-.161
	Significance (2-tailed)	.003**
	N	346
Latino Scale for Anti-Depressant Stigma	Spearman's rho Correlation	.075
	Significance (2-tailed)	.161
	N	346
Social Distance	Spearman's rho Correlation	.158
	Significance (2-tailed)	.003**
	N	446

A One-way Analysis of Variance (ANOVA) was used to examine whether performance on the stigma measures and the DKM measure are comparable across education levels. The independent variable (education level) was divided into three categories: 1) less than high school; 2) high school; and 3) some or more college. The dependent variables were the scores on the SCMHC Measure, LSAS Measure, SD Measure and DKM Measure. Table 3-2 and Table 3-3 demonstrate the means and standard deviations for each of the measures tested and the three education level groups.

Table 3-2 Mean and Standard Deviations of the SCMHC, LSAS, SD, DKM

Means and Standard Deviations

Measure	Education level categories	N	Mean	SD
Stigma Concerns About Mental Healthcare	Less than HS	218	.53	1.026
	HS	75	.51	.103
	Some or more college	49	.24	.662
	Total	342	.48	.956

Table 3-3 Mean and Standard Deviations of the SCMHC, LSAS, SD, DKM (Continued)

Means and Standard Deviations

Measure	Education level categories	N	Mean	SD
Latino Scale for Anti-Depressant Stigma	Less than HS	218	5.78	3.533
	HS	75	6.39	3.417
	Some or more college	49	7.08	3.115
	Total	342	6.10	3.473
Social Distance	Less than HS	218	8.70	3.345
	HS	75	8.69	2.871
	Some or more college	49	10.02	2.696
	Total	342	8.89	3.185
Depression Knowledge Measure	Less than HS	215	10.29	2.129
	HS	75	10.88	2.046
	Some or more college	49	12.14	1.947
	Total	339	10.69	2.178

The test for homogeneity of variance was not significant for two of the measures, the LSAS Measure, [Levene $F(2, 339) = 1.33$, $p > .05$] and the DKM Measure, [Levene $F(2, 336) = .58$, $p > .05$] indicating that this assumption underlying of ANOVA was met. The one-way ANOVA of the LSAS Measure (see Table 3-4) demonstrates a statistically significant effect [$F(2, 339) = 3.15$, $p = .044$] indicating that antidepressant stigma differed by education level. Tukey HSD post hoc tests were used to determine which pairs of the three group means significantly differed. These results are given in Table 3-5 and indicate that the individuals who received some or more of a college education ($M = 7.08$, $SD = 3.12$) reported higher stigma of antidepressant usage than the individuals who had less than a high school education ($M = 5.78$, $SD = 3.53$), contrary to what was hypothesized. There were no statistically significant differences between having received less than high school education and high school education

for the antidepressant (p= .394) and between having received a high school education and some or more college education (p= .517).

The one-way ANOVA for the DKM Measure (Table 3) demonstrates a statistically significant effect [$F(2, 336) = 16.18$, $p < .001$] indicating that results on the Depression Knowledge Measure differed by education level. These results are given in Table 3-4 and indicate that the individuals who received some or more of a college education ($M = 12.14$, $SD = 1.95$) scored significantly higher on the DKM Measure than both the high school only ($M = 10.88$, $SD = 2.05$) and the less than high school group ($M = 10.29$, $SD = 2.13$). There was no significant difference between having received less than high school education and a high school education on the DKM Measure ($p = .088$)

Table 3-4 Analysis of Variance for The Stigma Measures and The Depression Knowledge Measures

Analysis of Variance

Measure	Source	SS	df	MS	F	Sig
Stigma Concerns About Mental Health Care	Between Groups	3.252	2	1.626	1.789	.169
	Within Groups	308.143	339	.909		
	Total	311.395	341			
Latino Scale for Anti-depressant Stigma	Between Groups	75.091	2	37.546	3.152	.044
	Within Groups	4038.327	339	11.912		
	Total	4113.418	341			
Social Distance	Between Groups	73.232	2	70.407	3.665	.027
	Within Groups	3386.546	339	9.990		
	Total					
Depression Knowledge Measure	Between Groups	140.815	2	70.407	16.181	.000
	Within Groups	1462.041	336	4.351		
	Total	1602.855	338			

Table 3-5 Tukey Post Hoc Results of Latino Scale for Antidepressant Stigma and Depression Knowledge Measure Scores by Education Level

