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Entertainment-Education and the Fotonovela: A New Strategy to Increase Help-Seeking Behaviors for Depression among Immigrant Latinas

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Author
Hernandez, Maria Yesenia

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Entertainment-Education and the Fotonovela: A New Strategy to Increase Help-Seeking Behaviors for Depression among Immigrant Latinas

By

Maria Yesenia Hernandez

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Committee in charge:

Professor Kurt C. Organista, Chair
Assistant Professor Adrian Aguilera
Assistant Professor Qing Zhou

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Abstract

Recent studies find a high risk of depression among immigrant Latinas known to increase during the acculturation process. Several barriers, such as stigma and low health literacy, frequently separate Latinas from treatment. In response this study aimed to replicate the effectiveness of Entertainment-Education (E-E), in the form of a Spanish language fotonovela, in increasing depression literacy among immigrant Latinas at risk for depression. This study specifically sought to assess if exposure to the fotonovela, delivered in a multifaceted approach to health education used by promotoras, improved depression knowledge, the self-efficacy to identify the need for treatment, and the intent to seek treatment while reducing stigma towards depression treatment. Additional exploratory research assessed the participants' response to the fotonovela. Through a mixed methods approach comprised of quantitative data (employing a pretest-posttest randomized control group experimental design) and qualitative data (composed of structured follow- up interviews) 142 immigrant Latinas in a large urban setting were included in this study. Results indicate statistically significant posttest differences in depression knowledge, self-efficacy to identify the need for treatment, and antidepressant stigma between control and experimental group participants. Results also suggest a positive response to the fotonovela reflected in the participants' identification and engagement with the story and its characters. Follow-up interviews detect most participants discussed the content of the fotonovela with friends whom they identified as depressed. Findings suggest use of cost effective E-E health literacy tools, in combination with the multifaceted approach to health education used by promotoras, may increase mental health knowledge and intention to share knowledge among underserved populations. Further mixed methods research is recommended in the continued assessment of mental health literacy among Latinos and development of culturally competent mental health literacy tools.

Keywords: Entertainment-Education, health literacy, mental health disparities, depression, fotonovela, promotoras, immigrant Latinas,

Dedication

This work is dedicated to my family (Maria, Belen, and Juan Carlos) who motivates and inspires me. I have gotten this far because I strive to be like them.

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Chapter 1 – Literature Review

Introduction

Entertainment-Education (E-E) refers to the intentional placement of educational content in entertainment messages in efforts to create behavioral and social change (Singhal & Rogers, 2002). Governmental health agencies and researchers in the fields of public health and medicine increasingly use E-E methodology as a health promotion tool to educate audiences with low health literacy about diverse health disorders and their treatments (Valle, Yamada, Matiella, 2006). Health literacy is defined as a construct of individual capacity for health knowledge and health management influenced by reading fluency, prior health knowledge and experiences, as well as conceptual knowledge of health care (Baker, 2006). Persons with low health literacy have difficulty understanding health materials and instructions, seek treatment at later stages of illnesses, and face worse health outcomes (Gonzalez-Ramos & Gonzalez, 2005). Medical research consistently notes an association between chronic health conditions and low health literacy among vulnerable patients (Britigan, Murnan, & Rojas-Guyler, 2009). While health literacy embodies mental health knowledge, research has predominantly focused on its association with physical health (Bennett, Culhane, McCollum, Mathew, & Elo, 2007; Gabriel & Violato, 2010; Glenn & Christensen, 1998). To date E-E methodology has received minimal scientific exploration or testing in the field of mental health (Cabassa, Molina, & Baron, 2010).

E-E methodology offers a new venture in the fields of mental health and health literacy due to its potential to improve treatment access and mental health literacy among vulnerable groups. E-E methods are versatile and can be culturally adapted for the diverse groups served by social workers **(**Singhal & Rogers, 2002**)**. One example is the fotonovela (a booklet in a comic book layout with posed photographs) that offers Latinas a health literacy tool in a culturally familiar format typically used in Latin America (Cabrera, Morisky, & Chin, 2002). The use of pictures in books helps depict attitudes towards health behaviors commonly found among Latinas. Moreover, Latinas may find fotonovelas more readable than health pamphlets not tailored for audiences with low health literacy (Borrayo, 2004; Unger, Cabassa, Molina, Contreras, & Baron, 2012).

Among recent immigrants, low health literacy is associated with higher depression levels (Coffman & Norton, 2010). Gender differences indicate women present a greater risk for depression than men and its prevalence increases as Latinas acculturate (Alegria et al., 2007; Vega et al., 1998). While ethnic women in general present with a higher risk for depression than their male counterparts (Grote, Zuckoff, Swartz, Bledsoe, & Geibel, 2007), for Latinas the immigration process and various cultural factors can impact their access to mental health services. An expanding number of mental health studies have explored access disparities for U.S. and foreign-born Latinos (Alegria et al., 2007; Escobar, Nervi, & Gara, 2000; Vega, Kolody, & Aguilar-Gaxiola, 2001) and generally find acculturation differences in help seeking behaviors, with lower receipt of services among immigrant groups. Research contributions also explain barriers associated with accessing mental health services, preference for service settings, and culturally competent means of treating disorders. Yet, few studies identify low health literacy as another barrier to mental health treatment or investigate how its improvement can help increase help-seeking behaviors while reducing stigma towards the diagnosis and treatment of mental health disorders (Bennett et al., 2007; Glenn & Christensen, 1998). Among Latinos low health literacy is prevalent, particularly among individuals for whom Spanish is the first language

(White, 2008). This can be of great concern if low health literacy prevents Latinas from recognizing their mental health symptoms or locating treatment services.

Therefore, it is essential to take an action-oriented approach and begin to educate underserved Latinas about their mental health needs and the benefits of treatment in order to ameliorate mental health disparities (Lopez et al., 2009). Yet, doing so requires the use of culturally competent interventions that not only engage and educate Latinas but also lead them to appropriate service providers. To meet the multiple needs of such a hard to reach group, it is necessary to apply multifaceted interventions. Previous research has found the use of multifaceted interventions with Latinos to reduce barriers in treatment access, while increasing health literacy and the length of time in treatment (Elder, Ayala, Parra-Medina, & Talavera, 2009). Work with Latinos specifically finds the provision of daycare, culturally appropriate interventions, and the use of promotoras (to recruit clients and deliver interventions) helpful in the engagement and maintenance of clients in treatment (Elder et al., 2009; Organista & Munoz, 1996; Sue, Zane, & Nagayama, 2009).

To assess the compatibility between E-E, health literacy, and the mental health field, the current study sought to replicate the work of Unger et al. (2012) by examining whether a fotonovela titled *Secret Feelings* would increase depression knowledge as well as the likelihood to seek depression treatment, while reducing stigma among immigrant Latinas at risk for depression and low health literacy. Unger et al. (2012) compared *Secret Feelings* to a depression pamphlet, in a sample of foreign-born Latinos with limited English proficiency attending night school, and found greater increases in depression knowledge and reduced stigma towards depression treatment among participants exposed to the fotonovela compared to participants exposed to the depression pamphlet. Although their findings point towards the effectiveness of the fotonovela as a depression literacy tool, they recommend its application in clinical or community settings. The efficacy of interventions can be enhanced if through replication studies they sustain positive outcomes, despite their assessment under conditions distinct from previous studies, permitting their generalizability to a greater number of study populations (Lindsay & Ehrenberg, 1993). In response, this study explored the fotonovela's effectiveness with immigrant women in a community health education center run by *promotoras* (peer educators). Thus, this study sought to investigate the fotonovela's generalizability to a hard to reach population at risk for low health literacy and depression in a natural setting where consumers need literacy tools. This study further aimed to contribute to the evaluation of the fotonovela by measuring the participants' health literacy and depressive symptomatology as well as the fotonovela's ability to engage its audience. While most studies aim to test the effectiveness of new health literacy tools, they sometimes fail to assess participants for the condition the literacy tool aims to prevent or ameliorate, nor do they apply a rigorous measure of its ability to engage the targeted audience. In order to develop evidenced-based mental health literacy tools it is important to confirm their effectiveness with populations struggling with specific conditions.

Utilizing a sequential explanatory mixed methods approach, this study explored the effectiveness of the fotonovela, *Secret Feelings*, with a sample of immigrant Latinas in a community health education center in which promotoras typically provide multiple interventions to a large Latino immigrant community. Quantitative data collection followed a pretest-posttest randomized control group experimental design while qualitative data were obtained from structured follow-up interviews. Qualitative data were gathered in order to further explore quantitative results. Results suggest the fotonovela was effective in increasing depression knowledge as well as the self-efficacy to identify the need for treatment while helping Latinas explore a stigmatized topic. The participants' ability to engage and identify with the storyline and its characters helps explain the fotonovela's effectiveness. Findings also suggest the multifaceted approach to health education used by promotoras, implemented to deliver the fotonovela to study participants, helped obtain promising study outcomes. This dissertation begins with a review of literature supporting the need to apply entertainment-education to the health literacy and mental health fields. Although the review of literature is meant to support the need to improve depression literacy among Latinas, it also highlights the current status of research with Latinos, as a whole, in the areas of entertainment-education, health literacy, and mental health. Therefore, the terms Latinos and Latinas are used throughout this study. Following the review of literature this dissertation then details the methodology used to explore the fotonovela's effectiveness, presents results, and concludes by interpreting findings from both forms of data.

Depression and Its Prevalence among Latinas

With recent evidence indicating high rates of depression among immigrant Latinas, the need for prevention strategies targeting foreign-born women is especially pertinent. Although ethnic women in general, particularly those with children, are at risk for the incidence of depression (Grote et al., 2007), Latinas are found to be less likely to perceive mental health services as an efficacious or common cultural response to mental distress (Kimberling & Baumrind, 2005). Among Latinos, women present with twice the risk for depression than men, with 14 and 7.9 percent lifetime prevalence rates for major depression, respectively (Vega et al., 1998). Findings from the National Latino Asian American Study (NLAAS) also reveal a consistently higher risk for depression among Latinas than Latinos, regardless of time spent in the U.S., with the risk significantly climbing among second and third generation Latinas (Alegria et al., 2007). A study of 99 recently arrived immigrant Latinas also found depression to be a significant problem among 26% of participants attributed to significant stressors resulting from their adjustment to a new country (Coffman & Norton, 2010). Grzywacz, Quandt, Arcury, and Marin (2005) assessed 150 Latino immigrants who had resided in the U.S. less than 5 years, using the Center for Epidemiological Studies Depression Scale (CES-D), and found the majority, 40%, to report symptoms of depression related to family-work strain. A separate study by Hiott, Grzywawcz, Arcury, and Quant (2006) also found that 40% of 150 recently arrived immigrants in their sample indicated a severe level of depression. Finally, Kaltman, Green, Mete, Shara, and Miranda (2010) sampled 133 immigrant Latinas who had resided in the U.S. for at least six years, of which 48% presented with posttraumatic stress disorder and depression. Interestingly, those with fewer years in the U.S. presented with worse mental health outcomes. While immigrant women typically present with a healthier mental health status than their more acculturated peers (Alegria et al., 2007), the studies listed above serve as reminders that mental health concerns are present throughout the acculturation process; warranting further research on factors associated with poor mental health outcomes among immigrant women.

Risk Factors for Depression in Immigrant Women

The immigrant experience can itself be a risk factor for poor mental health outcomes. Separation from family members, possible trauma during migration, and the adjustment to a new country warrant emotional resources. In recent years, Latinas have become just as likely as

Latino men to immigrate due to changes in the global economy, more service oriented U.S. jobs hiring women, and the desire to reunite with family (Miranda, Siddique, Der-Martirosian, & Belin, 2005). It is not uncommon for women to experience dangerous border crossings exposing them to trauma or injury. After arrival, the adjustment to a new country (e.g., difficulty finding stable housing, the search for employment, the need to learn a new language, and the fear of not being able to meet family needs) increases the risk for depression (Coffman & Norton, 2010).

During the resettlement phase, perceived isolation also exacerbates the risk for depression. Feelings of isolation resulting from separation from family members are thought to present a greater risk factor for depression than economic hardship (Heilemann, Coffey-Love, & Frutos, 2004). Immigrant women leave behind extended family that previously provided social and emotional support. Ironically, families that manage to remain physically united experience a discrepancy between expected family support and what is provided because most family members need to work long hours (Guarnaccia, Martinez, & Acosta, 2005).

Separation from family unison is a common culprit for depression given that Latinas perceive their mental health as holistic inclusive of mental, physical, spiritual, and family well-being (Shattell, Smith, & Quinian-Colwell, 2008). Consequently, familial conflict, marital discord, or widowhood can lead to depression among Latinas. Additional factors include family cultural conflict and vicarious trauma derived from negative circumstances affecting spouses, such as loss of employment (Alegria, Woo, Takeuchi, & Jackson, 2009; Aranda, Castaneda, Lee, & Sobel, 2001).

Often times Latinos attribute mental health concerns to social and or familial stressors rather than to a mental illness with biological implications. While social stressors do impact mental health outcomes, Latinos often attempt to alleviate these stressors without thoroughly exploring the possibility of a mental health disorder and its clinical treatment (Lopez et al., 2009). Although there are several biological causes of depression, commonly known to mental health providers, such as the presence of abnormal neurotransmitter systems, alterations of neuropeptides, hormonal imbalances, alterations in cerebral blood flow and metabolism, possible alterations in brain structure, or the developmental hypothesis pointing towards the increased risk for depression among women emerging during adolescence due to the onset of puberty (American Psychiatric Association [DSM-IV-TR], 2000), Latinos commonly identify social causes of depression more often than they identify its biological origins. Qualitative studies (Cabassa, Lester, Zayas, 2007; Pincay & Gaurnaccia, 2007) attempting to understand how Latinos describe depression and what they attribute it to found that despite having the ability to provide a medical diagnostic description of depression many participants continued to relate a cultural understanding to the illness. For example, depression was commonly attributed to problems within the home (e.g., family conflict, spousal abuse, or infidelity), economic strain, or lack of social support (Cabassa et al., 2007; Pincay & Guarnaccia, 2007).

Further contributing to depression in women are gender roles and the multiple responsibilities attached to them. Working outside the home may shift traditional Latino gender roles to more egalitarian roles but such a shift may also contribute to conflicts with a partner, creating yet another risk factor for depression (Alegria et al., 2009; Heilemann et al., 2004). A higher level of education, although connected with multiple opportunities, is also negatively associated with depression in women. Access to education combined with increased family income can result in greater perceptions of discrimination, which affect mental health status (Aranda et al., 2001; Heilemann et al., 2004). It is highly probable that the latter risk factors are connected with higher acculturation levels and perceptions of discrimination leading to acculturative stress and depression (Guarnaccia et al., 2005; Heilemann et al., 2004). With a multitude of risk factors for depression in women one would expect a heightened awareness to deliver mental health treatment to them and in turn their ability to readily access services. Yet, numerous barriers distance Latinas from mental health treatment.

Barriers to Mental Health Treatment Faced by Immigrant Women

Provider, service system, community-level, and person-centered barriers reduce the likelihood that Latinas in need of mental health treatment will receive adequate services (Guarnaccia et al., 2005). When services are sought, Latinas are more likely to turn to primary care settings due to the common somatization of symptoms. Unfortunately primary care settings often fail to diagnose and effectively treat depression among Latinas (Brown, Abe-Kim, & Barrio, 2003; Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999). A shortage of bicultural providers, provider biases, and clinical uncertainty due to the cultural presentation of symptoms, not easily applied to DSM-IV diagnostic criteria, contributes to an underdiagnosis of depression (Aguilar-Gaxiola, Kramer, Resendez, & Magana, 2008; Gonzalez-Ramos & Gonzalez, 2005; Guarnaccia et al., 2005). Consequently, Latinos are less likely to receive evidenced-based treatment, which reduces the amount of Latinos actually in treatment (Alegria et al., 2002). In general minorities tend to receive lower quality health care even when controlling for access factors, such as SES and health insurance. The limited opportunities to enroll in treatment, together with misperceptions of health care providers, can further reduce the likelihood that mental health care will be sought by Latinos (Britigan et al., 2009).

Service system barriers refer to restrictive health care policies limiting insurance coverage for immigrants. The Current Population Survey estimates that 49.5% of foreign-born Latinos lack health insurance and the rates are higher, 61.8%, for those residing in the U.S. less than 10 years (U.S. Census Bureau, 2011). In prior analysis of the Current Population Survey, Carrasquillo, Carrasquillo and Shea (2000) found that length of residency and income related to insurance coverage. Lack of insurance coverage coincides with the practice of "off the book" compensation without health care benefits found in low-income occupations along with anti-immigrant policies (Carrasquillo et al., 2000). The Personal Work Opportunity and Reconciliation Act of 1996 created restrictions in immigrant access to outpatient treatment while Medicaid policies require immigrants to be U.S. residents for at least five years before being eligible for healthcare benefits. Those who are eligible for Medicaid often fail to enroll out of fear that such enrollment will jeopardize residency status (Alegria et al., 2009).

At the community level, stigma towards mental health disorders may impact treatment access (Guarnaccia et al., 2005). Stigma related concerns reduce the likelihood of seeking depression treatment, particularly among immigrant Latinas who are more likely than White women to report stigma towards depression treatment (Nadeem et al., 2007). Two forms of stigma, self-stigma and public stigma, generally affect the desire to seek mental health treatment (Corrigan & Shapiro, 2010). Self-stigma refers to internalized stereotypes and attitudes about individuals with mental health diagnoses. Public stigma occurs when the general public or one's community accepts negative stereotypes of mental health disorders, such as thoughts of individuals with mental health disorders being dangerous, lacking moral character, or simply being incompetent (Corrigan & Shapiro, 2010). Both forms of stigma not only hinder the willingness to disclose mental health needs but can also reduce the self-efficacy to manage a disorder (Corrigan & Shapiro, 2010). Stigma concerns also affect multiple levels of service provision from initial contact with a mental health provider to the rejection of medication treatment for depression. For example, when examining mental health stigma levels in a sample of 200 Spanish-speaking Latinos mostly composed of women, Interian, Martinez, Guarnaccia, Vega, and Escobar (2007) found participants with high levels of stigma towards mental health care and antidepressants to be less likely to take antidepressant medications. They found Latinas to be generally reluctant to take psychotropic medications because the use of medication is often associated with social deficiencies (e.g., the inability to cope with stress, craziness, weakness, or the indication of a severe mental health disorder) and the fear of addiction.

Thus far, the barriers discussed above paint a picture of the factors commonly thought to prevent Latinas from entering treatment, but at times the biggest barrier to mental health treatment may be not knowing about the existence and benefits of mental health treatment. The process of enrolling into services may also be an unknown. Those able to access treatment are required to navigate through complex health care systems that are different from the health care systems found in their countries of origin (Alegria et al., 2009; Coffman & Norton, 2010). Complicated intake procedures and long waiting lists for an initial appointment, worsened by limited Spanish speaking staff to assist with the completion of forms, lessens the desire to pursue treatment (Gonzalez-Ramos & Gonzalez, 2005). If immigrant women have limited contact with the mental health care system, one can hypothesize that they may also have limited knowledge of mental health disorders and their treatment options, which can exacerbate untreated conditions and limit the ability to make appropriate health decisions (Hinojosa et al., 2010). If in fact immigrant Latinas present with limited mental health literacy, then this critical barrier may also interfere with their ability to access services. Further explorations of health literacy and its impact on mental health outcomes are necessary to better respond to barriers affecting access to treatment.

Health Literacy and Its Influence on Health Outcomes

Low health literacy (associated with numerous factors such as reading fluency, prior understanding of health and health care, education, English proficiency, and health care access) (Baker, 2006; Britigan et al., 2009) has become so concerning that several health and government agencies, such as the National Institutes of Health, the U.S. Department of Health and Human Services, and the American Medical Association's Council on Scientific Affairs, have developed initiatives to improve public health literacy (American Medical Association, 2012; National Institutes of Health, 2012; U.S. Department of Health and Human Services, 2010). Recently, the Obama administration passed the Plain Writing Act of 2010 "to improve the effectiveness and the accountability of federal agencies to the public by promoting clear government communication that the public can understand…" (www.PlainLanguage.gov, n.d). These initiatives respond to a multitude of complications associated with low health literacy. In addition to a poor understanding of both verbal and written medical instructions, persons with low health literacy have difficulty with the completion of insurance forms, the provision of accurate health histories, and often present with low self-efficacy to manage health problems and even mistrust of health care providers (NIH, 2012; Servellen, Brown, Lombardi, & Herrera, 2003).