Tukey Post Hoc Results

		Mean differences			
Measure	Education level categories	Mean	1	2	3
Latino Scale for Anti-Depressant Stigma	1)Less than HS	5.78	0.00		
	2)HS	6.39	.602	0.00	
	3)Some or more college	7.08	1.297*	.695	0.00
Depression Knowledge Measure	1)Less than HS	10.29	0.00		
	2)HS	10.88	.592	0.00	
	3)Some or more college	12.14	1.854*	1.263*	0.00

The test for homogeneity of variance was significant for two of the measures, the SCMHC Measure, [Levene F(2, 339) = 1.79, p = .003] and the SD Measure, [Levene F(2, 339) = .58, p = .01]indicating that this assumption underlying the application of ANOVA was not met. The Welch statistic was run to continue with the one-way ANOVA. For the SCMHC Measure there a significant *F* ratio [Welch *F*(2,131.461) = 3.10, p = .048]. The Welch Statistic for the SD Measure also had a statistically significant *F* ratio [Welch *F*(2,121.118) = 4.74, p = .010]. Since the Welch Statistic *F* ratio was significant, we reject the null hypothesis and can continue with the one-way ANOVA. The one-way ANOVA for the SCMHC Measure (Table 3-4) does not show a statistically significant difference [F(2, 339) = 1.79, p = .169] indicating that stigma concerns about mental health care did not significantly vary by education level. These results are given in Table 3-6 and indicate that the individuals who received some or more of a college education (M = .24, SD = .66) scored significantly lower on the SCMHC Measure than the less than high school group (M = .53, SD = 1.03). The one-way ANOVA for the SD Measure (Table

3-4) demonstrates a statistically significant effect [F(2, 336) = 3.67, p = .027] indicating that results on the SD Measure differed by education level. These results are given in Table 3-6 and indicate that the individuals who received some or more of a college education (M = 10.02, SD = 2.70) scored significantly higher on the SD Measure than both the high school (M = 8.69, SD = 2.87) and the less than high school group (M = 8.70, SD = 3.35). This means that those with some or more college education were more willing to engage with someone who is or had received treatment for depression. There was no significant difference between having received less than high school education and a high school education in the SD Measure (p = 1.00).

Table 3-6 Games-Howell Post Hoc Results of Stigma Concerns About Mental Health Care and Social Distance Measures by Education Level

Games-Howell Post Hoc Results

Mean differences

Measure	Education level categories	Mean	1	2	3
Stigma Mental	1)Less than HS	.53	0.00		
About	2)HS	.51	.021	0.00	
Mental Health	3)Some or more	.24	.283*	.262	0.00
Care	college				
Social	1)Less than HS	8.70	0.00		
Distance	2)HS	8.69	.009	0.00	
	3)Some or more college	10.02	1.327*	1.319*	0.00

Chapter 4

Discussion

Main Findings

The purpose of this study was to determine if there was a relationship between depression knowledge and stigma related to mental healthcare, social distance and antidepressant usage; and to also see if depression stigma and depression knowledge vary by education level. It was hypothesized that there would be a relationship between higher stigma of mental health, social distance, antidepressant usage, and lower depression knowledge. It was also hypothesized that lower education may be associated with higher stigma and less depression knowledge. The results indicate that a relationship between depression knowledge and stigma exist. The findings of this study suggest that the more an individual knows about depression the less likely they are to have stigma about mental health care services and the more likely they are to engage with a person who has been treated or is being treated for depression. This is important due to past findings that suggest that lower stigma about mental health and social distance have been associated with better treatment outcomes (Interian et al., 2010; Svensson & Hansson, 2016)

Education level is a variable that has been associated with lower quality of life, more stigma, and can affect health outcomes (Bound et el, 2015; van der Heide et al., 2013). There is limited research that looks at how education level may be able to predict health literacy. The results indicate that stigma and knowledge can vary by education level. As it was hypothesized, education level was associated with mental health literacy, those with some or more college education were more likely to report higher depression knowledge, and lower mental health care and social distance stigma in comparison to the less than high school group but there was no significant difference between less than high school and high school education in many of the

comparisons. Both important aspects of stigma that have been associated with improved treatment outcomes in Hispanics (Interian et al., 2010; Unger et al., 2013).