Individuals with low health literacy also face worse health outcomes, use less preventative care, and are at greater risk for emergency services that increase annual health costs (Hinojosa et al., 2010). In a study of Medicaid participants, individuals with the lowest educational grade levels generated a higher annual health cost of $12,974 in comparison to those with higher grades levels who only created $2,969 in health care related expenses (Lee, Bender, Ruiz, & Cho, 2006). At the national level, annual health costs due to poor health literacy are estimated to range from 106 to 236 billion dollars (NIH, 2012). Individuals with low health literacy incur more health costs partially because they are more likely to report a history of hospitalization within the last year (Kefalides, 1999).

Despite their needs for additional supports from healthcare professionals, in general, patients with low health literacy do not ask healthcare providers to clarify misunderstood medical or medication instructions due to shame in disclosing poor reading skills (Gazmararian, et al., 1999). A qualitative study of individuals with low literacy (Baker et al., 1996) found patients to have difficulty in reading hospital signs, identifying the appropriate medical unit, recognizing prescription errors such as the receipt of the wrong medication, and still most opted not to disclose these difficulties to hospital staff. Most patients with low health literacy perceived hospital staff as cold and uninterested in their needs and compensated by bringing a friend to their appointment or having others read medical forms (Baker et al., 1996). In a similar study of immigrant Latinas seeking care in a county hospital (Derose, 2000), those with low health literacy were found to miss appointments, prematurely end necessary treatment, or to simply refuse to go to the hospital until a family member was able to accompany them. Most women dreaded the limited support to navigate the healthcare system offered by hospital staff. Not surprisingly, the limited response to patient literacy may not only impact patient care but patient satisfaction as well. In analysis of patient satisfaction among Latinos, O'Brien and Shea (2011) found a positive association between patient satisfaction and health literacy. Limited research in the area of patient satisfaction and health literacy (O'Brien & Shea, 2011) leads one to assume that perhaps health care providers not only fail to identify low health literacy in patients but to respond to it as well. Additionally, rushed medical appointments may not supply providers with sufficient time to adequately educate patients with varied health literacy levels about their medical needs.

Similarly to health care providers, individuals with poor health literacy may be unaware of the extent of their limitation. This tends to happen if the patient is commonly in situations in which reading demands are low but awareness increases once the individual encounters a new situation demanding greater comprehension, such as the need to understand insurance enrollment forms (Baker et al., 1996). Overall, low health literacy impacts several aspects of health care management from the desire to seek treatment, the completion of health forms, communication with health care providers, to the understanding of discharge forms and after care instructions (Gazmararian et al., 1999).

While it may be presumed that low health literacy only affects a few vulnerable populations, in reality it is a silent problem affecting a large portion of the U.S. adult population. The National Institutes of Health indicate that at least half of the U.S. population is affected with poor health literacy skills and only 12% of the adult population has proficient health literacy (NIH, 2012). Even adults with high health literacy levels can have difficulty understanding medical terms and making medical decisions, particularly when faced with a serious medical diagnosis (NIH, 2012; HHS, 2010).

Still in determining who is most affected by low health literacy, research points towards individuals with low reading skills, low social economic status, chronic health conditions, older adults, and ethnic groups. For example, half of patients in acute care settings cannot read at the 5th grade level and typically present with lower SES (Horner, Surratt, & Juliusson, 2000). A systematic review of the literature (DeWalt, Berkman, Sheridan, Lohr, & Pignone, 2004) also found individuals with low health literacy to use less preventive care even after adjusting for age, gender, race, education, and income. Additional research found low health literacy to relate to poor health outcomes in individuals diagnosed with chronic health conditions such as diabetes, hypertension, and HIV (Berkman et al., 2004). Age is also a factor associated with low health literacy, with older adults disproportionally presenting with inadequate to marginal literacy as reflected in the work of Gazmararian et al. (1999) who sampled 304 Spanish speaking Medicare enrollees and found 53% to have marginal and inadequate health literacy. Finally, both Latinos and African Americans have been found to have lower levels of health literacy even after adjusting for educational attainment (Gazmararian et al., 1999).

In regards to educational attainment as a predictor of low health literacy, studies present mixed findings with some indicating a correlation between low health literacy and low levels of education and others suggesting that the highest level of education is not predictive of health literacy levels. Perhaps literacy and health literacy require complex measures given that at times actual reading levels are four grades below the reported years of schooling (Baker, Parker, Williams, Clark, & Nurss, 1997). Arguably educational content, what is actually learned, may be the most important factor in exploring predictors of health literacy (Baker et al., 1997). What is actually learned could be confounded with access to health care that establishes a connection with health care providers who educate their patients about specific conditions. Hence, it is highly probable that the highly valuable access to health care directly impacts health literacy levels (Van Servellen, Brown, Lombardi, & Herrera, 2003).

In all, populations most at risk for low health literacy include older adults, ethnic minorities, and individuals with low SES. Suggesting that education, culture, and access to health care all impact poor health literacy (HHS, 2010). Therefore, to better formulate an idea of who is affected most by low health literacy cultural implications must also be explored when assessing the needs of specific ethnic groups.

Health Literacy among Latinos

Latinos consistently report low or marginal health literacy levels, even when tested in Spanish (Coffman & Norton, 2010). In 2003 the National Assessment of Adult Literacy (NAAL) found half of adults who spoke Spanish before starting school to present with very low health literacy, signaling a great public health concern given that Latinos are disproportionally affected by chronic medical conditions such as heart disease, diabetes, and cancer (Britigan et al., 2009; White, 2008). In comparison to other ethnic groups, such as American Indian/Alaska Natives and African Americans, Latinos present with lower health literacy scores (White, 2008).

Limited English proficiency coupled with limited Spanish literacy worsens health outcomes for Latinos. In inner city hospitals, 62% of Spanish-speaking patients are functionally illiterate in comparison to 35% of English speaking patients, contributing to higher mortality rates in patients with chronic pre-existing medical conditions (Horner et al., 2000). Mortality rates among inner city minority groups with poor literacy in their first language rise because they have less knowledge about their medical conditions, relevant resources, and are not likely to benefit from information written in medical pamphlets (Britigan et al., 2009; Coffman & Norton, 2010; Horner et al., 2000).

Acculturation level also serves as a predictor of the utilization of health care services, greater knowledge of health concerns, and has a direct impact on the ability to learn about specific disorders and the American health care system (Van Servellen et al., 2003)**.** Individuals with low levels of acculturation, such as newly arrived immigrants, tend to have lower levels of health knowledge, information acquisition skills, and efficacy to seek treatment (Bell & Alcalay, 1997). For Latinos, health literacy levels do not necessarily associate with their highest level of education because varied acculturation levels can impact their awareness of health resources (Van Servellen et al., 2003). As Latinos acculturate and have greater access to health care, they are likely to adopt acculturated views of health behaviors.

While the problem of low health literacy in Latinos seems apparent, few studies have actually investigated mental health literacy among Latinos. Those that have, (Coffman & Norton, 2010; Gabriel & Violato, 2010; Bennett et al., 2007) confirm a strong association between depression and low health literacy among Latinos. For example, Gabriel and Violato (2010) found Latinas suffering from depression to present with low depression literacy, particularly its biological components. They also noted that women with less than 12 years of education were more likely to delay treatment. While these studies warrant the need for further research of mental health outcomes and health literacy, in general, both researchers and practitioners overlook this association.

Health Literacy and Mental Health Care

Several oversights prevent practitioners and researchers from thoroughly evaluating the health literacy needs of mental health consumers. One reason is the lack of assessment of health literacy levels in mental health settings. Moreover, clinicians often make the erroneous assumption that their clients are literate, never formally test for literacy skills, and believe the highest level of education reflects the client's reading skills (Glenn & Christensen, 1998). In reality, most clients report that they read and write well. As previously noted, it can be shameful for clients to admit to having poor reading skills. At times, patients with adequate reading levels can over-estimate their ability to comprehend mental health disorders and their treatments (Glenn & Christensen, 1998). In a study examining the prevalence of low literacy in indigent psychiatric populations, of 45 patients sampled 33% reported reading very well and 49% indicated that they read well but after formal assessment only 24% read at a high school reading level (Christensen & Grace, 1999). Aside from written comprehension of mental health conditions, low health literacy can also affect the provider-client relationship. When clients miss appointments or fail to take psychotropic medications their actions are attributed to a lack of compliance rather than to an inability to comprehend written instructions. In some cases, health care professionals are aware of the problem of low health literacy but lack knowledge of adequate interventions or its relationship with poor treatment outcomes (Gazmararian et al., 1999).

The lack of empirical research of health literacy in mental health settings further allows this concern to remain in the dark (Christensen & Grace, 1999). Few studies have evaluated the relationship between health literacy and mental health outcomes and among those that have, most have sampled individuals outside of mental health settings (Berkman et al., 2004). In addition, most studies examine the relationship between health literacy and a specific medical condition but few inquire about related problems such as poor self-efficacy to identify a disorder or limited access to health care (Berkman et al., 2004). Clearly, additional research and practices investigating the relationship between health literacy and mental health outcomes is needed to "better understand the etiology of poor health outcomes, to identify a clinical marker of patients at risk for poor outcomes, and to inform the development of interventions" (DeWalt et al., 2004, p. 1236).

Initial steps that both researchers and clinicians can take towards the improvement of low health literacy within mental health settings involve the measurement of its prevalence. Screening tools (e.g., the Rapid Estimate of Adult Literacy in Medicine (REALM), the Wide Range Achievement Test (WRAT), and the Short Test of Functional Health Literacy in Adults (S-TOFHLA)) (as cited in Glenn & Christensen, 1998) do exist and once the problem is identified clients can receive the necessary support. With increased awareness of low mental health literacy appropriate interventions may be developed, such as the replacement of mental health pamphlets typically written at a 10th grade reading level with appropriate reading materials for low health literacy levels (Christensen & Grace, 1999). Appropriate health literacy interventions are essential for Latinas at risk for depression that may delay treatment due to a limited understanding of the disorder. In order to seek depression treatment, Latinas must have the ability to recognize depression symptoms and understand that depression is a medical condition necessitating treatment. If mental health literacy is not improved among Latinos their acceptance of mental health services may remain troubling. Thus, the need for interventions for Latinos with low health literacy is necessary.

Towards an Intervention for Latinos with Low Health Literacy

The need to adapt health information for individuals with low health literacy was first identified by Plimpton and Root (1994) who almost 20 years ago noted the lack of "easy-to-read" health materials in the state of Maine. In response they developed a partnership with the Maine Literacy Coalition, health professionals, and literacy experts to collaborate in creating easy to read health materials. Through an overview of the written health materials available at that time in the state of Maine they found unclear difficult to read content, limited use of graphics, small print, inappropriate culture and language for targeted audiences, and noted that the cost to produce these materials was quite high. The "easy-to-read" health materials developed by Plimpton and Root (1994) were later highly demanded by nearby states.

Despite Plimpton and Root's (1994) recommendation to adapt health information for individuals with low health literacy, current health materials remain difficult to understand and incorporate few photographs to illustrate the text (Horner et al., 2000). The circumstances are similar for Spanish health education materials which are described as unattractive, difficult to read, and poorly translated (Hinojosa et al., 2011). Often Spanish medical brochures deliver health information with the assumption that readers have health insurance and fail to attend to cultural beliefs related to health concerns (Buki, Salazar, & Pitton, 2009). This is unfortunate given that written health instructions must supplement health information in settings with short hospital stays and limited access to health care providers (Horner et al., 2000).

In response, the majority of research related to Latino health literacy calls for health promotion programs and the adaptation of health information in easy to read formats (Horner, et al., 2000; Servellen et al., 2003). When tailored for Latinos, health education disseminated through health promotion strategies can increase healthy behaviors and the utilization of health care systems (Bell & Alcalay, 1997). The first step is to design easy to read culturally competent health educational materials. Printed materials are considered to be credible, engaging, and accepted when they reflect the targeted audience's cultural values. They bring awareness to health concerns, describe treatment options, and identify treatment services (Bell & Alcalay, 1997). Even more promising is the idea that culturally competent print materials can help less acculturated readers obtain the same health knowledge easily acquired by their more acculturated peers (Bell & Alcalay, 1997). Less acculturated individuals are thought to be impacted by a "knowledge gap" used to explain why less educated individuals obtain publicized information at a slower rate than those with higher levels of education; assuming of course that less acculturated individuals are also less educated. This notion is challenged by the concept of a "differential learning rate" suggesting that knowledge gaps grow due to different rates of knowledge exposure (Bell & Alcalay, 1997). While health information disseminated through conventional written means may successfully reach more acculturated individuals, the less acculturated are left in the dark (Wilkin & Ball-Rokeach, 2006). However, once presented with information relevant to their cultural needs, Latinos may gain greater motivation and interest in a health matter, reducing knowledge differences between less and more acculturated groups.

Although the development of written health materials tailored for Latinos is necessary, their development can be complicated. The simple translation of materials into Spanish does not necessarily mean health information will be better understood because the targeted group may have limited Spanish literacy as well. Hence, when developing appropriate written health materials for Latinos, it is necessary to determine the appropriate reading level, to improve content comprehension with simple yet key terms, to add illustrations, and to use examples relevant to the targeted population (Horner et al., 2000). Additional factors to consider include message presentation, color, conceptual difficulty, graphics, layout, organization of materials, sentence flow, typography, vocabulary, and writing style. These essential factors determine whether educational print materials catch the eye of the intended reader, are actually read, and understood (Massett, 1996). Similar recommendations are made by several government and health agencies (e.g., the U.S. Department of Health & Human Services, The Council of State Governments, The American Medical Association) offering "toolkits" or health literacy resources for clear and effective written materials (as cited in AMA, 2012).

While the delivery of factual information at the appropriate reading level is only the first step in developing a written health literacy intervention, the intervention must also engage the audience and ultimately impact help seeking behaviors (Nelson, Ricardo, Forges, Lopez. & Lewy, 2008). If Latinas identify with the content of the written materials, if they actually see themselves in the message, then they are likely to perceive themselves to be at risk for a specific disorder and to adopt the newly learned behaviors (Watters, 2003). In order for an intervention to be this effective, it must incorporate examples relevant to the audience's cultural values (Horner et al., 2000, Massett, 1996). Buki et al. (2009) provide the following culturally competent guidelines for the design of educational print materials: ensure that the diversity of the Latino community is represented in educational print materials, incorporate culturally meaningful illustrations inclusive of Latino values such as *familismo* or *confianza*, address cultural beliefs, and include information about health resources and representations of increased self-efficacy to seek treatment. In summary, materials that are easy to comprehend, are more credible, memorable, and more acceptable to the target audience. In comparison to a typical medical brochure, they can more effectively inform women with low health literacy about their mental health needs and ultimately contribute to an increase in mental health care use (Massett, 1996). One innovative and culturally competent approach to improve health literacy among Latinos is the use of entertainment-education in the form of fotonovelas.

Entertainment-Education and The Fotonovela: An Intervention for Latinas with Low Health Literacy

Used to place educational content in entertainment messages (Singhal & Rogers, 2002), entertainment-education (E-E) can increase mental health literacy and treatment seeking behaviors among Latinas. Existing research demonstrates the effectiveness of E-E for health topics such as breast cancer, AIDS/HIV, safe sex practices, diabetes, TB, and family planning (Cabrera et al., 2002; Moyer-Guse, 2008; Singhal & Rogers, 2002; Wilkin et al., 2007) but with the exception of a few works, Lopez et al. (2009) and Unger et al. (2012), E-E is lacking research in its application to the mental health needs of Latinos.

Through engaging storylines, E-E strategies are thought to be more persuasive than common public service announcements or educational pamphlets (Hinyard & Kreuter, 2007; Kreuter et al., 2007). Studies comparing the effects of narrative communication (including E-E, journalism, and storytelling) versus non-narrative forms of communication (factual and statistical presentations of a given situation) find narrative communication to be more personal, realistic, and memorable than the provision of statistical information on a health related matter (Hinyard & Kreuter, 2007; Unger et al., 2012). Through audience identification with both the narrative and characters, E-E can engender emotional experiences likely to influence individual behavior. E-E also models individual self-efficacy (a belief that one can enact a behavior similar to that of a character) through a character's ability to effectively resolve a situation and his or her sense of control over a situation (Moyer-Guse, 2008; Singhal & Rogers, 2002). E-E can further target mental health treatment seeking behaviors by delivering information essential to the early detection and treatment of depression. Once diagnosed with depression, women exposed to an E-E strategy, delineating treatment options, are likely to remain in treatment and follow recommended treatments (Kreuter et al., 2007).

The applications of E-E methodology are versatile and can be found in fotonovelas, radio programs, public service announcements, soap operas, computerized tutorials, and much more, allowing health educators to select a format most applicable for their audiences (Singhal & Rogers, 2002). For health educators working with Latinos, a fotonovela offers an effective health literacy tool (Unger et al., 2012). With the use of fotonovelas, health educators offer their clients a culturally familiar resource targeting barriers interfering with their ability to locate health services, to communicate with health professionals, implement positive health habits, and to understand health information (Britigan et al., 2009; Hinojosa et al., 2011). In Latin America fotonovelas typically attract low-income and middle-class women of all ages and in the U.S. they attract women with lower acculturation levels (Cabrera et al., 2002; Valle et al., 2006).

Owing to their combined presentation of pictorial and written information in lower reading levels, fotonovelas are more readable than books and pamphlets (Cabrera et al., 2002). Based on the medical model, books and pamphlets rely on facts and logical arguments without appealing to the audience's culture (Borrayo, 2004). Latinas with low health literacy find the factual delivery of information difficult to understand and are not engaged by the intended health message. It is also not clear if they actually read conventional health brochures. What's more, written information guided by the medical model assumes health decisions are autonomous and rational without emotional or cultural influences (Borrayo, 2004). Conventional written information assumes the reader will individually evaluate personal outcomes and his or her readiness to change. Instead, family support and approval greatly impact health decisions among Latinos (Elder et al., 2009). Therefore, among Latinos, written information reflecting emotional reactions and social interdependence when evaluating health options allow for greater absorption of health information.

In fotonovelas, the combination of both pictures and words better depicts attitudes towards health behaviors and can truly reflect health experiences common in an ethnic group, especially when ethnic characters are used (Van der Walt & Tobias, 1996). Consequently, the fotonovela offers the opportunity to target internal barriers hindering the implementation of healthy behaviors. The fotonovela is a product that conveys health information in a manner that community members relate to and can apply to their daily lives (Hinojosa et al., 2011).

One of the most advantageous aspects of the fotonovela is its cost effectiveness as well as the ease in which actual clients can distribute it within their communities. Research indicates that fotonovelas have multiple owners, offering health professionals the ability to target more than one client (Unger et al., 2012; Van der Walt & Tobias, 1996). Women typically share fotonovelas with friends or family and can inadvertently distribute health information within their communities (Van der Walt & Tobias, 1996). In Latin American countries it is common for fotonovelas to be discussed with friends, family members, neighbors, or even colleagues. At times they can be resold, loaned, or rented to friends (Valle et al., 2006).

When effectively persuasive, fotonovelas can lead to cognitive reflections of health messages, interpersonal communication about newly learned health information, and ultimately to changes in health behaviors (Bandura, 2001; Sood, 2002). When engaged in a storyline, audience members participate in interpersonal communication by discussing the content of the media to which they were exposed to with friends, family, or other community members (Sood, 2002). Interpersonal communication about newly learned health information is key in targeting health behaviors because discussions with a trusted source are influential when assessing one’s health (Wilkin & Ball-Rokeach, 2006). In this manner fotonovelas can empower specific communities with limited financial and political power by increasing their understanding of mental health disorders, their ability to communicate health concerns, and their ability to acquire needed treatment (Hinojosa et al., 2010; Hinojosa et al., 2011).

Currently, governmental agencies, such as The National Institute of Health, The Substance Abuse and Mental Health Services Administration, and researchers increasingly use fotonovelas as a health promotion tool to educate ethnic groups with low levels of health literacy about diverse health disorders and their treatment (Hinojosa et al., 2010; Valle et al., 2006). More and more studies applying this approach find positive increases in health literacy relevant to different health topics. Hinojosa et al. (2011) provided study participants with cameras to create their own fotonovelas, related to a family’s improved eating habits, in efforts to prevent obesity and diabetes in the Latino community. After developing the fotonovela, study participants were found to have improved nutritional health literacy and willingness to adopt healthy eating patterns. Kirova and Emme (2008) used fotonovelas, developed by study participants, to increase the social skills of immigrant children and their understanding of American cultural norms. In another study promotoras developed three fotonovelas: in the first story the protagonist learns to utilize public transportation, in the second she learns to refuse to provide unnecessary documents, and in the third she learns to file a complaint when mistreated in a social service agency. These stories were made available in an online health manual. Participants were recruited for a series of seminars (*talleres*) ranging in topics such as basic computer literacy skills to the use of health care systems. Pretest and posttest surveys were administered to 452 community members to measure knowledge changes in computer use, the ability to access the online health manual, and the ability to overcome barriers to health care access. Based on a 4-point knowledge scale, participants demonstrated an average increase in the ability to use the online health manual from 1.48 to 2.85 and an increase in knowledge of health barriers from 1.7 to 2.9 (Ginossar & Nelson, 2010). This study noted that the use of fotonovelas engaged participants by allowing them to role-play different characters and discuss different health topics. Most participants indicated that they identified with the characters and storylines of the fotonovelas (Ginossar & Nelson, 2010). The authors of this study attribute the study's success to the ability to deliver the seminars in visible places within the participants' community. For example, workshops took place in the same location as the organization's weekly meetings and childcare was offered in a location where other community and social activities take place (Ginossar & Nelson, 2010). Outcomes also suggest that even among hard-to-reach populations, literacy tools can increase a community's access to health information (Ginossar & Nelson, 2010).

Van der Walt and Tobias (1996) responded to the low literacy and high prevalence of tuberculosis in South Africans by developing a fotonovela. In a pilot test of the fotonovela participants reported that they identified with the characters and expressed a desire to share the booklet with a family member or friend. Valle et al. (2006) developed two Spanish language Alzheimer's fotonovelas for older adults with low health literacy. Over a period of two sessions participates were exposed to both fotonovelas and were asked to complete posttests measuring knowledge and experience with Alzheimer's disease and dementia, dissemination of the fotonovelas, as well as the response to the fotonovelas. Results indicate that out of 181 participants, three fourths reread the fotonovelas, 60% discussed the newly learned information with others, and 40% actually shared the fotonovelas with others. Participants with the lowest Alzheimer's knowledge levels improved more than the participants with higher knowledge levels and all participants reported that they enjoyed the fotonovelas and found them useful. Unger, Molina, and Baron (2009) utilized a pretest posttest measure to assess a diabetes fotonovela with a sample of 311 Latino participants. At posttest diabetes knowledge scores improved by 20% and the participants' desire to exercise, eat healthy, and to talk to a doctor also increased.

The use of fotonovelas extends from community settings to clinical settings. In a hospital setting, African American, Hispanic, and Asian American women diagnosed with breast cancer were randomly assigned to a computerized multimedia interactive patient decision aid in the form of a soap opera demonstrating how to make informed decisions before surgery (Jibaja-Weiss et al., 2011). The women's breast cancer knowledge was measured at three different time periods: 1) pre-decision, 2) pre-surgery, and 3) one year during follow-up assessments. Experimental group participants demonstrated improvements in breast cancer knowledge during the pre-surgery assessment period (Jibaja-Weiss et al., 2011).

Sources of Health Information Frequently Used By Latinos

The use of fotonovelas to disseminate health education is compatible with the Latino community because Latinos are more likely to act on information learned through media, such as television, compared to Caucasians (Wilkin & Ball-Rokeach, 2006). Immigrant groups rely on predominantly Spanish language media and social networks to learn about health resources. Wilkin and Ball-Rokeach's (2006) work on health storytelling in Los Angeles County found 40% of their Latino sample ($N = 739$) to report ethnic media use via television, newspaper, and radio vs. a 10% use of mainstream media. When sampling 52 Latinos in the Ohio area, Britigan et al. (2009) found the majority to turn to the media and a medical professional for health information when ill or seeking preventative information. In a study exploring the sources of health information used by Latinos and their perceived usefulness, the most commonly used sources of health information were television, pharmacists, brochures, the Internet, radio, and friends (Geana, Kimminau, & Greiner, 2011). However, pharmacists, family, friends, newspapers, magazines, and the Internet were identified as most useful; indicating a dependence on media or family and friends when seeking answers to health related questions and a need for these sources to adequately provide health education to consumers.

Wilkin and Ball-Rokeach (2006) caution that while media use is high, health stories may not provide sufficient information to help consumers identify, prevent, or resolve health problems (Wilkin & Ball-Rokeach, 2006). Spanish language television does not regularly include referrals to health resources available within local communities and newspapers fail to make health information relevant to the Latino community. Owing to language limitations and varied acculturation levels, Spanish-speaking Latinos are not exposed to health information delivered by English media (Britigan et al., 2009; Wilkin & Ball-Rokeach, 2006). Health disparities are maintained if pertinent health information does not reach vulnerable communities. The solution is found in health educators' ability to become part of an ethnic community's storytelling network composed of residents, the community, non-profits, and the media. To reach underserved populations, health information must be delivered through the trusted channels of the hard to reach populations (Wilkin & Ball-Rokeach, 2006).

Health Promotion with Latino Communities

To reach the targeted community, health educators must not just develop a culturally competent intervention; they must also ensure that it reaches the intended audience. When serving the Latino community it is important to go through trusted community leaders and to deliver health information to one of the most motivated recipients, mothers. Latinas are frequently perceived as the health managers of their families and may be the key to sharing health information with their families and communities (Britigan et al., 2009). When searching for health resources, Latinas turn to their social networks (e.g., family, friends, neighbors, and other trusted sources) for consultation. If their networks are knowledgeable of and receptive to mental health services then it is likely that Latinas will seek mental health care (Rogler & Cortes, 1993). It is highly probable that the acceptance for mental health treatment will increase if Latinas and their inner circles are educated about the benefits of mental health treatment. By targeting women, the primary health educators of Latino families, service providers will be able to better diffuse health information, particularly if demonstrating how their health affects the rest of the family (Elder et al., 2009). Although described as hard to reach, Latinas are pretty visible. To meet the health needs of their children, their husbands, and elderly parents, Latinas are in constant contact with local clinics, schools, and several other social service centers. Through the application of health promotion strategies, they can easily be included in educational campaigns.

Health promotion is known as the strategic use of health communication to improve health among the underserved. Health promotion applies a multiplicity of health prevention strategies from exposure to health information to peer counseling (Britigan et al., 2009). Health promotion efforts can successful reach Latinas if trusted peers deliver health information in their communities. *Promotoras*, peer health educators, are well aware of the needs and preferences of the communities they serve and can tailor their methods for successful outreach. Promotoras live in the communities they serve, understand their neighborhood's cultural and health needs, and can adequately access their communities' health services (Elder et al., 2009). Promotoras tend be community leaders and trusted peers who can serve as consultants to both health educators and community residents. They are highly dedicated to improving the well being of their peers, the conditions of their communities, and eagerly seek to improve their own status. They relate to the peers they counsel because they have similar experiences (e.g., they too have adjusted to a new country or had to overcome a similar illness) and have successfully engaged with various health systems.

Often trained by local health centers, promotoras offer support and guidance to community members learning to navigate health systems. Through caring and open discussions they highlight the importance of medical treatment and educate the public about eligibility requirements and the availability of health services. With culturally appropriate health education, case management, and community outreach, promotoras serve as supplements to health education campaigns (Elder et al., 2009). Promotoras can also supplement written materials because they frequently serve as interpreters of health information to reduce misunderstandings of health promotion communication. It is also common for them to distribute written health information and then process the information in discussion groups with community members (Elder et al., 2009). The combination of the promotora model and health literacy tools is an appropriate multifaceted effort to deliver health education to Latinos. Health providers increasingly rely on multiple techniques to improve the well-being of Latinos, such as verbal descriptions of medical instructions, print materials, home visits, and various media forms (Elder et al., 2009).

Health promotion strategies are most effective when the barriers to engage clients in health courses are eliminated. It is common for promotoras to offer day care, incentives in the forms of raffles, and even transportation assistance to ensure that educational events are well attended (Pekmezi, Marquez, & Marcus-Bank, 2009). Researchers have noted the effectiveness of promotoras in reaching Latino populations and several research studies have included them. In a literature review of health promotion and healthy eating and diet among Latinos, the majority of studies included promotoras delivering information in group formats and in various settings, such as clinics, churches, schools, and homes. When collecting data from populations with low health literary, promotoras verbally administered survey measures and read materials out loud. Most used culturally adapted interventions such as the inclusion of Latin music in exercise classes and the delivery of health information in the format of soap operas (Pekmezi et al., 2009).

Theoretical Framework

Three models of health behavior change 1) social cognitive theory, 2) the theory of reasoned action, and 3) a model of culture-centric narratives in health promotion guide the application of E-E to depression treatment (Ajzen, 1991; Singhal & Rogers, 2002). Social cognitive theory proposes that new behaviors are learned through direct experience or observation therefore suggesting that most behavior is learned through modeling (Bandura, 1977). Models serve as guides or tutors for the practice of intended behaviors. Given that behaviors are enacted if the results are compatible with the targeted individual's values, models can help people see how behavior changes connect with highly valued outcomes (Bandura, 1977). Social cognitive theory also takes into account the means by which an innovative approach is accepted by observers. With the concept of diffusion of innovation, social cognitive theory supports the idea that modeling may also disseminate new ideas or practices into society.

Social diffusion of innovation requires the acquisition of innovative behaviors and their actual adoption in practice. Modeling is key to the adoption of practices because it provides instruction for the performance of new behaviors “through a social, pictorial, or verbal display” (Bandura, 1977, p. 51). Reluctance to adopt new behaviors declines when the benefits of the intended behaviors are identified. The influence of the innovative practice is strengthened through networks of interpersonal communication (Bandura, 1977).

Social cognitive theory offers two methods for linking the effective modeling of media messages to behavior change: 1) the message informs and motivates the use of a new practice, and 2) the individual is linked to social networks or community settings that will reinforce the new behavior (Bandura, 2004). Effective modeling of a behavior can increase the self-efficacy to transform the newly observed skills to successful actions. With greater self-efficacy, people set higher goals for themselves.

Complimentary to social cognitive theory is the theory of reasoned action, which expands the focus from behavioral modeling to the influence of social norms impacting behavior change. The theory of reasoned action hypothesizes that attitudes towards a behavior, social norms, and perceived behavioral control influence an individual’s intention to perform a specific behavior (Ajzen, 1991). Attitudes towards a behavior suggest whether a specific action, such as seeking depression treatment, is positively or negatively appraised. Social norms reflect whether social pressures increase or decrease the possibility of seeking treatment while perceived behavioral control points towards a perceived ability to successfully seek treatment (Ajzen, 1991).

Finally, the model of culture-centric narratives in health promotion further expands the focus from behavioral modeling and social norms to the cultural relevance of narrative communication. Larkey and Hecht (2010) argue that engaging characters and storylines, inclusive of culturally familiar situations, will associate with audience engagement and identification with the storyline, which in turn will lead to the intent to change behaviors and ultimately to changes in health behavior consistent with behaviors modeled by the storyline.

With the use of a fotonovela main characters will model how to overcome culturally stigmatized concerns about depression treatment, such as the use of medication, and how to gain the self-efficacy to discuss depressive symptomatology with service providers (Cabassa et al., 2010). The fear and reluctance to seek mental health treatment may decline once Latinas view how the treatment improved the protagonist’s interpersonal relationships with family members. The desired outcome may be reinforced by the audience’s identification with the story and its cultural representation. Further, the storyline models friends and family members encouraging the protagonist to seek professional help by dispelling social norms identifying depression as a form of weakness (Cabassa et al., 2010). The fotonovela also emphasizes the need to connect with doctors, counselors, and pharmacists, all of whom will reinforce the newly acquired behavior.

These frameworks acknowledge that not all innovative practices are adopted. Novelties can be declined when the lack of resources, skills, or information about the behavior prevent its successful adoption (Ajzen, 1991; Bandura, 1977). Social cognitive theory supports the notion that people self-organize, self-reflect, and self-regulate and do not simply react to environmental forces. The theory of reasoned action argues that with limited resources, perceived behavioral control may not accurately predict behavior change (Ajzen, 1991). Therefore, it is necessary to distinguish between the individuals who adopt new behaviors and those that do not (Bandura, 1977).

The Current Study

This study aims to expand the fields of mental health disparities, health literacy, and entertainment-education by researching the often overlooked barrier to mental health treatment found in low health literacy and the opportunity to reduce this barrier through the application of E-E to depression literacy. Although, low health literacy negatively impacts an individual's ability to identify the need for mental health treatment and successfully seek treatment, few interventions attempt to educate targeted populations about the utility of mental health services. The prevalence of low health literacy and high risk for depression among Latinas warrants the need for depression literacy tools aiming to improve their mental health access. To date, E-E has been successful in increasing the health literacy of varied health topics among ethnic groups but research is lacking in its application to the mental health needs of Latinos. Through a mixed methods approach composed of a pretest-posttest randomized control group experimental design and structured follow-up interviews, the current study sought to replicate a fotonovela's, *Secret Feelings*, effectiveness in improving depression literacy with a sample of immigrant Latinas at risk for depression. Given that replication studies help enhance an intervention's efficacy if it sustains positive results under distinct conditions, this study explored the fotonovela's effectiveness in a community health education center run by promotoras. Through replication studies, the effectiveness of novel health literacy tools such as the fotonovela can be generalizable to a greater number of Latino populations, while increasing their potential as a form of evidence-based practice. To assess the fotonovela, the following hypotheses were tested as well as two additional exploratory research questions:

Hypotheses

1) Exposure to the fotonovela will increase knowledge of depression and its treatment in immigrant Latinas.
2) Exposure to the fotonovela will reduce stigma towards depression treatment among immigrant Latinas.
3) Self-efficacy to identify the need for treatment will increase after exposure to the fotonovela.
4) The future intention to seek depression treatment will increase after exposure to the fotonovela.

Exploratory Research Questions

1) Will Latinas exposed to the fotonovela engage, as defined by the culture centric model of health promotion, with the story and its characters?
2) Will Latinas exposed to the fotonovela generate interpersonal communication about the topic of depression?

Chapter 2 – Methodology

The study utilized a sequential explanatory mixed methods approach (Creswell, 2009) comprised of two phases of research. The first phase involved the collection and analyses of quantitative data, to which this study gives primary focus. Quantitative data collection employed a pretest-posttest randomized control group experimental design to analyze changes in levels of depression knowledge, stigma, self-efficacy to identify the need for treatment, and the future intent to seek treatment in a sample of immigrant women. Participants were randomly assigned to either the treatment (exposure to the fotonovela) or control group (treatment as usual or exposure to a discussion of family communication and intergenerational relationships).

The second phase involved the collection and data analyses of qualitative data used to better explain and interpret quantitative results. Qualitative data derived from structured follow-up telephone interviews conducted three weeks after exposure to the fotonovela. The integration of the data occurred during the interpretation and discussion of the data findings in which the researcher examined how qualitative findings informed quantitative results (Creswell, 2009).

Several advantages are found in the application of a sequential explanatory strategy, such as the ability to use qualitative data to better understand unexpected quantitative results (Creswell, 2009) and obtaining data that may not be accessed with the limited response options of quantitative measures. The use of a pretest-posttest design is also advantageous owing to its suitability to assess changes in participant performance after the application of an intervention. The disadvantage of the pretest-posttest design relates to threats to internal validity due to participant awareness of the behaviors that are being measured, repeated exposure to test items, and limited time between pretest and posttest to fully assess the impact of the intervention (Campbell & Stanley, 1963). In response to these limitations follow-up interviews were conducted to better capture changes, if any, in self-efficacy to identify the need for treatment and intent to seek treatment, stigma towards depression treatment, and the occurrence of interpersonal communication about the topic of depression.

Participants

One hundred forty-two adult Latina women, 18-55 years old (the age range of women served by the study site's peer educators or *promotoras*), were recruited for this study, including 67 in the control group and 75 in the experimental group. Of the 75 participants included in the experimental group, 25 completed structured follow-up interviews. Participant criteria were inclusive of women who were foreign born, Spanish speaking, and not enrolled in mental health treatment. Women excluded from study participation were those diagnosed with a severe mental health disorder (i.e., schizophrenia) due to the possibility that the storyline would not be appropriate for their mental health needs. Participants were either enrolled in educational classes (health or parenting) offered by the study site or were community members actively recruited by the study site's promotoras. Participants were recruited between the months of July 2011 to November 2011.

Procedures

Participants were recruited with the assistance of health education group leaders and promotoras from La Clinica de la Raza's Community Health Education Department know as

Case Ché. Located in Oakland's Fruitvale District, La Clinica de la Raza is a multiservice center offering primary health care, mental health care, and health education to Oakland's largest Latino community. Latinos comprise 49.6% of Fruitvale's population, which is primarily low-income, foreign born (43%), and of Mexican descent (U.S. Census Bureau, 2011).

This study utilized a combination of purposive non-probability sampling and sequential sampling. Purposive sampling, also known as expert choice, permitted the selection of a representative sample of participants with specific criteria (Kalton, 1983) for both the control and experimental group. Given that difficult to locate, underserved, foreign-born, women with low health literacy were sought for this study, the use of purposive sampling increased the possibility of including them. Sequential sampling occurred when participants assigned to the experimental group were asked to participate in the second phase of research guided by the use of follow-up interviews.

Between the months of July and November 2011 participants were recruited on a weekly basis. Participants enrolled in the study site's health classes or parenting groups were recruited from two parenting groups, two exercise classes, one diabetes prevention group, and one nutrition group. These groups are repeatedly offered throughout the year allowing this researcher to recruit women at the commencement of each new group. Participants were also recruited from the community events and health seminars sponsored by Casa Ché. This researcher accompanied the study site's promotoras to three nearby Head Starts where health seminars are often offered and participants are frequently recruited for ongoing health courses delivered in Casa Ché. Head Start participants interested in the promotoras' health seminars were informed about the current study. Participants were also recruited from several community events organized by the promotoras, inclusive of health fairs and cultural events, such as the Day of the Dead celebration. Additional participants were recruited from two women's health groups regularly offered by the promotoras. When visiting established health groups, the researcher made a brief announcement at the beginning or end of each group describing the purpose of the study and potential participants signed-up by providing their names and numbers. Study flyers were given to all health education group leaders to be shared with potential participants. Promotoras were also given flyers for distribution during their daily contact with community members or the agency's clients. During community events participants were approached, informed about the study, and if interested in participating were asked to provide their name and number on a sign-up sheet. Several participants referred additional participants who were close friends or family members and a few women contacted the researcher after receiving a flyer from a group leader or promotora. In total, 263 women were approached and informed about the study. Among the women approached, 198 expressed interest in the study and provided their name and number for future screening. During recruitment, the researcher noted that women recruited from educational groups appeared to demonstrate more interest in the study than those recruited during community events.

At the end of each week of recruitment, participants were contacted by the researcher and screened for eligibility. All participants were asked for their availability and the researcher made every effort to conduct groups at times most convenient for them. Most participants were stay at home mothers who indicated availability after dropping kids off at school or before picking them up. Using STATA 11 software, those eligible for participation were then randomly assigned to either the control or experimental group. Participants were then asked to attend either the experimental or control group a week after being screened and randomized.

Participants attended a group session delivered at the study site's health education department, Casa Ché. Participants assigned to the experimental group were given the fotonovela, *Secret Feelings* (Cabassa et al., 2010), which reads at a 4th grade reading level and presents a storyline of a depressed middle age Latina mother, Sophia. The storyline introduces adaptive illness perceptions and help-seeking behaviors. Readers are informed that depression is real, common, and a serious medical condition (Cabassa et al., 2010). Symptoms of depression treatment are identified, different forms of depression treatment are presented, and common fears associated with depression treatment are discussed. Sophia models where and how to seek depression treatment as well as how to discuss her mental health concerns with her family. Positive changes in her mood and interpersonal relationships resulting from depression treatment are reflected. The story also demonstrates how family members respond to Sophia's depression and how, like her, they resolve their stigmatized views of depression treatment. Participants in the control group were exposed to a discussion of family communication and intergenerational relationships lasting 45 minutes to an hour, which is considered treatment as usual because it is a seminar typically offered by the promotoras.

Group sizes ranged from 2 to 12 participants per group, with an average of 6 participants per group. Depending on the number of participants recruited on a weekly basis, two (one experimental and one control group) or four (two experimental and two control groups) groups were conducted. All group sessions were offered at times compatible with the participants' schedules. Written informed consent was obtained at the commencement of each group. The researcher gave each participant sufficient time to read the consent form but also provided a verbal description of the document and the concept of informed consent. Each participant was then given a pretest that most participants completed in 30 to 45 minutes. Participants were then exposed to either the fotonovela or the discussion of family communication. The study site's promotoras typically use nutrition related fotonovelas during health groups and group members always read the fotonovelas out loud to include participants with varied literacy levels. Following the format used by the study site's promotoras, the fotonovela intervention was read out loud with each participant taking a turn to read one page of the fotonovela. Most groups read the fotonovela in 20 to 30 minutes. Afterwards the posttest, requiring 30 to 40 minutes to complete, was administered.