Surprisingly, the one-way ANOVA, found a statistically significant association with some or more college and a higher antidepressant stigma. This was an unanticipated finding; research has predicted that higher scores on the Latino Scale for Antidepressant Stigma (Bonabi et al., 2016) is associated with less likelihood of using medication or stopping medication treatment early. There are reasons why this is possible. It may be the way the questions are phrased does not ask about their beliefs but about the beliefs of those around them. It is possible that more education brings more awareness about antidepressant stigma. Another reason that those with more education had higher antidepressant stigma, could be that stigma about medication usage is so deep rooted that it transcends education level, since all groups did report some stigma associated with antidepressant usage.

The findings confirm that increasing depression knowledge is vital; as it may be associated with less stigma about mental health care and more willingness to engage with someone who has depression. Obtaining the education level of patients may also be beneficial when delivering care because it may help provide a through picture of the best type of intervention to provide. These are all imperative factors that help clinicians reduce barriers associated with mental health treatment. Additionally, it helps the clinician deliver both cultural effective care and education that incorporates belief systems. Jorm's Mental Health Literacy framework provides an important guide to help identify key factors that can lead to an increase early detection of mental illness and engagement into treatment (Jorm, et al., 1997). Stigma Concerns About Mental Health Care, Social Distance, Latino Scale for Antidepressant Stigma,

and the Depression Knowledge Measure are measures that assess recognition, knowledge, and attitudes/beliefs that promote help seeking behaviors.

The measures are culturally effective tools that can help gauge mental health literacy. They are also can give primary care providers and mental health providers guidance on how to discuss mental illness with a patient. Knowing that depression knowledge and stigma are intertwined and may influence treatment adherence, assessing for mental health literacy helps determine the direction on the conversation mental health providers have with patients to help increase depression awareness.

Limitations and Implications

The initial plan was to analyze the exact education grade completed of each of the participants but education level collected during the visits did not include an exact grade level completed. Many of the participants had a less than high school education. It would have been interesting to perform an analysis with more education level categories below high school and see the difference in means between those with some elementary, elementary and middle school. It would have provided more insight given that many of the participants had less than high school education. There was also a lack of knowledge of where education was obtained, given that education varies by region, it would have been an interesting variable to factor in. Given that many of the participants has less than high school education and were primarily Spanish speakers, using a measure to assess for acculturation would also provide insight in understanding mental health literacy and how information should be disseminated.

This study didn't look at the differences in mental health literacy between Spanish Speakers and English Speakers. Given that our sample consisted of mostly Spanish-speaking Hispanic Women, this homogenous group was not a representative sample. However, women are

more likely to seek care and it can provide insight for clinics who work with similar population and demographics. The surveys were also read to participants to help participants comprehend questionnaires. This was done to help participants who have low literacy and measures were taken to be objective and respect the participant's privacy but reading surveys to participants can create a response bias.

Finally, with the measurements, we gained an understanding of various factors encompassed in the mental health literacy framework, that influence depression treatment outcomes. However, there were parts of the mental health literacy framework were not able to assess for such as a participant's knowledge about risk factors and self-help. Knowledge about risk factors can help someone with mental illness become emotionally aware and be a support for someone who may be at risk (Jorm, 2000). Self-help is important as well, since there are evidence-based interventions that along with counseling and/or treatment can help a client recover from depression (Jorm, 2000).

Future Research

Depression knowledge and stigma can vary by culture, assessing a client's mental health literacy is the first step in developing an appropriate intervention. Stigma and knowledge measures are indicators that can guide best practices and help evaluate effective mental health literacy initiatives (Kelly, Jorm, & Wright, 2007). Based on the scores of each measure and the scores of each itemized variable, this can guide an education intervention both in the micro and macro level (Kelly, Jorm, & Wright, 2007). As a social determinant of health, educational level can help assess for mental health literacy (Healthy People, 2017). Findings from this study suggest that individuals with less than high school education overall had lower mental health literacy, but individuals with high school or some or more college had higher stigma of

antidepressant use. There is limited research that explores the relationship between mental health literacy and education level. More research is needed that explores the relationship between mental health literacy and education level, continuing to examine the role education level plays in mental health literacy can provide insight into how to tailor educational information at an appropriate literacy level (van der Heide et al., 2013; Calvo, 2015).