During each group the researcher provided verbal instructions for the completion of each section of the pretest and posttest. The researcher verbally administered the survey to illiterate participants or to those with difficulty completing the forms. Although, 11 illiterate participants could not complete the survey instruments, they attentively listened and participated in their assigned group and actively requested assistance from the researcher for the completion of the pretest and posttest measures. All participants received a $25 cash payment for their participation in the study along with a list of community resources offering depression treatment. Day care, routinely offered by the study site, was provided if needed for study participation.

Only participants in the experimental group were asked to voluntarily consent for a structured follow-up telephone interview, occurring 3 weeks after exposure, to further explore their responses to the fotonovela. Forty-five participants provided consent for a follow-up interview. Four fluent Spanish speaking undergraduate research assistants, majoring in the field of Social Work, assisted this researcher in completing interviews. When attempting to contact participants, it was noted that several participants could not be reached owing to the inability to leave a confidential message or the participants' difficulty in completing the follow-up interview due to their busy schedules. After four failed attempts, 17 participants were no longer contacted.

Measures

Dependent variables. The following four self-report measures, obtained during the administration of pretest and posttest questionnaires, compose this study's outcome variables.

Depression Knowledge – Depression knowledge was assessed with the following measures developed by Unger et al. (2012) for the evaluation of the fotonovela, *Secret Feelings,* and authorized for use in this study. Participants were given a list of 10 symptoms of mood disorders, including 5 that are DSM-IV depressive symptoms (hearing voices, sleeping too little, eating too much, being full of energy, feeling guilty, feeling agitated, being violent, loss of interest, having hallucinations, and feeling confident) and were asked to check all that apply. They were also asked 7 additional questions related to depression treatment: 1) Medications can help someone with depression, 2) Depression is a medical condition, 3) People with depression get better by themselves without professional help, 4) People with depression should stop taking antidepressants as soon as they feel better, 5) Talking to a counselor can help someone with depression, 6) Antidepressants are addictive, and 7) Antidepressant medications work right away. Participants were asked to provide a true, false, or do not know response. Participants were given one point for each correct response, creating a continuous score ranging from 0 to 12.

Stigma – To assess stigma towards depression treatment participants were asked to complete two scales. The first is the Stigma Concerns About Mental Health Care (SCMHC) scale and the second is the Latino Scale for Antidepressant Stigma (LSAS) (Interian et al., 2010). The SCMHC is a 3-item scale that measures stigma related barriers to depression treatment. Total scores for the SCMHC scale range from 0-3 with higher scores indicating a greater level of stigma. Participants were given 3 options: 1) 0 = Disagree, 2) 1 = Agree, or 3) 7 = Don't know to indicate if they would not seek treatment due to embarrassment to discuss personal matters with others, fear of what others might think, or thoughts that family members would not approve of the treatment.

The LSAS includes 7 items assessing the stigma related to antidepressant use. Participants were given 4 options to indicate how others might agree with each statement. For example, people who take prescription medicine for depression have a difficult time solving their problems on their own: 1) 0 = No one thinks that way, 2) 1 = Some people think that way, 3) 2 = Everyone thinks that way, and 4) 7 = Don't know. Total scores for the LSAS range from 0-14 with higher scores indicating a greater level of antidepressant stigma. The psychometric properties of both scales were assessed with a sample of 200 low-income Latinos screened for depression. Latinos who scored high on both the SCMHC ($OR = .64, p < .05$) and the LSAS ($OR = .77, p < .05$) were less likely to take antidepressant medication (Interian et al., 2010). The current study used Cronbach's alpha to measure each scale's internal consistency and found good internal reliability for both the SCMHC (.83) and the LSAS (.79).

Self-Efficacy – Three Likert type scale items measuring self-efficacy beliefs were created for this study and converted into the Self-Efficacy to Identify The Need for Treatment scale. Bandura's (2006) *Guide for Constructing Self-Efficacy Scales* informed the construction of this outcome variable. Bandura (2006) argues that use of a pre-established self-efficacy measure is not possible because scales of perceived self-efficacy should be tailored to the particular domain of functioning that is the object of research interest. The Likert scale items: 1) How sure are you that you can identify symptoms of depression in yourself? 2) How sure are you that you can identify symptoms of depression in someone else? And 3) How sure are you that you can locate depression treatment? ranged from 1 = Not Sure to 5 = Very Sure. Polychoric correlations were used to convert all three 5-point likert scale items into a scale. Total scores for the Self-Efficacy to Identify the Need for Treatment scale range from 0-15 with higher scores reflecting higher levels of self-efficacy. Polychoric correlations produce both a correlation coefficient matrix and a principal component analysis to measure rater agreement and the unidimensionality of the intended scale items. The current study used Cronbach's alpha to measure the scale's internal consistency and noted a reliability coefficient of .74, suggesting the scale items have acceptable internal consistency.

Future Intent to Seek Treatment – Ten 4-point scale items were created to measure the future intent to seek treatment from a professional, to discuss symptoms of depression with family, friends, or a pastor and to measure the future intent to encourage a friend or family member to seek treatment from a doctor or therapist. Responses to these questions include: 1 = Definitely Not, 2 = Probably Not, 3 = Probably Yes, and 4 = Definitely Yes. These questions were modified from the work of Unger et al. (2009) who previously assessed the effectiveness of a diabetes fotonovela with Latinos. Polychoric correlations were used to convert the ten 4-point scale items into the Future Intent to Seek Treatment Scale with total scores ranging from 0-32 and higher scores indicative of a greater intent to seek treatment. Polychoric correlations assessed the intended scale items' rater agreement and unidimensionality. Two items, the future intent to seek no one and the future intent to seek a pastor, were not included in the creation of the final scale due to their poor correlation with other scale items. Cronbach's alpha, used to assess the scale items' internal consistency, indicate a good measure of internal reliability (.88).

Independent variables. The following self-report measures were also included in pretest posttest questionnaires to obtain independent sources of information about participants' level of depression, health literacy, and engagement with the fotonovela, as well as their demographic and background characteristics.

Depression – The presence of depressive symptomatology was assessed with The Center for Epidemiologic Studies Depression Scale (CES-D Scale) (Radloff, 1977). This short self-report was developed to measure depressive symptomatology in the general population. The 20-item scale emphasizes the current state of depressive symptoms by asking participants about depressed mood (e.g., feelings of worthlessness, hopelessness, loneliness). Scores on the CES-D range from 0-60. A cut-off score of 16 is thought to indicate the likelihood of a clinically significant depressive disorder (Roberts, 1980). When tested with English-speaking and Spanish-speaking groups as well as depressed Spanish and English-speaking subgroups, factor analysis results noted a two-factor solution (a negative factor and a positive factor) for the entire English-speaking sample. While a three-factor solution (anxious/somatic, positive, and affective factors) was found for the Spanish-speaking group with another three-factor solution (negative, positive, and interpersonal sensitivity) noted among the depressed Spanish-speaking subgroup; suggestive of varied outcomes and instrument interpretation depending on culture, depression status, and language ability (Leykin, Torres, Aguilera, & Munoz, 2011).

Health Literacy – To measure functional health literacy the Spanish version of the Short Test of Functional Health Literacy in Adults (s-TOFHLA) was used (Baker, Williams, Parker, Gazmararian, & Nurss, 1999). The scale contains two health care passages. The first derives from instructions for an upper gastrointestinal tract radiograph and the second from the patient's rights and responsibilities of a Medicaid application. The s-TOFHLA is scored on a scale of 0 to 36. Inadequate literacy scores range from 0-16, marginal literacy from 17-22, and adequate literacy from 23-36. The test requires multiple-choice responses. Readability levels on the Gunning Fog Index are 4.3 for the numeracy section and 10.4 for the reading comprehension section. The reliability of the reading comprehension passages provides an excellent Cronbach's alpha of .97, while the Cronbach's alpha for the numeracy section is .68, or questionable reliability (Baker et al., 1999). When tested with both Spanish and English speaking Latinos the s-TOFHLA was found to have an internal consistency above .95 (Aguirre, Ebrahim, & Shea, 2005).

Story Questionnaire – To measure the fotonovela's compatibility with the culture centric model of health promotion, the Story Questionnaire developed by Larkey and Hecht (2010) was administered. The Story Questionnaire includes 4 subscales inclusive of an emotional appeal, cultural community appeal, identification with story/characters, and engagement with story/characters subscale. Questions range from "I really cared a lot about what happened to the characters" to "I could easily identify with some of the characters." Participants were asked to indicate whether they Agree: *A lot* (1), *A Little* (2), *Neutral* (3), or Disagree: *A Little* (4) or *A Lot* (5). This questionnaire has been tested in pilot studies of community based cancer interventions for Latinas including novella style stories. Previous testing of the Story Questionnaire with Latinas found a Cronbach's alpha of .93 for the identification with story/characters subscale and .98 for the engagement with story/characters subscale (Larkey, Lopez, Roe, & Gonzalez, 2008). During the current study Cronbach's alpha was also used to measure each scales' internal consistency. High reliability coefficients were found for the identification with story/characters (.94), engagement with story/characters (.88), and the cultural and community appeal (.77) subscales. A questionable reliability coefficient was found for the emotional appeal (.68) subscale. Analyses of the subscales' unidimensionality are presented in the results section.

Acculturation – Acculturation level was measured with 4 items taken from the Short Acculturation Scale for Hispanics previously found to have an alpha of .90 with a sample of Mexican and Central American participants (Marin, Sabogal, Marin, Otero-Sabogal, & Perez-Stable, 1987). The 4 items used include: 1) In general, in what language do you read and speak? 2) What language do you usually speak at home? 3) In what language do you usually think? And 4) What language do you usually speak with your friends? Participants selected one of the following options: 1) Only Spanish, 2) More Spanish, 3) Both Equally, 4) More English than Spanish, or 5) Only English. Total scores for the 4 items used to assess acculturation level range from 0-20, with higher scores reflecting a higher level of acculturation.

Treatment History – Current and previous treatment history was assessed with the following yes/no item: Have you ever received depression treatment? This question was used to determine if past experience with depression treatment associated with the participants' responses to all outcome variables.

Sources of Mental Health Information – To identify formal and informal sources of mental health information frequently used, participants were asked if they Never, Sometimes, or Always turn to a doctor, therapist, friends, family, newspapers, television, radio, pamphlets, folk healers, or a religious institution. These items are modified from the work of Britigan et al., (2009) and Wilkin and Ball-Rokeach (2006) who previously assessed the sources of health information utilized by Latinos.

Demographic Variables – Participants were asked to provide the following demographic information: age, marital status, number of children, employment status, access to health insurance, country of birth, years in the U.S., highest level of education, and family income.

Follow-up Interview Protocol

Structured qualitative follow-up interviews composed the second phase of data collection and were conducted three weeks after exposure to the fotonovela. Qualitative data respond to the following exploratory research questions modified from the work of Larkey and Hecht (2010) who previously tested the culture centric model of health promotion with Latinas as well as Wilkin and Ball-Rokeach (2006) who assessed interpersonal communication among Latinos after exposure to media sources: 1) Will Latinas exposed to the fotonovela engage, as defined by the culture centric model of health promotion, with the story and its characters? And 2) Will Latinas exposed to the fotonovela generate interpersonal communication about the topic of depression? Follow-up interviews also allowed for assessments of retention in depression knowledge, the self-efficacy to identify the need for treatment, the future intent to seek treatment, and the reduction of stigma associated with depression treatment. Follow-up interviews are meant to further inform the hypotheses and research questions guiding this study. The following protocol served as a guide for follow-up interviews.

Depression Knowledge – Please tell me if the fotonovela was helpful to you. If yes, please explain. If no, please explain. Now please tell me if there was anything that you learned from the fotonovela? The depression knowledge measure previously mentioned was administered, after the following prompt, to determine if gains in depression knowledge were maintained. As you remember the fotonovela related to the topic of depression, I am going to ask you if you remember the symptoms of depression and some facts about its treatment. This will help me understand if the fotonovela helped you learn more about depression.

Self-Efficacy to Seek Treatment – In the future if you need depression treatment, how confident are you that you can seek treatment?

Future Intent to Seek Treatment – In the future if you need depression treatment would you seek professional help from a doctor? Please explain why. In the future if you need depression treatment would you seek professional help from a therapist? Please explain why.

Interpersonal Communication – Since you first read the fotonovela, have you discussed it with any of the following people: Friends, Family Members, A therapist, A Doctor, A Folk Healer? If yes, what made you discuss the fotonovela with others?

Fotonovela Likes and Dislikes – Was there anything you liked about the fotonovela? Was there anything you disliked about the fotonovela?

Learning Preference – What do you think is the best way to learn about your mental health? How do you prefer to learn about your mental health?

Analysis of Data

Quantitative analysis. Using STATA 11 software, respondent characteristics were calculated using simple descriptive statistics. First, a mean imputation technique (Gelman & Hill, 2007) was used to replace missing values noted in CES-D and stigma scale (SCMHC and LSAS) items. Each missing value was replaced with the mean of the observed values for each scale (Gelman & Hill, 2007). Missing values were only imputed if the participant left less than 4 CES-D scale items blank or no more than one SCMHC or LSAS scale item blank. Missing values remained for participants who left several unanswered CES-D and stigma scale items. Then independent samples t-tests were conducted with all continuous demographic variables to determine if their values varied between the control and experimental groups. Fisher's exact tests were applied to all categorical demographic variables to identify any significant differences between the control and experimental groups.

To test the first four hypotheses (1: exposure to the fotonovela will increase knowledge of depression and its treatment in immigrant Latinas, 2: exposure to the fotonovela will reduce stigma towards depression treatment among immigrant Latinas, 3: the self-efficacy to identify the need for treatment will increase after exposure to the fotonovela and 4: the future intention to seek depression treatment will increase after exposure to the fotonovela), five continuous variables (difference in depression knowledge, difference in mental health stigma, difference in antidepressant stigma, difference in self-efficacy, and difference in intent to seek treatment) were created to calculate the mean difference between the pretest and posttest depression knowledge, stigma, self-efficacy, and future intent to seek treatment scores. Paired samples t-tests with unequal variance were used to compare mean differences in pretest and posttest depression knowledge, stigma, self-efficacy, and intention to seek treatment scores between the control and experimental groups. Cohen's d was then calculated to measure the fotonovela's standardized effect size in improving depression knowledge. To detect the possibility of a type one error resulting from multiple testing, the Bonferroni-Dunn test was implemented to calculate a more conservative significance level that would better assess the outcomes of the hypothesis tests guiding this study. The new significance level was computed by dividing the overall significance level for the study (.05) with the total number of hypothesis tests performed (5), resulting in .01. The outcomes of the previously conducted hypothesis tests were then compared to the more conservative significance level (.01).

In response to the exploratory research question, Will Latinas exposed to the fotonovela engage, as defined by the culture centric model of health promotion, with the story and its characters?, this researcher explored the applicability of the story questionnaire to the fotonovela. Polychoric correlations, producing both a correlation matrix and principal component analysis of the intended scale items, were used to measure the dimensionality of each of the questionnaire's subscales: 1) emotional appeal, 2) cultural community appeal, 3) identification with story/characters, and 4) engagement with story/characters. Cronbach's alpha was also used to measure each subscales' internal consistency.

Qualitative analysis. To continue to explore the participants' engagement with the storyline and its characters and whether the story generated interpersonal communication about the topic of depression, follow-up interviews were conducted with participants exposed to fotonovela. Follow-up interviews also explored whether gains made in depression knowledge, self-efficacy, intent to seek treatment, and in the reduction of stigma towards depression treatment remained three weeks after exposure to the fotonovela to better inform the hypotheses and research questions guiding this study. Data analysis began with a line-by-line review of each transcribed interview. Both descriptive and interpretive codes were listed besides each paragraph along with the researcher's reflective remarks (Miles & Huberman, 1994). All codes were then reviewed and compared with each other to eliminate inaccurate codes or to develop more abstract or core categories. Subcategories were created when the content of core categories increased. Each code was given a name closest to the concept that it represents. Pattern coding was used to group varying levels of stigma into themes (Miles & Huberman, 1994). Once all codes were identified, the researcher once again reviewed all interviews one by one to determine if additional codes ("filling in") and or a reconstruction of a theme was necessary, and if the identification of new codes ("surfacing") emerged. The review of all transcripts also allowed for "check-coding" or the examination of code-recode consistencies. The coding process was complete once a saturation of coding occurred and the content of all interviews was readily classified into core codes and their subcategories (Miles & Huberman, 1994).

Study Limitations

There are some limitations to this study. The total sample size ($N = 142$) is small, limiting the use of additional statistical analysis allowing for the examination of factors associated with study outcomes as well as the study's generalizability. Although a sample size of ($N = 300$) was originally recommended with ($n = 150$) participants in both the control and experimental group, obtaining such an ideal sample size was not feasible for one researcher. Yet, the use of a rigorous pretest-posttest randomized control group experimental design allowed for significant outcomes and a strong effect size in knowledge gains despite the small sample size. Still, participant randomization was a bit difficult in a community setting where many women wanted to attend the groups along with family and friends. The participants did not seem to fully understand the researcher's need to screen and randomize participants. Twenty-two participants left some CES-D scale items unanswered and several participants did not complete the stigma related questions in both the pretest and posttest. Specifically, 44 participants did not respond to the LSAS and 21 did not respond to the SCMHC. While responding to the Stigma Concerns about Mental Health Care (SCMHC) scale, several of the participants requested assistance from the researcher in comprehending the response options. Each group's SCMHC score increased after the administration of the posttest. It is unclear if the SCMHC scores increased at posttest due to repeated exposure and a better understanding of the measure or if the scale is not compatible with individuals with low health literacy. Despite greater comprehension of the Latino Scale for Antidepressant Stigma (LSAS), fewer participants completed this measure. It is uncertain if the women simply experienced discomfort in responding to a questionnaire related to stigma towards antidepressants. It is also indeterminate if the researcher's verbal administration of survey measures for some of the women reporting low reading levels influenced their responses. There is a possibility that the women reported positive responses to the fotonovela due to cultural norms of agreeableness and politeness among Latinos. The researcher was perceived as a student and not as a clinician, staff member, or researcher and for this reason many of the participants were eager to know what subject the researcher studied, which in turn appeared to increase their willingness to participate in this study. Furthermore, the participants were recruited from a trusted health setting. As a central resource within the Fruitvale community, La Clinica has offered multiple health services for over 30 years to low-income immigrant groups. The promotoras are very active in engaging and maintaining clients in health classes, which increase the clients' self-efficacy to seek and accept treatment. Study participants enrolled in health education classes lead by promotoras appeared more willing to participant in the study in comparison to participants recruited from community events. Given the participants' ties to a trusted health center, study results may not be generalized to other Latino communities with limited resources where the self-efficacy to seek treatment and locate treatment maybe lower. Additionally, 38 participants were previously in mental health treatment indicating greater experience and acceptance of mental health interventions. Eighty-four participants presented with adequate health literacy suggesting that individuals with very low health literacy may not be as involved in health settings. Still, the depression knowledge levels of the experimental group did improve reflecting a need for further education of mental health disorders and their treatments. Follow-up interviews were problematic because several telephone numbers were non-working numbers that appeared to be temporary cell phones. Some women did not have a working number and provided a friend's or a husband's cell phone number which made it difficult to leave a confidential message or schedule a follow-up interview with them. When conducting telephone interviews 5 participants expressed a preference for a face-to-face interview so that they could better focus on the interview. Many women appeared distracted at home due to multiple tasks and busy schedules demanding their attention.

Chapter 3 – Results

Guided by a sequential explanatory mixed methods approach study results are presented in two formats, quantitative and qualitative. Primary focus is given to quantitative findings with qualitative results meant to further explain quantitative results and unexpected findings. This chapter first presents quantitative results acquired from pretest and posttest measures and ends with qualitative results obtained from structured follow-up interviews. Quantitative results include a description of participant demographics and background characteristics, hypothesis tests conducted in response to the main hypotheses guiding this study, and analyses of subscales used to explore the fotonovela's ability to engage its audience. Qualitative results further suggest why this study's hypotheses were either confirmed or rejected and if the fotonovela engaged its audience and lead to interpersonal communication about the topic of depression.