Educational material encompassing the mental health literacy framework has been created (Unger, Cabassa, Molina, Contreras, & Baron, 2013). In a future study, it would be interesting to explore how the mental health literacy framework can be incorporated in to an intervention for Hispanic patients and to examine how mental health literacy changes after a culturally adapted intervention takes place. Culturally adapted educational material, like the fotonovelas, have been successful in encompassing recognition, knowledge and beliefs about depression in a way that Hispanics can empathize with the characters. It would be interesting to explore how mental health literacy changes after a culturally tailored education session (Unger, Cabassa, Molina, Contreras, & Baron, 2013), and explore the association between the baseline data and engagement into treatment.

The findings from this study demonstrate that stigma is multifaceted and can be difficult to understand or change. Future research of a qualitative nature would help gain a better understanding about the Hispanic community's knowledge of depression symptoms, treatment recommendations and to understand belief systems that influence engagement into mental health care, engagement with someone who has depression, and antidepressant use. Additional qualitative research with Hispanics, of different cultural backgrounds, who have a depression diagnosis and who know someone who has had depression, using the measures to guide a conversation about stigma related to mental health care, social distance, knowledge about

depression, treatment, and how to support someone with a diagnosis. Knowing now that more depression knowledge is associated with more willingness to see a mental health provider and engage with someone who is or has been treated for depression, qualitative research may give valuable insight about the measures and an understanding of the deep rooted underlying beliefs that continue even after depression education is provided.

Social Work Practice

Social workers, per our code of ethics, have a responsibility to our clients to provide the best care possible. The code of ethics states that we must be able to comprehend our clients culture, act as educators and participate in research (National Association of Social Workers, 2008). As social workers working in mental health or health care settings, we must advocate for our patients and promote depression interventions that are culturally sensitive. Social workers often collect information during a psychosocial assessment, work at creating a comfortable space for our patients where they can honestly express their concerns, and work collaboratively with the medical team to ensure patients are receiving culturally effective care. This data suggests that, as social workers, we should take the time to increase our patient's knowledge of depression and take time to understand their attitudes and beliefs associated with depression and treatment options, otherwise we may miss an opportunity to connect with patients. Education level also helps us understand the importance of delivering information in a way that is easier to comprehend.

As an organization, National Association of Social Workers (NASW), has stated that it is a national goal to increase policy that improves access to mental health care for everyone (National Association of Social Workers, 2008). Starting at the micro level social workers can create best practices for depression care of Hispanic patients; this can be the first step in creating

a foundation that can lead to macro level interventions to reduce negative health outcomes related to Depression. Mental health providers' and social workers are in a unique place to lead mental health literacy efforts in both macro and micro level (Mendenhall & Frauenholtz, 2013). Mental health literacy ties into social work values by increasing the quality of education and interventions that social workers provide. These findings can help design future research and future interventions that can increase mental health literacy. Addressing stigma can help reduce of one the many barriers Hispanic patients in accessing care (Uebelacker et al., 2012). Clinicians, researchers and social workers are in a unique place to disseminate best practices that help address the multilayered factors that influence the quality of care provided to Hispanic patients (Mendenhall & Frauenholtz, 2013).

Conclusion

This study confirms other research findings that suggest that increased knowledge is associated with decreased stigma and that higher education is associated with more depression knowledge (Svensson & Hansson, 2016; Mendenhall & Frauenholtz, 2013). Specifically, this study found that mental health literacy varies by education level and that higher education is associated with higher mental health literacy, reinforcing the importance of delivering patient education in a way that is sensitive to education level. This emphasizes the importance of assessing for mental health literacy and education level when delivering culturally effective care. For purposes of better practice, Mental health providers need to understand the role that stigma has mental health care and treatment. They must also create a space that is comfortable for clients to share their mental health concerns and provide education that encompasses information about depression and addresses depression treatment stigma (Vega et al., 2010). Giving patients the space in which they feel included in the treatment decision making process.

Appendix A
Measures

Stigma Concerns About Mental Health Care (SCMHC)

Instructions: The following questions ask about your opinions about depression and treatments for depression.
Please know that it is not necessary for you to have received any treatment for depression to be able to answer these questions. For each statement that I read to you, please tell me if you agree or disagree.

Instrucciones: Las próximas preguntas le piden información acerca de sus opiniones y pensamientos sobre la depresión y tratamientos para la depresión. Por favor sepa que no necesita haber recibido tratamiento para la depresión para poder contestar estas preguntas. Después de que le lea cada frase, por favor dígame si esta en acuerdo o en desacuerdo.