Results of Quantitative Analyses

Participant demographics and background characteristics. One hundred forty-six women were recruited for this study. Three participants, one from the control group and two from the experimental group, had invalid measures due to several missing responses. One participant assigned to the experimental group reported being enrolled in counseling at the time of pretest and posttest administration, her instruments were not utilized in this study. Thus, a total of 142 participants were included in this study, 67 participants in the control group and 75 in the experimental group. As depicted in Table 1, all women were relatively young with the majority falling into two age groups, 26 to 35 (40%) and 36 to 45 (36%). Eighty-three percent were either married or living with a partner. All but 4 women were mothers with an average of 3 children per participant. Sixty-six percent were unemployed and over half were uninsured. All women were foreign-born and mostly (79%) of Mexican origin with the rest from Central America. Thirty-four percent of women reported living 6 to 10 years in the U.S. and 58% reported more than 10 years. Almost all women were monolingual Spanish speakers and had a family income of less than $19,000 in the previous year. In terms of education, most women completed either grade school or middle school (62%). Only 11% obtained a high school diploma or a GED. Fifty-nine percent of the participants tested at an adequate level of health literacy, a few tested at the marginal level (13%), and the remainder (28%) tested at an inadequate level of health literacy. The mean CES-D score for the entire sample size was 19, suggesting a high level of depressive symptomatology.

In order to assess the equivalence of the control and experimental groups, fisher's exact test was used to examine the allocation of all categorical demographic variables and independent samples t-tests were conducted to examine the equivalence of continuous demographic variables, the results are listed in Appendix A. The control and experimental group were found to be equivalent in the distribution of all demographic variables with the exception of previous depression treatment. The control group was composed of more individuals (34%) with previous depression treatment than the experimental group (20%). Individual regression analyses of all outcome variables were conducted to explore if the imbalance in previous treatment between the two groups associated with study outcomes. All the continuous variables created to calculate the mean difference between pretest and posttest responses to depression knowledge, mental health stigma, self-efficacy to identify the need for treatment, and future intent to seek treatment, were used as outcome variables for regression models inclusive of the following predictors: grouptype (used to distinguish between the control and experimental group), previoustreatment (denoting previous involvement in depression treatment), and treatment x group type (an interaction term of group type and previous treatment). Outcomes of regression analyses indicate previous involvement in depression treatment and the interaction between previous treatment and group type are not significant predictors of the differences in depression knowledge, mental health stigma, self-efficacy to identify the need for treatment, and future intent to seek treatment noted between the two groups. Regression analyses results are listed in Appendix B.

Table 1

Participant Demographic Characteristics by Group (N =142)

Variable	*Control (n =67)*	*Experimental (n =75)*	*Total*
Age			
18-25	6 (8.9%)	4 (5.3%)	10 (7.0%)
26-35	21 (31.3%)	35 (46.6%)	56 (39.7%)
36-45	23 (41.7%)	28 (37.3%)	51 (36.1%)
46-55	16 (23.8%)	8 (10.6%)	24 (17.0%)
Marital Status			
Married	35 (52.2%)	48 (64.0%)	83 (58.4%)
Living with Partner	17 (25.3%)	18 (24.0%)	35 (24.6%)
Never Married	6 (17.9%)	5 (12.0%)	11 (7.7%)
Divorced or Widowed	9 (13.4%)	4 (5.3%)	13 (9.1%)
Children			
Yes	65 (97.0%)	73 (97.3%)	138 (97.1%)
Employed			
Yes	25 (37.3%)	23 (30.6%)	48 (33.8%)
Medically Insured			
Yes	29 (43.2%)	35 (46.6%)	64 (45.0%)
Country of Birth			
Mexico	47 (70.1%)	65 (86.6%)	112 (78.8%)
Other	20 (29.8%)	10 (13.3%)	30 (21.1%)
Time in U.S.			
< 5 years	6 (8.9%)	5 (6.6%)	11 (7.7%)
6-10 years	20 (29.8%)	26 (34.6%)	46 (34.0%)
> 10 years	38 (56.7%)	40 (53.3%)	78 (57.7%)
Bilingual			
No	55 (82.0%)	62 (82.6%)	117 (82.3%)
Income			
< $19, 000	48 (71.6%)	51 (68.0%)	99 (69.7%)
$20,000-$30,000	12 (17.9%)	15 (20.0%)	27 (19.0%)
> $30,000	7 (10.4%)	9 (12.0%)	16 (11.2%)
Education			
Grade School	22 (32.8%)	30 (40.0%)	52 (36.6%)
Middle School	19 (28.3%)	17 (22.6%)	36 (25.3%)
Some High School	11 (16.4%)	9 (12.0%)	20 (14.0%)
High School or GED	5 (7.4%)	10 (13.3%)	15 (10.5%)
Some College or Beyond	6 (8.9%)	9 (12.0%)	15 (10.5%)
Health Literacy			
Inadequate	24 (35.8%)	16 (21.3%)	40 (28.1%)
Marginal	6 (8.9%)	12 (16.0%)	18 (12.6%)
Adequate	37 (55.2%)	47 (62.6%)	84 (59.1%)
CES-D Mean Score			
	19.06	19.71	19.41
Previous Treatment			
Yes	23 (34.3%)	15 (20.0%)	38 (26.7%)

Sources of mental health information. All participants were asked, at the time of the pretest administration, to indicate how often they turn to family, friends, health providers, media sources, brochures, a religious institution, or a folk healer when in need of mental health information. They were asked to indicate whether they "always", "sometimes", or "never" use the source. As presented in Table 2, under the "always" category most women (34%) turned to doctors, followed by therapists (29%), family (19%), a religious institution (17%), and brochures (11%) for mental health information. When combining the percentages of the "always" and "sometimes" category it was noted that most women (75%) turned to doctors, friends (73%), family (71%), brochures (62%), a religious institution (53%), and a therapist (52%) when in need of mental health information. They were less likely to turn to television (44%) or radio shows (42%), newspapers (20%), or a folk healer (7%).

Table 2

Sources of Mental Health Information by Category and Frequency of Use

Source	*Always*	*Sometimes*	*Never*
Family	27 (19%)	72 (52%)	40 (29%)
Friends	18 (13%)	83 (60%)	38 (27%)
Doctors	47 (34%)	58 (41%)	35 (25%)
Therapists	29 (21%)	43 (31%)	67 (48%)
Newspapers	4 (3%)	23 (17%)	107 (80%)
Television	6 (4%)	54 (40%)	75 (56%)
Radio	9 (7%)	48 (35%)	78 (58%)
Brochures	15 (11%)	71 (51%)	53 (38%)
Folk Healers	1 (1%)	8 (6%)	124 (93%)
Religious Institution	23 (17%)	50 (36%)	64 (47%)

Hypotheses

Depression knowledge. To test the first hypothesis, exposure to the fotonovela will increase knowledge of depression and its treatment in immigrant Latinas, a paired samples t-test was used to assess for differences between control and experimental groups with regards to their pre to post depression knowledge scores. That is, are the pre to post score changes for experimental subjects ($M = 6.95$ to $M = 9.40$) statistically significantly different than the pre to post score changes for the control group ($M = 7.33$ to $M = 7.41$)? First a continuous variable titled *Difference in Depression Knowledge*, calculating the difference between the pretest and posttest depression knowledge scores, was created to serve as the outcome variable. Results of the paired samples t-test, $t(133) = -7.00$, $p < .001$, indicate there is a statistically significant difference between the control and experimental groups' mean increase in depression knowledge. After exposure to the fotonovela members of the experimental group experienced a significantly greater change in knowledge from pretest to posttest ($M = 2.44$, $SD = 2.24$) in comparison to the control group ($M = .02$, $SD = 1.79$). At posttest the experimental group's depression knowledge score increased by two points, signifying greater ability to identify symptoms of depression and treatment recommendations than the control group. Cohen's *d* was used to measure the size of the difference between the two means, producing a standardized effect size of ($d = 1.19$). A value greater than .8 denotes a large effect size. A Cohen's *d* of 1.19 specifically indicates the experimental group is about 1.19 standard deviations ahead of the control group in depression knowledge.

Table 3

Mean Difference in Depression Knowledge at Posttest

Group	*N*	*Mean*	*SD*	*Difference*
Control	64	.02	1.79	2.42
Experimental	72	2.44	2.24	
Total	136			

t = - 7.00, df = 133, p < .001

Stigma towards mental health treatment. In response to the second hypothesis, exposure to the fotonovela will reduce stigma towards depression treatment among immigrant Latinas, participants were asked to complete both the Stigma Concerns about Mental Health Care scale (SCMHC) and the Latino Scale for Antidepressant Stigma (LSAS). Although the participants of this study were willing to respond to most survey items, several missing values were found in response to stigma scale items. While 85% of participants responded to the SCMHC, only 69% responded to LSAS. During the administration of the SCMHC the researcher assisted several participants in the completion and comprehension of the scale. Despite being a three-item scale, several participants required assistance in comprehending the answer options. To determine whether the number of missing values differed between groups, the variable *Difference in Mental Health Stigma Missing*, was created. Eight missing values in the control group and 13 in the experimental group compose the 21 missing SCMHC responses. Fisher's exact test was used to assess if the number of missing values differed between the control and experimental groups. Results of the Fisher's exact test (p = .479) do not indicate a statistically significant difference in the amount of missing values between groups.

In addition, no differences were found between the control and experimental groups' stigma concerns about mental health care. A paired samples t-test was used to compare differences between the control and experimental groups' pre to post mean SCMHC score. The continuous outcome variable *Difference in Mental Health Stigma* was created to calculate differences between each group's pre to post SCMHC mean score. Pre to post mean scores indicate a slight increase in stigma concerns for mental health care for both the control (M = .66 to M = .99) and experimental (M = .79 to M = .82) groups. Total scores for the SCMHC scale range from 0-3 with higher scores indicating a greater level of stigma. Results of the paired samples t-test, t(119) = .57, p = .573, did not find a statistically significant difference between the control and experimental groups' mean increase in SCMHC scores.

Analyses of the LSAS began with an exploration of its missing values. To determine whether the number of missing values differed between groups, the variable *Difference in Antidepressant Stigma Missing*, was created. Twenty-five missing values in the control group and 19 in the experimental compose a total of 44 LSAS missing responses. Fisher's exact test was used to assess if the number of missing values differed between the control and experimental groups. Results of the Fisher's exact test (p = .147) do not indicate a statistically significant difference in the amount of missing values between groups.

Group differences in antidepressant stigma were also assessed. A paired samples t-test was used to analyze differences between the control and experimental groups' mean pretest and posttest antidepressant stigma scores. A continuous variable titled *Difference in Antidepressant Stigma*, calculating the difference between the mean pretest and posttest LSAS scores, was created to serve as the outcome variable. A decline in pre to post LSAS scores occurred for both the control group ($M = 7.13$ to $M = 6.34$) and the experimental group ($M = 7.15$ to $M = 5.58$). LSAS scores range from 0-14 with higher scores indicating a greater level of stigma. After exposure to the fotonovela members of the experimental group experienced a significantly greater decline in antidepressant stigma from pretest to posttest ($M = -1.99$, $SD = 3.12$) in comparison to the control group ($M = -.31$, $SD = 2.18$). Results of the paired samples t-test found a statistically significant difference between the control and experimental groups' mean decrease in antidepressant stigma, $t(96) = 3.13$, $p = .0023$.

Table 4

Mean Decrease in Antidepressant Stigma at Posttest

Group	*N*	*Mean*	*SD*	*Difference*
Control	42	-.31	2.18	1.68
Experimental	56	-1.99	3.12	
Total	98			

$t = 3.13$, $df = 96$, $p < .01$

Self-efficacy to identify the need for treatment. To test the third hypothesis, that self-efficacy to identify the need for treatment would increase after exposure to the fotonovela, participants were asked three 5-point likert scale items, which were converted into a scale with the use of polychoric correlations. Scale scores range from 0-15 with higher scores indicative of a higher level of self-efficacy to identify the need for treatment. Polychoric correlations produced both a correlation coefficient matrix and a principal component analysis of the intended scale items. The scale items were found to have moderate correlations ranging from .53 to .64. Principal component analyses indicate an eigenvalue greater than one (2.15) for the scale's first factor that explained 72% of the scale's total variance, with eigenvalues less than one for the remaining two factors, suggesting the scale items are unidimensional (Stevens, 1992).

Group differences between pre and post self-efficacy scores were calculated with a paired samples t-test. Mean self-efficacy scores for both the control ($M = 8.80$ to $M = 8.98$) and experimental ($M = 8.30$ to $M = 12.08$) groups note an increase from pre to posttest. The continuous variable *Difference in Self-Efficacy* was created to calculate the difference between the control and experimental groups' mean self-efficacy scores. Results of the paired samples t-test indicate there is a statistically significant difference between the control and experimental groups' mean increase in self-efficacy to identify the need for treatment, $t(124) = -7.04$, $p < .001$. Experimental group participants reflected greater improvement in their self-efficacy from pretest to posttest ($M = 3.64$, $SD = 3.36$) in comparison to the control group ($M = .13$, $SD = 2.35$).

Table 5

Mean Increase in Self-Efficacy to Identify the Need for Treatment at Posttest

Group	*N*	*Mean*	*SD*	*Difference*
Control	63	.13	2.35	3.51
Experimental	70	3.64	3.37	
Total	133			

t = -7.04, df = 124, p < .001

Future intent to seek treatment. To test the fourth hypothesis, that the future intention to seek depression treatment would increase after exposure to the fotonovela, participants were asked ten 4-point scale questions. They were asked how probable it was that they would turn to family or peers, seek no one, turn to a pastor, or encourage family and friends to seek treatment. Of the ten questions asked, eight were used to create the Future Intent to Seek Treatment Scale. Two items, future intent to seek no one and future intent to seek a pastor, were not included in the creation of the final scale due to their poor correlation with other scale items. Scale scores range from 0-32 with higher scores indicative of a greater future intent to seek treatment. Polychoric correlations were used to explore the scale items' correlation and to conduct a principal components analysis of intended scale items. The scale items were found to have moderate to strong correlations ranging from .43 to .87. Principal component analysis found the eigenvalue (5.57) for the scale's first factor to explain 70% of the scale's total variance, with eigenvalues less than one for the remaining seven factors, suggesting the scale is unidimensional.

A paired samples t-test was used to determine if pre to post mean changes in the intent to seek treatment varied between groups. First, the continuous variable *Difference in Intent to Seek Treatment* was created to calculate the difference between the control and experimental groups' mean future intent to seek treatment scores. Mean pre and posttest scores for the control (M = 27.60 to M = 27.27) and experimental (M = 27.14 to M = 28.55) groups reflect a slight increase in the experimental group's future intent to seek treatment. Results of the paired samples t-test indicate there is a statistically significant difference between the control and experimental groups' mean future intent to seek treatment, $t(97) = -2.56$, $p = .0119$. At posttest the experimental group participants reflected greater improvement in their future intent to seek treatment (M = 1.10, SD = 2.99) in comparison to the control group (M = -.70, SD = 4.46). Although the control group's pretest and posttest scores appear to be similar to those of the experimental group, at posttest their mean score slightly decreased. Conversely, at posttest the experimental group's future intent to seek treatment slightly increased by about one point.

Table 6

Mean Difference in Future Intent to Seek Treatment at Posttest

Group	*N*	*Mean*	*SD*	*Difference*
Control	57	-.70	4.46	-1.8
Experimental	63	1.10	2.99	
Total	120			

t = -2.56, df = 97, p = < .05

Although the outcomes of the five hypothesis tests discussed above suggests statistically significant differences between the control and experimental groups' increase in depression knowledge, reduction in antidepressant stigma, increase in the self-efficacy to identify the need for treatment as well as the future intent to seek treatment at posttest, multiple testing can increase the possibility of one or more Type I errors (Dunn, 1961). In response, the Bonferroni-Dunn procedure was implemented to compute a more conservative α-level for each hypothesis test by dividing the previously used α-level (.05) with the total number of hypothesis tests (5). Consequently, .01 became the new significance level used to assess the outcome of the hypothesis tests. When applying the new significance level of .01, the statistically significant difference in depression knowledge (p < .001), antidepressant stigma (p = .0023), and self-efficacy to identify the need for treatment (p < .001) between the control and experimental groups remained. However, the difference between the two groups' future intent to seek treatment (p = .0119) was no longer statistically significant.

Exploratory Research

Story questionnaire. In response to exploratory research question, will Latinas exposed to the fotonovela engage, as defined by the culture centric model of health promotion, with the story and its characters?, the 75 participants assigned to the experimental group were asked to complete a story questionnaire inclusive of 4 subscales: 1) emotional appeal, 2) cultural and community appeal, 3) identification with story/characters, and 4) engagement with story/characters. Polychoric correlations were used to assess each subscales' dimensionality by exploring the scale items' correlation and by conducting a principal components analysis of intended scale items.

Both the identification with the story/characters and the engagement with the story/characters subscales were found to be unidimensional. Polychoric correlations for the identification with story/characters subscale indicate strong correlation coefficients among the four scale items ranging from .81 to .94. Principal component analysis produced an eigenvalue of 3.56 for the scale's first factor that accounts for 89% of the subscale's total variance, suggesting that the scale items are unidimensional. The engagement with story/characters subscale's polychoric correlation showed strong correlation coefficients among the four scale items ranging from .72 to .86. The principal component analysis produced an eigenvalue of 3.33 for the scale's first factor that accounts for 83% of the subscale's total variance, also suggesting that these scale items are unidimensional. Unlike the previous two subscales the remaining subscales, 1) emotional appeal and 2) cultural and community appeal, were not found to be unidimensional.

Results of Qualitative Analyses

Qualitative data, in the form of structured follow-up interviews, was collected in order to better understand the outcomes of each hypothesis guiding this study, to further explore the participants' response to the fotonovela, and to determine the intervention's ability to generate interpersonal communication about the topic of depression. Among the 75 women exposed to the fotonovela, 45 provided consent for a structured follow-up interview conducted three weeks after exposure. Twenty-eight interviews were conducted but three incomplete interviews were excluded from this analysis resulting in a total of 25 follow-up interviews. Difficulties arose when attempting to contact participants for follow-up interviews owing to several non-working numbers or the participants' limited availability.

Analyses of follow-up interviews suggest the gains in depression knowledge noted among experimental group participants seem to derive from an improved understanding of the multiple symptoms of depression. A better understanding of the symptoms of depression appears to have positively impacted the participants' self-efficacy to identify the need for treatment. All participants expressed a continued desire to seek treatment from a doctor or therapist. Additional analyses suggest that despite a strong willingness to seek treatment, the topic of depression remains stigmatized. Several women indicated that they would only discuss the topic with a few trusted individuals. Although the fotonovela aimed to increase acceptance of medication treatment by informing its audience that antidepressants are not addictive, some women expressed a preference for therapy over medication treatment. Overall, the fotonovela was engaging and well-liked as confirmed by the participants' detail description of the storyline and their willingness to discuss the story with others. What follows are qualitative analyses of this study's hypotheses and exploratory research questions. This section concludes with additional analysis conducted in exploration of the preferred methods to learn about mental health topics.

Hypotheses

Depression knowledge. During follow-up interviews the participants' depression knowledge was once again assessed. The mean depression score of the 25 women interviewed was 10.96 (*SD* = 1.13). When describing what they learned from the fotonovela most women spoke of their new knowledge of the varied symptoms of depression. Most were surprised by the different ways in which depression can manifest itself. The women also reported learning of the importance to open up to either professionals or family about their mental health needs. A few learned that they currently and or previously presented with symptoms of depression. Table 7 provides a detailed account of the depression knowledge gained from the fotonovela.