0 – Disagree *0 -En Desacuerdo*	1 – Agree *1 – En Acuerdo*	7 – Don't Know/Refuse *7- No sé/ Negarse a contestar*

1. I would not want to receive treatment for depression because of being embarrassed to talk about personal matters with others. *Yo no quisiera recibir tratamiento para la depresión porque me daría vergüenza hablar sobre asuntos personales con otras personas.*	0 1 7
2. I would not want to receive treatment for depression because of being afraid of what others might think. *Yo no quisiera recibir tratamiento para la depresión por temor a lo que los demás puedan pensar.*	0 1 7
3. I would not want to receive treatment for depression because family members might not approve. *Yo no quisiera recibir tratamiento para la depresión porque puede ser que mi familia no este de acuerdo o no lo apruebe.*	0 1 7
Notes. Score by taking the sum of items 1 – 3, without scoring values of 7. Total score ranges from 0 – 3.	

Social Distance (SD)

Instructions: For the following questions, please answer 'yes,' 'maybe,' or 'no.'
Instrucciones: Para las siguiente preguntas, por favor conteste 'si,' 'posiblemente,' o 'no.'

0 – No 1 – Maybe 2 – Yes 7 – Don't Know/Refused *0 – No 1 – Posiblemente 2 – Si 7 - No sé/ Negarse a contestar*	
1. Would you socially interact with a person who is or had been in treatment for depression if this person moves next door? *¿Usted podria convivir socialmente con una persona quien esta recibiendo o ha recibido tratamiento para la depresión si esta persona seria su vecino?*	0 1 2 7
2. Would you spend an evening socializing with a person who is or had been in treatment for depression? *¿Usted pasaría su tiempo o su tarde socializando con una persona quien esta o fue tratada por depresión?*	0 1 2 7
3. Would you be friends with someone who is or had been in treatment for depression? *¿Usted seria amigo/a de una persona que esta recibiendo o ha recibido tratamiento para la depresión?*	0 1 2 7
4. Would you work closely with someone who is or had been in treatment for depression? *¿Usted trabajaría de manera cercana con una persona quien esta recibiendo o ha recibido tratamiento para la depresión?*	0 1 2 7
5. Would you invite a person into your home who is or had been in treatment for depression? *¿Le gustaría invitar a su casa/hogar a alguien quien esta recibiendo o ha recibido tratamiento para la depresión?*	0 1 2 7
6. Would you marry a person who is or had been in treatment for depression? *¿Se casaría usted con una persona quien esta recibiendo o ha recibido tratamiento para la depresión?*	0 1 2 7
Notes. Score by taking the sum of items 1 – 6, without scoring values of 7. Total score ranges from 0 – 12. Lower scores indicate greater social distance.	

Latino Scale for Antidepressant Stigma (LSAS)

Instructions: Please review the following statements and tell me how you believe most people think.

Instrucciones: P*or favor revise los siguientes comentarios y dígame cómo cree que la mayoría de la gente (su familia, comadres, o amistades) piensa.*

0–No one thinks that way */ Nadie piensa de esa manera* 1–Some people think that way */ Algunos piensan de esa manera* 2-Everyone thinks that way */ Todos piensan de esa manera* 7-Don't Know or Refuse to answer / *No sé o Negarse a contestar*	
1. People who take prescription medicine for depression have a difficult time solving their problems on their own. *Personas quienes toman medicinas recetadas para la depresión tienen dificultad resolviendo sus problemas por si mismos.*	*0 1 2 7*
2. Prescription medicines for depression are for people who are not strong. *Medicinas recetadas para la depresión son para personas quienes no son fuertes.*	*0 1 2 7*
3. Once someone is prescribed medicine for depression, it means his or her problems are too severe for a solution. *Cuando alguien es recetado medicamentos para la depresión, esto significa que los problemas de esa persona son tan difíciles que no se pueden resolver.*	*0 1 2 7*
4. Prescribed medicine for depression is usually given only to people with severe mental disorders. *Usualmente, medicamentos recetados para la depresión son para personas con desordenes (enfermedades) mentales graves o severos.*	*0 1 2 7*
5. People who take prescribed medicines for depression are affected as if they were "on drugs".	