Table 7

Depression Knowledge Gained from Fotonovela

New Knowledge	*N*	*Illustrations*
Improved Understanding of Symptoms	16	“*Fue útil porque aprendí los síntomas de la depresión. Yo no sabía mucho. Habia oído de la depresión y que las personas son afectadas, pero no tanto como después de leer la fotonovela. Es entonces cuando me di cuenta de que hay muchos síntomas, como no levantarse de la cama que son síntomas de la depresión.*” (Mujer Mexicana en los EE.UU. más de 10 años) “It was helpful because I learned the symptoms of depression. I did not know much. I heard about depression and that people are affected but not as much like after reading the fotonovela. That is when I realized that there are many symptoms, like not getting out of bed that are symptoms of depression.” (Mexican woman in U.S. over 10 years)
It’s Good to Talk To Others	8	*“A comentar sus problemas a otra persona para buscar soluciones. No estar preocupada de buscar ayuda.”* (Mujer Mexicana en los EE.UU. más de 10 años) “To share your problems with another person to search for solutions. To not worry about searching for help.” (Mexican woman in U.S. over 10 years)
Ability to Identify Symptoms in Self and Others	7	*“Si era util para mi porque a veces uno no sabe bien si sufre de la depresión o no. A veces nos sentimos tristes o cansados y pensamos que es solamente por el trabajo. Entonces por eso me sirvio util para poder estar claro.”* (Mujer Mexicana en los EE.UU. más de 10 años) “ Yes it was helpful for me because sometimes one does not know if one is suffering from depression or not. Sometimes we feel sad or tired and we think it is only because of work. That is why it was helpful for me to be able to be clear.” (Mexican woman in U.S. over 10 years)
Recommended Treatments	6	*“Me enteré que eso [la depresión] puede ser tratada con medicamentos y que es una condición médica. Yo había oído hablar de este tratamiento con medicamentos pero no sabía cómo los medicamentos trabajan o que el doctor da la receta.”* (Mujer Mexicana en los EE.UU. entre 6 a 10 años) “I learned that it [depression] can be treated with medication and that it is a medical condition. I had heard about medication treatments but I did not know how medications worked or that the doctor gives the prescription.” (Mexican woman in U.S. between 6 to 10 years)
A Real Medical Condition	5	*“Bueno a veces nosotros pensamos como va a tener depresión si eso no existe o es flojera or no tiene nada que hacer y la fotonovela nos explica que la depresión si existe que es una enfermedad que tiene cura.”* (Mujer Mexicana en los EE.UU. entre 6 a 10 años) “Well sometimes we think how can this person be depressed if that does not exist or it is laziness or this person does not have anything to do and the fotonovela explains that depression does exist that is an illness that has a cure.” (Mexican woman in U.S. between 6 to 10 years)
Recognition of Own Episode	5	*“Yo no sabía que el dormir es un problema con la depresión. Después que nació mi segunda hija perdi mucha energía. Yo no tenía ganas de hacer nada. Cocinaba para mi niño, pero luego me volvia a dormir. Cuando leí esto [la fotonovela] pensé que habia pasado por una depresión.”* (Mujer Mexicana en los EE.UU. más de 10 años) I did not know that sleeping was a problem with depression. After my second daughter was born I lost a lot of energy. I did not feel like doing anything. I would cook for my little boy but then would go back to sleep. When I read this [the fotonovela] I thought I had been going through a depression. (Mexican woman in U.S. over 10 years)
Lack of Awareness	4	*“Para mi si fue útil pues porque a veces nosotros como mujeres tenemos muchas presiones en la casa y a veces nos llegamos a sentir de esa manera [deprimidas] y no nos damos cuenta que es lo que nos esta pasando.”* (Mujer Mexicana en los EE.UU. entre 6 a 10 años) “For me it was helpful because sometimes we as women have several pressures in the home and sometimes we begin to feel that way [depressed] and we don’t realize what is going on with us.” (Mexican woman in U.S. between 6 to 10 years)

Stigma towards depression and its treatment options. Three levels of stigma (no stigma, some stigma, and high stigma) emerged after exploring how comfortable the participants were in discussing the topic of depression with others. The detection of three levels of stigma, after exposure to an intervention meant to reduce it, is indicative of the complexity of stigma towards mental health topics commonly found among Latinos. Ten women were coded as having no stigma if they did not disclose hesitation in discussing the topic of depression with others or did not distinguish between individuals with whom they would or would not discuss the topic. They also did not identify a preference for a doctor, a therapist, or an alternative to medication. The women in the no stigma group shared several commonalities; they reflected proactive women with an abundance of social support. The no stigma group appeared to have open relationships with friends and family members and many reported their willingness to counsel others going through a state of depression. They were adamant about the need to seek treatment from a doctor or therapist and were open to taking medication treatment if required to maintain good health.

> *"Estoy bien, yo hablo con todos sobre el estrés y los problemas de depresión o simplemente de problemas porque en este país yo sé que muchas de las personas con las que vivo o las personas que conozco tienen problemas y siempre dicen que tienen estrés. Por eso aquí siempre hablo de mi vida y siempre hablo de el estrés con los demás porque sus historias me ayudan a salir adelante. Me gusta ver su motivación o cómo resuelven sus problemas o a veces las cosas que viven nos motiva a seguir adelante. Si la gente está teniendo dificultades con el trabajo hablamos de eso, es mejor de esa manera. "* (Mujer Mexicana en los EE.UU. entre 6 a 10 años)
>
> "I am okay, I speak with everyone about stress and the problems of depression or simply about problems because in this country I know that many of the people that I live with or the people that I know have problems and they always say they have stress. That is why here I always talk about my life here and always talk about stress with others because their stories help me move forward. I like to see their motivation or how they resolve their problems or sometimes the things they live through motivates me to move forward. If people are having a hard time with work we talk about it, it's better that way." (Mexican woman in the U.S. between 6 to 10 years)
>
> *[Entrevistador: ¿*En el futuro si necesita tratamiento para la *depresión*, buscará la ayuda profesional de un doctor?*] Entrevistado: "Sí." [Entrevistador*: ¿buscará la ayuda profesional de un terapeuta?*] Entrevistado: "Sí. Uno tiene que buscar ayudar para si mismo. Yo pienso que iria a un médico porque ellos me chequearian y sabrán si es depresión y yo se que me enviarían con un therapista." [Interviewer: ¿Y usted se siente segura de que la therapista la ayudaría?] Interviewee: "Si.*"

> [Interviewer: In the future if you need depression treatment, would you seek professional help from a doctor?] Interviewee: “Yes.” [Interviewer: Would you seek professional from a therapist?] Interviewee: “Yes. One has to look for help for oneself. I think I would go to a doctor because they would check me and would know if it is depression and I know they would send me to a therapist.” [Interviewer: And you feel sure that the therapist would help you?] Interviewee: “Yes.”

On the other hand, the women coded as having some stigma, eight in total, specifically identified individuals with whom they would and would not discuss the topic of depression. The majority felt comfortable discussing the topic of depression with close friends but not with members of the opposite sex or with “close-minded” family members. Most required their confidants to be people with *confianza* or trust. Unlike the previous group, these women appeared to have less social support as demonstrated by their open relationships with only a few trusted individuals. In addition, about half of these women indicated a preference for an alternative to medication treatment. They agreed with the importance of consulting with a doctor and therapist but reported that they would only take medication for severe mental health needs.

> *“No tengo ningún problema en hablar con otros sobre este tema [depresión] pero yo sólo hablaría con gente de confianza que no me juzgue o tome mi información y la comparta con los demás. Yo no hablaria con mi familia porque son más anticuados, de rancho, y muy rígidos de mente cerrada. Ellos creen que este problema [depresión] es un problema para las personas locas y no lo toman en serio. Ellos me llamarían loca.”* (Mujer Mexicana en los EE.UU. más de 10 años)
>
> “I have no problem talking to others about this topic [depression] but I would only talk to someone I trust who would not judge me or take my information and share it with others. I would not talk to my family because they are more antiquated, from the country, rigid and closed-minded. They believe this problem [depression] is a problem for crazy people and do not take it serious. They would call me crazy.” (Mexican woman in U.S. over 10 years)
>
> *[Entrevistador: ¿En el futuro si necesita tratamiento para la depresión, buscará la ayuda profesional de un doctor?] Entrevistado: “Sí”. [Entrevistador: ¿Y de un terapeuta?] Entrevistado: “Sí. Mas que nada porque los doctores son para ayudar a las personas verdad. Y con un terapeuta me sintiera tal vez mejor en saber que estoy siendo atendida y que esa persona me va a ayudar. Aunque, mmm… le voy a ser bien sincera… a veces a pesar de que ahí, en esta información [en la fotonovela] se lee, dice que la medicina que se da para tratar ese tipo de problema [depresión] no es adictiva yo en lo personal sinceramente le voy a decir que esa medicina si, aunque ahi diga que no [en la fotonovela], y esta escrito por personas con mas conocimiento que yo, a lo mejor yo estoy equivocada, pero sigo pensando que esa medicina si es adictiva. A veces uno teme ir al doctor porque ya sabe uno que al ir al doctor él va a empezar a dar medicamentos que no son muy buenos para la salud … le ayundan para ese problema [depresión] pero le afectan en otras cosas de sus cuerpos.”*

> [Interviewer: In the future if you need depression treatment would you seek professional help from a doctor? Interviewee: "Yes." [Interviewer: And from a therapist?] Interviewee: "Yes. More than anything because the doctors are there to help people, right. And with a therapist I would maybe feel better knowing that I am being taken care of and that this person is going to help me. Although, mmm… I am going to be really honest… sometimes although there, this information you read [the fotonovela], it states that the medicine that is given to treat this type of problem [depression] is not addictive and personally sincerely I am going to tell you that yes, although it states there that no [in the fotonovela], and it is written by people with more knowledge then me, maybe I am wrong, but I still think that that medicine is addictive. Sometimes one fears going to the doctor because one knows that when going to the doctor he will start to give medication that is not very good for the one's health… they help for that problem [depression] but they affect other aspects of your body."

Finally, the seven women coded as having high stigma stated that they would not discuss the topic of depression with others with the exception of a professional or a close family member. Participants classified as having high stigma also agreed with the importance of seeking a doctor or therapist for mental health needs but were more open to medication treatment than the some stigma group. Most members of the high stigma group were willing to follow any recommended form of treatment but were not comfortable disclosing a potential need for depression treatment with friends or family, with the exception of a spouse or a very close family member. The women in the high stigma group reflected a desire to maintain health concerns private, suggestive of close relationships with others and limited social support. Two members of the high stigma group actually expressed a preference for consulting a doctor prior to seeking a therapist, with one woman specifying that it is very difficult for her to discuss her problems and therefore preferred to seek a doctor, if needed. Only two women in the high stigma group indicated a preference for an alternative to medication treatment. As a whole, despite some reluctance towards medication, the majority of the women interviewed agreed with the importance of seeking a doctor or therapist if needed for depression treatment.

> *"No muy bien, no muy cómoda. Porque tengo miedo que me verían como si tuviera una enfermedad mental. Con mi esposo si, él es el más cercano. El segundo sería un consejero o un psiquiatra o un doctor. Con otra persona depresiva no hablaría. Si yo veo que esa persona no tiene la capacidad, que no me pueda aconsejar o la veo distante de aceptar como yo me siento en ese momento."* (Mujer Mexicana en los EE.UU. más de 10 años)
>
> "Not very good, not very comfortable. Because I am afraid that I will be seen as if I have a mental disorder. With my husband yes, he is the closest to me. The second person would be a counselor or a psychiatrist or a doctor. I would not speak with another depressed person. If I see that the person does not have the capacity, that she cannot advise me or I see her as distant in accepting how I feel in that moment." (Mexican woman in U.S. over 10 years)

> *[Entrevistador:* ¿En el futuro si necesita tratamiento para la *depresión*, buscará la ayuda profesional de un doctor?*] Entrevistado: "Sí."* *[Entrevistador*: ¿Qué tal la ayuda profesional de un terapeuta?*] Entrevistado: "Sí. Si lo necesito iria con los dos."*

Self-efficacy and future intent to seek treatment. All women interviewed reported high self-efficacy to identify the need for treatment and future intent to seek treatment, which is consistent with their posttest responses. Interestingly, the participants' confidence in their future ability to seek depression treatment appears to be connected with the knowledge gained after exposure to the fotonovela. Three main themes emerged from the reasons given for the self-efficacy to seek depression treatment: 1) knowing where to seek help, 2) being better informed about the disorder and its treatment options, and 3) knowing that it is okay to seek professional help. A comparison of the themes listed in Table 7, which synthesizes the knowledge gained from exposure to the fotonovela, and Table 8, describing the reported self-efficacy to seek treatment, demonstrates similar responses. Just as in the pretest and posttest, the women were also asked about their future intent to seek depression treatment and twenty-four participants reported that they would seek a doctor and therapist if needed.

Table 8

Reasons for Self-Efficacy to Seek Treatment

Rationale for Self-Efficacy	*N*	*Illustrations*
Knowing Where to Go	11	*"Bien segura porque ya se mas o menos a donde ir y a quién preguntarle. [Entrevistador: ¿A quién le preguntaría?] Pues a el doctor primero y despues a un therapista."* (Mujer Mexicana en los EE.UU. entre 6 a 10 años) "Very sure because I somewhat know where to go and who to ask. [Interviewer: Who would you ask?] Well the doctor first and then a therapist." (Mexican woman in U.S. between 6 to 10 years)
Being Better Informed	10	*"Si buscaria tratamiento porque ya hace como tres anos perdi un bebe y cai como en depresión entonces a mi la doctora me queria dar medicamentos pero nunca lo quise tomar porque yo pensaba que era adictiva y me costo muncho trabajo salir adelante y yo pienso que si hubiera tomado la medicina este hubiera salido adelante mas rapido y este por eso ahora yo pienso que si ahora yo pienso que si ya estoy un poquito mas informada de ese tema [la depresión]."* (Mujer Mexicana en los EE.UU. entre 6 a 10 años) "Yes I would look for treatment because about three years ago I lost a baby and I fell into a depression, then the doctor wanted to give me medication but I never wanted to take it because I thought that it was addictive and it cost me so much work to move forward and I think that if I had taken medication I would have moved forward much faster and that is why now I think that yes, now I do think that I am a bit more informed about that topic [depression]. (Mexican woman in U.S. between 6 to 10 years)
It's Okay to Talk to A Professional	5	*"Si porque aprendi en el grupo que es algo [depresión] de que si es aceptable hablar, se puede hablar con otros con un doctor o therapista. Con un profesional, porque un profesional tiene la educacion, esta preparado para ayudarlo a uno en la depresión."* (Mujer Mexicana en los EE.UU. más de 10 años) "Yes because in the group I learned that it [depression] is something that is acceptable to talk about with others with a doctor or therapist. With a professional because a professional has the education, he is trained to help one with depression." (Mexican woman in U.S. over 10 years)

Exploratory Research

Response to the fotonovela. To better understand if the women exposed to the fotonovela engaged with the story and its characters, participants were asked to state what they liked and or disliked about the fotonovela. Analyses reflect a detailed recall of the fotonovela's storyline, suggesting the intervention's ability to engage its audience. The participants remembered both the characters and events depicted in the story. For example, the social support offered to the protagonist struggling with depression is the most liked aspect of the fotonovela. The most disliked aspect is the protagonist's unsupportive husband. The presentation of mental health information in a brief soap opera format appealed to the participants. Most women also enjoyed the storyline's optimism possibly because soap operas typically present a positive ending. Tables 9 and 10 exemplify the participants' fotonovela dislikes and likes, respectively. Each type of appeal is coded to reflect the story questionnaire's subscales used to obtain quantitative measures of the response the fotonovela. As previously noted in quantitative outcomes, the majority of participants engaged and identified with the story and its characters.

Table 9

Fotonovela Dislikes

Type of Appeal	*Dislikes*	*Illustrations*
Engagement with Story & Characters	Husband's Lack of Support (*n* = 9)	*"El esposo, como que no le estaba poniendo mucha atencion a la esposa, como de lo que le pasaba a ella. Eso es lo que no me gusto. Como que falta comunicación y se puso triste cuando el esposo no le ponia atencion a la esposa. El esposo estaba mas entregado a sus propios problemas, no de la pareja. Solo buscaba el bien estar de él mismo y menos de lo que la esposa estaba sintiendo."* (Mujer Mexicana en los EE.UU. más de 10 años) "The husband, as if he did not seem to give the wife much attention, what was going on with her. That is what I did not like. As if a lack of communication she became sad when the husband did not give the wife attention. The husband was more focused on his own problems, not on the couples' problems. He only sought his own well-being and less what the wife was feeling." (Mexican woman in U.S. over 10 years)
Engagement with Story & Characters	Initial Denial (*n* = 3)	*"Siempre hay alguien con quien hablar y la senora al principio no le queria decirle a nadien. Eso es lo que ella estaba haciendo mal."* (Mujer Mexicana en los EE.UU. más de 10 años) "There is always someone with whom to talk to and the woman in the beginning she did not want to tell anyone. That is what she was doing wrong." (Mexican woman in U.S. over 10 years)

Table 10

Fotonovela Likes

Type of Appeal	Likes	Illustrations
Engagement with Story & Characters	Support from Friends and Family (*n* =11)	*"Cómo se dió cuenta. Ella descubrió que tenía depresión porque ella recibió el apoyo de sus amigos y familia, e incluso el médico. Ella mejoró mucho después de tomar la medicina. A veces los demás no se toman el tiempo para ayudar."* (Mujer Mexicana en los EE.UU. más de 10 años) "How she found out. She found out she had depression because she received support from her friends and family and even the doctor. She improved so much after taking medication. Sometimes others don't take the time to help." (Mexican woman in U.S. over 10 years)
Engagement with Story & characters	Got Help (*n* = 6)	*"Me gustó todo. Estaba contenta que ella pudo seguir adelante a pesar de que ella pensó que no podia y que ella pidió ayuda. Me gustó que ella pidió ayuda. Con el apoyo de sus amigos se puso mejor."* (Mujer Mexicana en los EE.UU. más de 10 años) "I liked everything. I was happy that she was able to move forward even though she thought she could not and that she asked for help. I liked that she asked for help. With the support of her friends she got better. (Mexican woman in U.S. over 10 years)
Identification with Story & Characters	Optimistic Theme (*n* = 5)	*"Me gustó que la gente puede aprender que hay recursos para el tratamiento de la depresión. Que las cosas pueden mejorar para ellos. Creo que la historia era optimista y por eso me gustó. Yo pasé por algo similar cuando di a luz. En ese tiempo yo estaba asustada y pesimista, pero la historia anima a la gente y muestra que este problema se puede superar."* (Mujer Mexicana en los EE.UU. más de 10 años) "I liked that people can learn that there are resources for depression treatment. That things can get better for them. I think the story was hopeful and optimistic and that is why I liked it. I went through something similar when I gave birth. At that time I was scared and pessimistic but this story encourages people and shows that this problem can be overcome." (Mexican woman in U.S. over 10 years).
Engagement with Story & Characters	Realistic (*n* = 5)	*"Realemente lo que me gusto mas que nada fue mirar lo que una mujer pasa, porque en la vida real puede pasar, si pasa que una persona esta sufriendo depresión y afecta a la familia, a su nina."* (Mujer Mexicana en los EE.UU. entre 6 a 10 años) "Really what I liked the most was seeing what a woman goes through, because in real life it can happen, it does happen that a person is suffering from depression and it affects the family, it affected her daughter." (Mexican woman in U.S. between 6 to 10 years).
Engagement with Story & Characters	Well-written (*n* =4)	*"Me gustó que estaba bien escrito, que fue breve y completa. Con mucho detalle. Era una buena presentación."* (Mujer Mexicana en los EE.UU. más de 10 años) "I liked that it was well-written, it was short and complete. With a lot of detail. It was a good presentation." (Mexican woman in U.S. over 10 years)
Engagement with Story & Characters	Entertaining Like a Soap Opera (*n* = 6)	*"Me gusto la forma en como lo hace ver como una novella, como en la tele. Esta entretenido."* (Mujer Mexicana en los EE.UU. menos de 5 años) "I like the way that it looks like a soap opera, like on TV. It is entertaining." (Mexican woman in U.S. less than 5 years)
Identification with Story & Characters	Identified with Protagonist (*n* = 3)	*"Me vi un poco reflejada en el de Sophia. Creo que asi se llama la que estaba pasando por depresión. Ella tuvo gran apoyo de sus amigas y senti que no tenia el apoyo de su esposo por eso me identifiqué mucho en ese personaje."* (Mujer Salvadoreña en los EE.UU. más de 10 años) "I saw myself reflected in Sophia. I think that is her name, the one going through depression. She had great support from her friends and I felt that she did not have her husband's support that is why I identified so much with that character." (Salvadorian woman in U.S. over 10 years)

Interpersonal communication. To respond to the research question, will exposure to the fotonovela generate interpersonal communication about the topic of depression?, participants were asked if they had discussed the fotonovela with friends, family, a therapist or a doctor. Among the 25 women interviewed, 22 discussed the contents of the fotonovela with others. Fifteen women reported sharing the information with friends, 13 discussed its contents with family members, and 6 women discussed the fotonovela with both friends and family. No one discussed the fotonovela with a professional. Detailed motives for discussing the fotonovela with others are presented in Table 11. The desire to educate others about the symptoms of depression was most frequently mentioned. The majority of women shared the newly learned symptoms with friends whom they identified as depressed and some spoke to their husbands about their own experiences with depression. The realization that most people are unaware of their own symptoms along with the recognition of how much the disorder can affect interpersonal relationships also generated discussions with others. The motives for discussing the fotonovela with others are not mutually exclusive, given that some women gave more than one response. Although only three women opted not to discuss the fotonovela with others, it is important to note their reasons. One woman simply indicated that she did not know anyone who suffered from depression but two women referred to the topic as stigmatized. The following quotes exemplify these responses.

> *"El tema no ha sido discutido porque es algo que no hablo con los demás. La depresión es algo que usted no desea tener y creo que es por eso que nosotros, mi familia y yo no hablamos de esto."* (Mujer Mexicana en los EE.UU. entre 6 a 10 años)

> "The topic has not been discussed because it is something that I usually do not talk about with others. Depression is something that you wish not to have and I think this is why we, my family and I don't talk about this." (Mexican woman in U.S. between 6 to 10 years)

> *" La verdad no, no eh hecho por platicar con nadie porque pues no eh necesitado hacerlo verdad hasta orita, gracias a Dios no conozco ninguna persona que tenga algunos síntomas de una persona con* depresión *o algo asi."* (Mujer Mexicana en los EE.UU. entre 6 a 10 años)

> "Honestly no, I have not spoken with anyone well because really until now I have not had the need to do so, thanks to God I do not know any person who has the symptoms of a depressed person or something like that." (Mexican woman in U.S. between 6 to 10 years)

Table 11

Motives for Discussing the Fotonovela with Others (n=22)

Motive	*N*	*Illustrations*
Educate Others about Symptoms	9	*“Tengo una amiga que comparte sus problemas conmigo y le dije del taller y lo importante que es informarse y entender cuáles son los síntomas de la depresión. Yo quería que ella estuviera mejor informada porque a veces uno no entiende, no sabe cuáles son los síntomas de una enfermedad ...”* (Mujer Mexicana en los EE.UU. más de 10 años) “I have a friend who shares her problems with me and I told her about this seminar and how important it is to inform oneself and understand what the symptoms of depression are. I wanted her to be better informed because sometimes one does not understand, does not know what the symptoms of an illness are …” (Mexican woman in U.S. over 10 years)
Identified a Depressed Friend	8	*“Estuve teniendo una platica con una amiga. Ella a veces se sente triste y sola. Le estuve diciendo que quizas tiene sintomas de depresión. Que a veces nosotros mismos no sabemos si de verdad estamos depresivos or no y quizas necesitamos la ayuda de algun doctor o algo que nos puede ayudar para saber si sufrimos de depresión. Eso es porque yo empece a hablar con mi amiga sobre la depresión.”* (Mujer Mexicana en los EE.UU. más de 10 años) “I was having a talk with a friend. She sometimes feels sad and lonely. I told her that perhaps she has symptoms of depression. That sometimes we do not know if we really are depressed or not and that perhaps we need a doctor’s help or something to that can helps us to understand if we suffer from depression. That is why I began to talk with my friend about depression.” (Mexican woman in U.S. over 10 years)
Wanted Husband to Understand the Disorder	6	*“Me identifiqué con el tema* [*depresión*] *y yo quería que el aprenda sobre el tema. Yo quería darle a entender que a veces no buscamos ayuda porque no sabemos que estamos afectados por el estrés y la depresión. “* (Mujer Mexicana en los EE.UU. más de 10 años) “I identified with the topic [depression] and I wanted him to learn about the topic. I wanted him to understand that sometimes we don’t seek help because we don’t know that we are affected by stress and depression.” (Mexican woman in U.S. over 10 years)
Lack of Awareness	6	*“Porque a veces la personas estamos muy desorientadas acerca de lo que significa la depresión y este tambien es bueno que uno se entere porque a veces uno no sabe.”* (Mujer Mexicana en los EE.UU. entre 6 a 10 años) “Because sometimes the people we are very disoriented about what depression means and it is also good for people to find out because sometimes people do not know.” (Mexican woman in U.S. between 6 to 10 years)
Highlight Effect on Relationships	5	*“Quería que mi familia mirara cómo esto [la depresión] afecta a las personas y a toda la familia. La historia fue orientada a la familia y mostró cómo la depresión afecta a la familia ... hasta dónde puede llegar y cuánto puede afectar a la gente”.* (Mujer Mexicana en los EE.UU. entre 6 a 10 años) “I wanted my family to see how this [depression] affects people and the whole family. The story was family oriented and it showed how depression affects the family… how far it can go and how much it can affect people.” (Mexican woman in U.S. between 6 to 10 years)

Preferred methods for learning about mental health. Additional exploratory analyses of the preferred methods for learning about mental health were conducted in order to understand if the fotonovela and its delivery matched the participants’ preference for learning about stigmatized health topics. It is also important to identify the settings, tools, or individuals Latinas with varied health literacy levels consider most useful when learning about mental health in order to continue to develop culturally competent health literacy interventions. Results indicate participants identified groups, reading materials, and classroom style discussions, as the most preferred methods for learning about mental health. The receipt of verbal instructions, discussions with a professional, and internet or television use were the least preferred methods. Mentioned by 80% of the participants, a group format was the most preferred means to learn about mental health. Groups and or *talleres* (workshops) were favored due to the ability to share personal stories, interact with others, and the option to either participate or just listen if desired. Some of the women expressed their approval for the delivery of the mental health information in a women's group tailored for their needs. When exploring the preference for groups the participants highlighted this method's cultural acceptability as expressed by one of the participant's insightful comments:

Table 12

Preferred Methods for Learning about Mental Health

Groups	20
Reading Materials	12
Classroom Style	8
Verbal Instructions	5
From a Professional	5
Internet	3
TV	1

> *"Los grupos son mejor porque miras que no eres el único que está pasando por esto [la depresión]. Ver a los demás te ayuda a ver que es un problema que otros superan. Creo que también porque nosotros convivimos mas. A los Mexicanos nos gusta hacer todo en bola en grupo creo que es porque hay menos presión en México para adaptarse a tanto sistemas. En este país todo está tan sistematizada. [Entrevistador: ¿Qué quiere decir con sistematizada?] Hay pocos programas en México y más sistemas aquí en los EE.UU. Hay menos sistemas en México a los que uno se tiene que adaptar. Si, por ejemplo, la gente tiene un problema de salud la gente lo resuelve en grupo. La gente convive mas en México aquí haces todo sola. Las cosas son más tranquilas en México con mas ayuda, más unión. Es una manera de convivir."* (Mujer Mexicana en los EE.UU. entre 6 a 10 años)
>
> "Groups are better because you see that you are not the only one that is going through this [depression]. Seeing others helps you see that it is a problem that others can overcome. I think also because we engage together more. Mexicans like to do everything in a ball in a group I think because there is less pressure in Mexico to adjust to so many systems. In this country everything is so systematized. [Interviewer: What do you mean by systematized?] There are fewer programs in Mexico and more systems here in the U.S. There are fewer systems to adapt to in Mexico. If for example, people have a health problem people resolve it as a group. There is more engagement in Mexico here you do everything alone. Things are calmer in Mexico with more help, more union. It is a way of coexisting." (Mexican woman in U.S. between 6 to 10 years)

Reading materials, inclusive of magazines, books, and pamphlets, were the second (48%) most preferred method to learn about mental health topics. Women expressed a preference for the portability of reading materials and the ease with which they could be referred to when in need of reminders of a specific health condition. Classroom style education (32%) was the third choice for learning about mental health, particularly in schools or in places frequently attended by women. Although groups, readings materials, and classroom style education were frequently mentioned, the women agreed that the Latino community does not readily participate in these groups nor frequently read written mental health materials. For these reasons the participants suggested mandatory attendance to mental health groups, easy to read materials, or the delivery of mental health information in locations frequented by the targeted group. The following statements express the participants' thoughts on potential modes to deliver mental health information to the Latino community.

> *"Creo que es útil tener una clase en una escuela para padres. A veces los padres no asisten a estas clases, pero si se hacen obligatorias si van y puede ayudar a muchas personas. O folletos, pero luego hay gente que no lee los folletos. Una clase para el tema de la depresión sería mejor."* (Mujer Mexicana en los EE.UU. más de 10 años)
>
> " I think it is helpful to have a class in a school for parents. Sometimes parents don't attend these classes but if they are made mandatory they will and it can help many people. Or pamphlets but then some people do not read the pamphlets. A class for the topic of depression would be better." (Mexican women in U.S. more than 10 years)
>
> *"Talleres, pero a veces las personas son tan perezosos y desinteresados a veces y no se toman el tiempo para ir. De aqui en adelante voy a ir y escuchar pueden ser útil."* (Mujer Mexicana en los EE.UU. más de 10 años)
>
> "Workshops but sometimes people are so lazy and disinterested sometimes they don't take the time to go. From now on I will go and listen they might be helpful." (Mexican woman in U.S. over 10 years)
>
> *"Los folletos, pero que sean faciles de entender, se pueden cargar en cualquier lugar en su bolsa o algo. Si no entiendes los puedes volver a leer o estudiar. Pero si no mas vas al doctor luego se te olvida lo que to dijo. Asi lo puedes revisar."* (Mujer Mexicana en los EE.UU. más de 10 años)
>
> "The pamphlets, but if they are easy to understand, they can be transported anywhere in your purse or something. If you do not understand you can read them again or study them. But if you only go to the doctor then you forget what he told you. This way you can review them." (Mexican woman in U.S. over 10 years)
>
> *"Prefiero las pláticas como estas o recibir información verbal. Me ayuda cuando otros me explican lo que tengo que hacer y me ayuda aprender acerca de mi condición. A veces no entiendo lo que tengo que hacer para cuidarme pero cuando los doctores explican las instruciones entonces estoy bien."* (Mujer Mexicana en los EE.UU. más de 10 años)

“I prefer talks like these or being given verbal information. It helps when others explain to me that what I need to do and it helps me learn about my condition. Sometimes I don’t understand what I need to do to take care of myself but when the doctors explain the instructions then I am okay.” (Mexican woman in U.S. over 10 years)

“Pues como le digo leyendo folletos, eh, preguntándole a un doctor y mas que nada hacerlo con una persona professional porque si uno le pregunta a un vecino o a un amigo ellos le van a decir lo que ellos creen ... eso lo puede ensenar mas una persona que esta capasitadad por ejemplo un doctor, un terapeuta, o un libro. Un libro donde lea uno acerca de ese tema [depresión]. O tambien en la computadora pueden buscar ... es un buen lugar para buscar informacion tambien.” (Mujer Mexicana en los EE.UU. entre 6 a 10 años)

“So like I tell you reading pamphlets, um, asking a doctor and more than anything doing it with a professional because if you ask a neighbor or a friend they will tell you what they think … that can teach you more a person who is capable. For example, a doctor or a therapist, or a book. A book where one reads about that topic [depression]. Or also in the computer people can search … it is also a good place to search for information.” (Mexican woman in U.S. between 6 to 10 years)

Chapter 4 – Discussion

This study replicates the effectiveness of a depression literacy tool, in the form of a Spanish language fotonovela, with a sample of immigrant Latinas at high risk for depression. The study specifically sought to discern if the fotonovela *Secret Feelings*, delivered in the multifaceted approach to education used by promotoras, could increase the participants' understanding of depression and the importance of seeking treatment. Results indicate that, similar to the first evaluation of the fotonovela by Unger et al. (2012), participants benefited from exposure to the fotonovela as confirmed by their increased depression knowledge and self-efficacy to identify the need for treatment.

This study's key finding is support for the hypothesized increase in depression knowledge among participants following exposure to the fotonovela, *Secret Feelings*. Results revealed significant pre to post gains for the experimental group as compared to the control group. Most women reported learning about the varied symptoms of depression for the first time. With a better understanding of depression symptoms the women indicated a new ability to identify symptoms in themselves and others and to recognize current as well as previous depressive episodes. Their improved comprehension of the mental health disorder allowed them to realize the lack of awareness among peers presenting with symptoms of depression. The women also identified recommended forms of depression treatment and why they are important to seek.

Such an improvement in depression literacy was greatly needed among the entire sample who, consistent with recent studies (Coffman & Norton, 2010; Grzywacz et al., 2005; Hiott et al., 2006; Kaltman et al. 2010), had high rates of depression symptoms as indicated by the CES-D. Given that depressive episodes are typically recurrent and that the majority of participants reported a lack of previous education on the topic, participation in this study may potentially improve the mental health status of participants. As noted by Latino mental health researchers (e.g., Lopez et al., 2009), the Latino community sometimes attempts to resolve mental health concerns by reducing social stressors without considering clinical treatment. The fotonovela taught participants distinct treatment options for depression, which they can now turn to in order to improve their mental health. The simple act of participating in this research study increased participant awareness of mental health resources available in their community, given that the fotonovela was implemented in a community health education center tied to a multiservice clinic. The chosen study site fits well with Rosen, Walter, Casey, and Hocking's (2000) recommendation to make available and accessible the health services researchers hope study participants will seek.

In accordance with additional literary recommendations for the culturally appropriate delivery of mental health interventions to Latino groups (Elder et al., 2009), the fotonovela was implemented in conjunction with other interventions to increase the probability of obtaining expected effects. First, use of a community health education center allowed for collaboration with promotoras who assisted the researcher in the successful recruitment and retention of hard to reach immigrant women. Secondly, childcare was offered to all participants, without which many would not have participated. Thirdly, in accordance with the promotoras' typical delivery of health education, the fotonovela was read out loud in a group format and the researcher assisted all participants who had difficulty completing the pre and post measures. Among experimental group participants, 16 presented with inadequate health literacy, 12 with marginal health literacy, and 47 with adequate health literacy. Several of the individuals with the lowest levels of health literacy appeared to have the most difficulty with the pre and post measures and requested to simply listen to the storyline without reading the fotonovela. Despite their difficulty in reading the study materials, these women were eager to participate in all research activities. They actively requested the researcher's assistance in completing all survey measures and refused to end their participation in the study.

The fact that the women with the lowest health literacy and literacy in general improved their depression knowledge score demonstrates the utility of mental health literacy tools. As suggested by Bell and Alcalay (1997), knowledge gaps between individuals with different literacy levels can decrease with increased exposure to health information. Through the use of multifaceted interventions tailored for their needs (conducting the study in a trusted health center, providing a literacy tool created specifically for Latinos, and assisting in the reading and completion of forms), study participants demonstrated great motivation to learn new health information. In a previous evaluation of *Secret Feelings,* Unger et al. (2012) found increased depression knowledge among a sample of Latinos enrolled in ESL classes, however participants did not require assistance with the reading or completion of study materials because of higher literacy levels found in school settings. The current study also found the fotonovela to be successful in increasing depression knowledge with an at risk sample.

The increase in depression literacy found among individuals who at pretest presented with low health literacy also points towards the complexity of measuring health literacy. As suggested by Baker (2006) and Britigan et al. (2009), health literacy levels are influenced by various factors such as English proficiency, access to health care, previous health experiences, a conceptual knowledge of healthcare, acculturation levels and much more. It is uncertain if differences exist between general health literacy levels and specific health knowledge levels. For example, although the participants' depression literacy increased, if health literacy had been assessed a second time it is likely that they would have presented with similar results. In addition, more than half of the experimental group participants (47) presented with adequate levels of health literacy and still their depression knowledge increased. Future research should examine if mental health literacy levels coincide with general health literacy levels.

Unlike the clear increase in depression knowledge observed among experimental group participants, the hypothesis that exposure to the fotonovela would reduce stigma towards depression treatment was partially supported. The high number of missing values found in response to the two measures of stigma (Stigma Concerns about Mental Health Care scale and the Latino Scale for Antidepressant Stigma) made it difficult to assess pre to post changes in stigma levels among participants. The exploration of stigma towards mental health care during follow-up interviews further shed light on quantitative findings and the number of missing values. During these interviews, three levels of stigma (no stigma, some stigma, and high stigma) were observed among participants. Participants expressing no stigma demonstrated comfort in discussing the topic of depression with others and did not describe any personal impediments in seeking professional treatment. Participants expressing some stigma on the other hand, indicated a willingness to discuss the topic but only with trusted individuals and a preference for alternatives to antidepressants. Finally, participants with high stigma included very private individuals willing to only discuss mental health needs with a close family member or spouse yet, without hesitation in seeking professional treatment. The three levels of stigma found among participants suggest the possibility that participants with greater stigma opted not to respond to SCMHC items. Likewise, it is also possible that participants with stigmatized views of antidepressant treatment simply did not respond to the LSAS, which assesses views of such medication.

Yet, a closer examination of qualitative findings reflects a common desire to seek professional help. The SCMHC assessed the participants' willingness to seek treatment regardless of personal or public stigma. As noted in the SCMHC's pretest and posttest results, both the control and experimental groups indicated low levels of stigma. Still, while the receipt of mental health care is for the most part welcomed, disclosure of its receipt remained stigmatized among some women. Participants expressing some level of stigma were not willing to openly discuss mental health needs with others, indicating that the disclosure of mental health needs is affected by personal and public stigma (Carrigan & Shapiro, 2010).

In reference to the receipt of antidepressants, qualitative results also reflect the presence of stigma towards this form of treatment. Although the fotonovela aimed to increase acceptance of medication treatment by informing its audience that antidepressants are not addictive, some women expressed a preference for therapy over medication treatment. The reduction of antidepressant stigma noted in the experimental group's quantitative findings appear indicative of the participants' ability to recall the fotonovela's content (that antidepressants are not additive) but are not indicative of the participants' actual beliefs. As expressed by the participants expressing some stigma, fears of side effects and addiction remain among some participants exposed to the fotonovela, reflecting common cultural misconceptions that may require additional interventions to overcome.

Both practitioners and researchers should consider further assessments of self and public stigma among potential mental health consumers. While both researchers and mental health service providers are well aware of the strong presence of stigma found in the Latino community, few attempts are made to assess the different types of stigma affecting consumers. For example, participants can be identified as endorsing self-stigma and or public stigma. Such distinctions can lead to the development of more effective interventions targeting specific types of stigma.

Additional findings also support the hypothesis that the self-efficacy to identify the need for treatment would increase after exposure to the fotonovela. Qualitative results suggest the improved self-efficacy to identify the need for treatment derives from the knowledge gained after reading the fotonovela. Through increased depression knowledge (e.g., the comprehension that depression is a medical condition requiring professional treatment) all the women interviewed reported feeling confident in their ability to seek treatment because they now knew where to go and were less hesitant to share their concerns with a professional. The storyline depicts positive support and treatment offered by the doctor, therapist, and pharmacist who treated the protagonist. It appears that the protagonist's modeling of how to contact and collaborate with medical professionals demystified the process for study participants. Observing a character that looked like them and shared similar experiences succeed in obtaining adequate depression treatment appears to have increased the participants' self-efficacy to do the same.

With regards to the final hypothesis, that the future intent to seek treatment would increase after exposure to the fotonovela, the conservative Bonferroni-Dunn test found the initial statistically significant difference between the two groups' future intent to seek treatment to be a false positive. While it is true that at posttest a greater improvement in desire to seek treatment was noted among experimental group participants in comparison to control group participants, closer observation indicates that both groups reported a strong initial desire to seek future treatment. The desire to seek a professional to maintain a good state of health appeared to be common among study participants. Follow-up interviews found several proactive women who refused to neglect their well-being and were willing to seek mental health treatment if needed.

Seeking a medical professional for any discomfort appeared to be the norm. It seems that several participants were willing to receive a medical assessment and wanted to be aware of any mental health concerns. However, following through with recommended treatment is where some of the participants differed. As previously noted, the receipt of antidepressant treatment and the disclosure of a diagnosis of depression remained stigmatized for some participants. Nonetheless, the fact that most were willing to seek treatment is promising for the field of mental health disparities. It is not a lack of desire to maintain mental health that separates Latinos from treatment but a combination of access, stigma, and health literacy barriers, which can be alleviated with culturally competent interventions. The multifaceted approach to mental health treatment used by this study targeted two important barriers, access and health literacy, in culturally compelling ways.

Given that the effectiveness of E-E interventions is not only measured by knowledge gains and impact on behavior change but also on ability to engage audiences, responses to the fotonovela were also explored. Consistent with literary recommendations for health literacy tools (Bell & Alcalay, 1997; Horner et al., 2008; Massett, 1996; Nelson et al., 2008) the fotonovela was found to be credible, engaging, and to successfully reflect the participants' culture. More importantly, the participants saw themselves reflected by the storyline, which positively impacted their desire to seek mental health treatment if needed (Watters, 2003). The story questionnaire used to assess the fotonovela's effectiveness in engaging immigrant women with the storyline assessed four areas of which only two (identification with the story/characters and the engagement with the story/characters) were found to have complimentary scale items that accurately measure the intended concept. Follow-up interviews better describe why the participants engaged and identified with the storyline.

Participants highlighted the storyline's optimism; the women enjoyed the professional and peer support given to the protagonist, her ability to seek help, and the general improvement in the protagonist's family life after she received treatment. The women were also noticeably captivated by a storyline that they described as realistic in its depiction of how depression affects Latina mothers. Most participants reported that they themselves had gone through something similar and just like the protagonist received limited support from their spouses, suggesting a clear identification with the protagonist. The participants' identification with the storyline also speaks to the fotonovela's cultural appropriateness. To identify with the protagonist, the participants required a story that reflected how depression emerges in their lives and how it is perceived in their culture (Massett, 1996). In general the participants enjoyed the fotonovela's storyline and described two dislikes: the husband's initial lack of support and the protagonist's hesitation to disclose her depression. Yet, even when describing their dislikes the participants continued to demonstrate their engagement with the storyline. The strongest evidence of the fotonovela's ability to capture its audience rests on the participants' detailed recall of the story, its events, and its characters. The story resonated with them along with the depiction of depression and its treatment.