Personas quienes toman medicinas recetadas para la depresión son afectadas como si estuvieran usando drogas.	*0 1 2 7*
6. Once someone takes prescribed medicine for depression, they will have to depend on that medicine to function. *Ya que alguien toma medicinas para la depresión, él o ella dependerán de la medicina para poder funcionar.*	*0 1 2 7*
7. Taking prescription medicine for depression will affect a person's ability to function, like being able to drive or take care of children. *Tomar medicamentos para la depresión afecta la habilidad de una persona para funcionar, como la capacidad para conducir un automóvil o cuidar a niños.*	*0 1 2 7*
Notes. Score by taking the sum of items 1 – 7, without scoring values of 7. Total score ranges from 0 – 14.	

Depression Knowledge Measure

Which of the following are symptoms of depression? (Check all that apply) *¿Cuáles de los siguientes son síntomas de la depresión? (Marque todo lo que corresponda)*	
□ Hearing voices/*Escuchar voces*	□ Feeling agitated/*Sentirse agitado*
□ Sleeping too little/*Dormir muy poco*	□ Being violent/*Ser violento*
□ Eating too much/*Comer demasiado*	□ Loss of interest/*Perdida de interes*
□ Being full of energy/*Estar lleno de energia*	□ Having hallucinations/*Tener alucinaciones*
□ Feeling guilty/*Sentimientos de culpa*	□ Feeling confident/*Sentirse seguro*

Medications can help someone with depression. *Los medicamentos pueden ayudar a alguien con depresión.*	□ True/ *Cierto*	□ False/ *Falso*	□ Don't know/ *no lo sé*
Depression is a medical condition. *La depresión es una enfermedad medica.*	□ True/ *Cierto*	□ False/ *Falso*	□ Don't know/ *no lo sé*
People with depression get better by themselves without professional help. *Las personas con depresión mejoran por sí mismos sin ayuda profesional.*	□ True/ *Cierto*	□ False/ *Falso*	□ Don't know/ *no lo sé*
People with depression should stop taking antidepressants as soon as they feel better. *Las personas con depresión deben dejar de tamar antidepresivos en cuanto se sientan mejor.*	□ True/ *Cierto*	□ False/ *Falso*	□ Don't know/ *no lo sé*
Talking to a counselor can help someone with depression. *Hablar con un consejero puede ayudar a alguien con depresión.*	□ True/ *Cierto*	□ False/ *Falso*	□ Don't know/ *no lo sé*
Antidepressants are addictive. *Los antidepresivos son adictivos.*	□ True/ *Cierto*	□ False/ *Falso*	□ Don't know/ *no lo sé*
Antidepressant medications work right away. *Los medicamentos antidepresivos trabajan de inmediato.*	□ True/ *Cierto*	□ False/ *Falso*	□ Don't know/ *no lo sé*

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Biographical Information

Veronica Lopez, grew up in Pleasant Grove, Dallas, Texas. She is a daughter of immigrants from Nuevo Leon, Mexico and San Miguel, El Salvador. She attended Dallas public schools. While attending the School of Education and Social Services at Townview Magnet Center, she discovered her passion for social justice and has since been working to bridge her love for health and social services. She went on to attend The University of Texas at Austin, where she obtained her Bachelor of Arts in Spanish (Spanish and Portuguese) and her Bachelor of Science in Kinesiology (Health Promotion and Fitness). She is a Certified Health Education Specialist and Certified Personal Trainer. As first generation Latina, working with the Hispanic community to make health services accessible has always been her priority. While living in Austin, she worked at People's Community Clinic as a reproductive health educator, this is when she discovered that she wanted to become more involved in research as a social worker.

Making her way back home, she decided to attend the University of Texas at Arlington. Where she obtained her Master of Social work with a focus on Mental Health and Substance Abuse. While in Dallas, she has completed 200-hour yoga teacher training, is part of the NASW NCT-Dallas Steering Committee and has enjoyed connecting with local organizations. She works as a graduate research assistant for the Office of Research and for the Measurement, Education, Tracking in Integrated Care Project at UTA and as a Clinical Data Specialist at UT Southwestern. Veronica's research interest includes cultural competency, health disparities, social determinants of health, community health, mental health, health literacy, Latino health, access to physical activity/mindfulness programs and chronic disease. Upon graduation she will continue to do work in the community and in research, while preparing to pursue a Ph.D. focusing on health behaviors.