After successfully engaging the participants, it was anticipated that the fotonovela would generate interpersonal communication about the topic of depression. The majority of the women who completed follow-up interviews did in fact discuss the contents of the fotonovela with peers and family members. Most were motivated to educate others about the symptoms of depression. Their surprise of the varied symptoms of depression seems to have generated a desire to inform others, such as a depressed friend or family member, of their mental health status. Others seemed to want their husbands to better comprehend the disorder so that their husbands would in turn better comprehend them.

That fact that several of the participants engaged in interpersonal communication about depression is promising for several reasons. With a better understanding of the disorder the women were capable of identifying the symptoms in others, which encouraged them to discuss the topic with others. The participants proved the ease with which they can educate their social networks about the existence and severity of mental health disorders. Latinas are frequently perceived as their families' health managers and may be the key to sharing positive treatment outcomes and experiences with their families and the Latino community (Britigan et al., 2009). The diffusion of health literacy tools in underserved communities can help reduce Latino mental health disparities, particularly among women. Not only are Latinas more likely to seek mental health services than men, but they might also be more willing to accept recommendations from peers regarding how to overcome depression (Rogler & Cortes, 1993).

In addition to evaluating the effectiveness of a health literacy tool, this study also sought to explore if its delivery matched the educational needs of immigrant women. During follow-up interviews participants were asked to indicate their preferred methods to learn about mental health topics with the purpose of identifying additional approaches that might help Latinas participate in educational discussions of stigmatized mental health topics. The three most preferred methods were groups, reading materials, and classroom style settings. Groups, also referred to by the women as *talleres* (workshops), were welcomed due to the opportunity to interact with other women, discuss similar concerns, or simply listen if desired. The participants described finding comfort in knowing that they were not the only ones who experienced a depressive episode. More importantly, the group format is culturally appropriate because it allows participants to convene and share their stories. Reading materials, if easy to understand, were also preferred because they were perceived as convenient portable health references. Finally, classroom style lectures were considered appropriate for the delivery of health information in the locations most frequented by Latinas, such as schools or clinics.

The participants' preferences echo the work of mental health researchers who find Latinas to prefer services offered within their communities and classroom style lectures that are less stigmatized than interventions delivered in mental health settings (Gonzalez & Gonzalez, 2005). For the above reasons, promotoras provide psychoeducational interventions in homes, churches, schools, community centers, and much more (Elder, 2009). The participants' request for the delivery of mental health education in a group format can only help mental health service providers and researchers seeking to deliver health literacy tools to hard to reach groups. Underserved Latinos clearly request a less stigmatized format and setting to benefit from mental health education. Increased collaboration with schools and community centers can help deliver needed health education to vulnerable groups not often reached by traditional mental health interventions.

To better understand where immigrant women acquire mental health information, they were also asked to identify their most frequently used sources of mental health information. Most researchers investigate the sources Latinos turn to for general health information (Wilkin, & Ball-Rokeach, 2006; Britigan et. al., 2009) but do not specifically inquire about mental health information. Study participants identified their most frequently used sources of mental health information in the following order: doctors, friends, family, brochures, a religious institution, and therapists. The participants' responses are consistent with several Latino mental health researchers (Alegria et al., 2002; Brown et al., 2003; Lagomasino et al., 2005; Vega et al., 1999) who identify primary doctors and social networks as the first responders to mental health concerns. As repeatedly recommended by several mental health disparities experts (Alegria et al., 2002) primary doctors should thoroughly assess Latinas for depression and other mental health disorders and promptly treat them or recommend evidenced-based treatment. Yet, somehow undiagnosed and untreated mental health concerns remain among Latinas. While mental health interventions typically target consumers to increase their help-seeking behaviors, perhaps they should also target service providers to increase their knowledge of how to properly engage Latinos in treatment. A starting point is found in training service providers to assess their clients' health literacy levels and deliver mental health information according to their needs. As noted by Gazmararian et al. (1999) even when service providers are aware of their clients' low literacy levels and wish to respond, their efforts are hindered by a lack of awareness of appropriate interventions. Therefore, health literacy interventions should target individuals most at risk, their communities, and appropriate service providers in order to impact mental health seeking behaviors among underserved groups.

When comparing the results of this study to the first evaluation of the fotonovela (Cabassa, Contreras, Aragon, Molina, & Baron, 2011; Unger et al., 2012), several positive outcomes are noted. Parallel to its first evaluation, exposure to the fotonovela resulted in increased depression knowledge, self-efficacy to identify depression and the need for treatment, willingness to share the fotonovela with friends and family, and a reduction in stigma towards depression treatment. Other similarities in outcomes include engagement with the storyline and continued hesitation towards antidepressant treatment among participants. However, this study added to the fotonovela's assessment by changing the conditions of its prior evaluation. This study tested the fotonovela with a sample of immigrant women presenting with high levels of depressive symptomatology, in a natural setting, and applied the promotora model to health education. The fact that the intervention was able to sustain the same positive outcomes noted in its first evaluation supports the fotonovela's effectiveness and extends its generalizability to different situations.

In addition, the fotonovela's application to a different sample and setting helped to better explain its positive effects. Unlike its previous evaluation, the participants of this study indicated the ability to recognize current and previous episodes of depression in themselves and others. They also discussed the topic of depression with friends and family, rather than simply sharing the fotonovela with them. In essence, the participants increased their social networks' mental health knowledge. Moreover, during the fotonovela's first investigation the participants' health literacy was not measured. While most evaluations of health literacy tools measure knowledge gains, most fail to measure the participants' general health literacy level. This study contributed to the exploration of health literacy tools by assessing the participants' health literacy, their response to the fotonovela with the use of the culture centric model of health promotion, and their preferred method for the delivery of health literacy tools. As noted above, the women with the lowest health literacy benefitted from the intervention due to the promotora approach to health education, which was delivered in a group format preferred by most participants. Additionally, the women responded well to a culturally appropriate intervention that they engaged and identified with. In all, this replication study further supports the effectiveness of the fotonovela, *Secret Feelings*, and encourages the development of mental health literacy tools into evidenced-based practices.

In regards to study limitations, the small sample size limits the options of supplementary statistical analysis, such as the exploration of additional factors potentially associated with the positive outcomes noted among experimental group participants. While a sample size of

(*N* = 300) with (*n* = 150) participants in both the control and experimental group was originally recommended for this study, obtaining such a sample size was not feasible for one researcher. However, a rigorous smaller scale study was possible with the use of a pretest-posttest randomized control group experimental design. Despite the small sample size, a strong effect size with regards to depression knowledge gains was noted after exposure to the fotonovela, as well as a reduction in antidepressant stigma, and increase in the self-efficacy to identify the need for treatment. Difficulty in reaching participants due to non-working numbers and their busy schedules also reduced the number of potential follow-up interviews. Still, the interviews included in this study provided rich descriptions of their responses to the fotonovela. Overall, most of the hypotheses guiding this study were supported but the use of multiple testing increased the probability of incorrectly rejecting a true null hypothesis. After applying a more conservative level of significance to all hypothesis tests performed in this study, the hypothesis that the future intention to seek treatment would increase after exposure to the fotonovela was indeed found to be a false positive.

Additional limitations are found in the generalizability of study outcomes to other Latino groups. The study is composed of women with high levels of depressive symptomatology, while this outcome confirms the need to provide immigrant groups with mental health information it also questions depression knowledge outcomes. The novelty of health literacy in the field of mental health prevents this researcher from determining whether or not having a disorder, in this case experiencing symptoms of depression, increases one's knowledge of the disorder. Future research in the area of mental health literacy and depression knowledge levels will shed light on this question. In addition, a few participants were previously enrolled in mental health treatment that may have augmented their depression knowledge prior to participation in this study. Study participants were successfully recruited through the use of trusted promotoras connected to a well-established multiservice health clinic known for its service to the Latino community. Some participants regularly used the study site's health services or had previously participated in health education groups offered by the promotoras. Hence, it is possible that their awareness of the topic of depression and general health literacy may not resemble the depression knowledge or health literacy levels found in Latinas without health care access. In fact, more than half of the experimental group participants presented with adequate health literacy levels, which questions if women with inadequate health literacy are connected to community health clinics.

Further complexities are found in measuring health literacy and stigma towards mental health care among Latinas. Study outcomes suggest the entire experimental group, regardless of health literacy level, demonstrated increased depression knowledge, suggesting that an adequate health literacy level may not denote greater depression knowledge. Health literacy was measured with the Spanish version of the Short Test of Functional Health Literacy in Adults (s-TOFHLA) containing two health care passages specific to a health setting but perhaps mental health literacy measures are needed to better understand mental health educational needs among Latinos and other groups. To date, mental health literacy scales have not been developed.

When measuring antidepressant stigma and stigma towards mental health care several participants opted not to respond to both the LSAS and SCMHC and some participants expressed difficulty in comprehending the SCMHC. It is unclear if the majority of individuals expressing difficulty in completing the SCMHC were among those with low health literacy. It is also unclear if self-reports are the best option for measuring stigma towards mental health care. This study demonstrated that qualitative interviews extracted a better understanding of the participants' stigma towards depression treatment. Further use of qualitative methods to explore stigma towards mental health care is recommended.

A final limitation is found in the assistance given to participants with low health literacy levels in the completion of study measures and in reading the fotonovela. Without assistance in completing study measures and having others read the fotonovela, participants with the lowest health literacy levels would not have been able to successfully participate in this study nor demonstrate how they benefitted from exposure to the depression literacy tool. Had participants unable to read the fotonovela or complete study measures not been provided assistance, study outcomes would have shown that the fotonovela only benefitted participants with higher health literacy levels. Therefore, it is safe to assume that even health literacy tools require a minimum level of literacy and/or health literacy to benefit its recipients. This study did not screen participants for low literacy levels and individuals reporting low literacy levels were allowed to participate because the intervention was provided in a group format and rejecting them in front of other participants would have been culturally incompetent.

In terms of practice implications, findings indicate a potentially effective tool in educating underserved groups about mental health disorders. This culturally competent and cost effective E-E method also helped Latinas explore a stigmatized mental health topic. Use of this effective health literacy tool offers mental health service providers many advantages. In clinical settings, mental health service providers may utilize the intervention as a tool to engage and retain clients in mental health services. Once diagnosed with depression, exposure to the fotonovela may help women better understand their treatment options. Studies have shown that the provision of psychoeducation to Latinas regarding the purpose of psychotherapy and psychotropic medication reduced their reluctance to receive either treatment (Cabassa & Hansen, 2007; Miranda et al., 2003). Likewise, Kreuter et al. (2007) suggest that women exposed to a form of E-E, delineating treatment options, are more likely to remain in treatment. Additionally, the fotonovela is a flexible tool that can be delivered by multiple providers (e.g., physicians, social workers, psychologists) in multiple settings (e.g., community clinics, schools, and primary care centers). Mental health service providers may also supplement their agencies' educational materials with the fotonovela and other health literacy tools. The fotonovela is written in the format of a culturally appropriate comic book that is less stigmatizing than hospital forms or pamphlets. Clients in waiting rooms can read the fotonovela without fearing judgment from peers and can even share it with others given that it is also meant to entertain readers. In essence, health literacy tools in E-E formats can further target mental health disparities by delivering information essential to the early detection and treatment of depression.

For service providers working with Latinos presenting with very low literacy and health literacy levels, who cannot read written health literacy tools such as the fotonovela, the use of more intense interventions can be effective. Group formats where women can convene, share similar mental health concerns, and benefit from verbal descriptions of mental health disorders can accommodate the needs of women with the lowest literacy levels. As stated before, disclosing reading limitations can be shameful for some individuals (Gazmararian et al., 1999) and giving them the option to participate in a group where they can hear others read written health information can save them from this discomfort. Another option is to screen participants for both low literacy and health literacy levels before exposing them to a written health literacy tool and instead expose them to a visual health literacy tool, such as the short video developed by Lopez et al. (2009) to help Latinos understand psychosis or the computerized tutorials in soap opera formats used by Jibaja-Weiss et al. (2011) to help women diagnosed with breast cancer understand treatment options.

Given the novelty of mental health literacy tools, current providers may not yet have access to them but they can still serve clients with low health literacy well. Service providers who suspect a client to have reading or health literacy challenges can take the time to review written health instructions with him or her and offer supplemental verbal instructions. Although some study participants in the current study reported prior mental health treatment, almost all participants indicated learning about depression symptoms for the first time. Perhaps the service providers previously encountered offered them difficult to read health pamphlets, described health information with complex health jargon, or simply overestimated their comprehension of mental health disorders. In any case, service providers should begin to take note of their clients' health literacy needs. In a time of health care reform, many underserved populations will have access to healthcare services previously unavailable to them, which in turn will require an orientation to health care systems and proper education and guidance in the treatment of mental health concerns.

In regards to implications for policy, findings support the assessment of health literacy as well as the implementation of culturally competent health literacy tools in mental health clinics. Health literacy assessments can be routinely applied to intake procedures and can benefit both the client and service provider. The addition of a health literacy assessment will produce a thorough evaluation of the clients' needs. Once clients with low health literacy are identified, they can be assigned to a patient aid or case manager who can help them navigate the mental health system. In a study conducted by Sarfaty, Turner, and Damotta (2005) a bilingual patient assistant was trained to screen new patients to identify those in need of assistance in managing medical visits. The patient assistant served as an interpreter, problem solver, and navigator for Latin American immigrants with less than 4 years of education. Study outcomes noted improvement in the self-efficacy to manage medical visits, interactions with medical staff, and comprehension of medical instructions among the patients served by the patient assistant. This study exemplifies how through identification and assistance of patients with low health literacy, increases in treatment compliance can occur. Through the assessment of health literacy levels both practitioners and researchers will be better able to identify factors contributing to low health literacy among Latinos and their mental health outcomes, which can help in the development and evaluation of additional health literacy interventions. Once effective health literacy tools are identified, they can be implemented in educational curricula disseminated in mental health clinics and tested for their impact in guiding patients in the navigation of health systems and treatment options for varied disorders. Mental health curricula will not only educate clients about their diagnoses but will also provide much needed interventions for service providers who currently struggle to meet the needs of clients with low health literacy.

In terms of future research, scarce research in the field of mental health literacy provides ripe opportunities to better investigate its impact on the mental health outcomes of various groups and the appropriate interventions needed to ameliorate its effects. While current research primarily aims to investigate the general population's health literacy levels, it is also important to investigate if similar trends exist among the general population's mental health literacy levels and if they vary among ethnic groups with varied acculturation levels and access to mental health care. In regards to Latinos, research is needed to understand the impact low health literacy has on mental health outcomes including what role cultural factors play among varied health literacy levels. Given that some individuals with low health literacy may not have access to mental health services, such research should be conducted in both community and clinical settings.

The current study also highlighted the need to develop mental health literacy scales. If researchers aim to improve mental health literacy they will need to accurately assess its status among varies groups. Currently, health literacy scales are used to study mental health outcomes but it is necessary to determine if mental health literacy scales are more appropriate. It is also necessary to establish if written health literacy tools are well suited for all individuals with low health literacy levels or if additional modifications are needed. Further research will ascertain the type of health literacy tools that work best for individuals with varied health literacy levels, cultures, and acculturation levels. Future studies can verify the effectiveness of other forms of E-E health literacy tools (such as computerized tutorials, radio programs, and short films) in educating Latinos about distinct mental health disorders and mental illness in children. Use of longitudinal research methods will determine if the dissemination of health literacy tools increase mental health service utilization among underserved groups. It is recommended that future research employ a mixed methods approach particularly when working with Latinos with low health literacy whose responses may not be fully captured by the sole use of quantitative methods.

Researchers should also continue to evaluate audience engagement with E-E methods and knowledge gains. Abstract concepts (e.g., identification and engagement with storylines as well as cultural and emotional appeal) are difficult to measure, yet essential. With technological advancements, computerized forms of E-E may become more widespread. If that is the case then researchers will need to know if their product has truly engaged the targeted audience and accurately reflected their culture. The subscales used in this study to measure the fotonovela's emotional and cultural appeal were found to have questions that did not complement each other and did not accurately measure the intended concept, urging the need for the development of scales that can efficiently measure the emotional and cultural appeal of E-E literacy tools used with Latinos and other cultural groups. Finally, given the novelty of E-E to the field of mental health, measures of knowledge gains are not abundant. If mental health researchers develop literacy tools for other mental health disorders, they will also need to develop and test pertinent measures of knowledge gains. Such measures will need to detect if experiencing depression or any other mental health disorder increases one's knowledge or awareness of that specific disorder. Researchers should also examine if public knowledge of varied mental health disorders differs. For example, Lopez et al. (2009) suggests that Latinos may be more knowledgeable of the symptoms and causes of mood disorders than they are of the symptoms and causes of psychotic disorders. Research measuring mental health literacy and knowledge of various mental health disorders across ethnic groups will better inform researchers of the current state of mental health literacy across the nation. In all, a door to endless studies is opened with the application of health literacy to the field of mental health. This study indicates depression is highly probable among immigrant Latinas and it is also highly probable that depression and other mental health concerns are more abundant among second and third generation Latinas. We know that their mental health service use is limited but with appropriate public education Latinos of all acculturation levels are likely to improve their mental health care.

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Appendix A

Equivalence of Participant Demographic Characteristics by Group

Variable	*Control (N=67)*	*Experimental (N=75)*	*Significance*
Age			
18-25	6	4	
26-35	21	35	.087[a]
36-45	23	28	
46-55	16	8	
Marital Status			
Married	35	48	
Living with Partner	17	18	.306[a]
Never Married	6	5	
Divorced	6	4	
Widowed	3	0	
Children			
No	2	2	1.000[a]
Yes	65	73	
Employed			
No	42	52	.478[a]
Yes	25	23	
Medically Insured			
No	38	40	.737[a]
Yes	29	35	
Country of Birth			
El Salvador	8	5	
Mexico	47	65	.115[a]
Guatemala	8	3	
Other	4	2	
Time in U.S.			
< 1 year	1	1	
2-5 years	5	4	.879[a]
6-10 years	20	26	
> 10 years	38	40	
Bilingual			
No	55	62	1.000[a]
Yes	12	13	
Income			
< $19, 000	48	51	
$20,000 to $30,000	12	15	
$30,000 to $40,000	3	7	.661[a]
$40,000 to $50,000	1	1	
> $50,000	3	1	
Education			
Never attended	3	0	
Grade School	22	30	
Middle School	19	17	.310[a]
Some High School	11	9	
High School or GED	5	10	
Some College	5	5	
College Graduate	1	4	
Health Literacy			
Inadequate	24	16	
Marginal	6	12	.115[a]
Adequate	37	47	
CES-D Mean Score			
	19.06	19.71	.742[b]
Previous Treatment			
	23	15	.060[a]

[a]Fisher's Exact test , [b]Student's t-test

Appendix B

Regression Analyses Exploring Influence of Previous Treatment on Outcome Variables

Table 1

Regression Analysis Exploring the Influence of Previous Treatment on the Mean Difference of Depression Knowledge (N = 136)

	Mean Difference of Depression Knowledge			
	Model 1		Model 2	
Variable	*B*	*SE B*	*B*	*SE B*
Group Type	2.42***	.36	2.21***	.42
Previous Treatment	-.00	.40	-.37	.54
Previous Treatment * Group Type			.82	.80
R^2	.26		.27	

* *p* < .05. ** *p* < .01. *** *p* < .001.

Table 2

Regression Analysis Exploring the Influence of Previous Treatment on The Mean Difference in Mental Health Stigma (N = 121)

	Mean Difference in Mental Health Stigma			
	Model 1		Model 2	
Variable	*B*	*SE B*	*B*	*SE B*
Group Type	-.14	.22	.02	.26
Previous Treatment	-.16	.25	.11	.33
Previous Treatment * Group Type			-.60	.49
R^2	.00		.02	

* *p* < .05. ** *p* < .01. *** *p* < .001.

Table 3

Regression Analysis Exploring the Influence of Previous Treatment on The Mean Difference In Antidepressant Stigma (N = 98)

	Mean Difference in Antidepressant Stigma			
	Model 1		Model 2	
Variable	*B*	*SE B*	*B*	*SE B*
Group Type	-1.71***	.57	-2.07***	.70
Previous Treatment	-.28	.61	-.82	.87
Previous Treatment * Group Type			1.05	1.22
R^2	.09		.09	

* *p* < .05. ** *p* < .01. *** *p* < .001.

Table 4

Regression Analysis Exploring the Influence of Previous Treatment on The Mean Difference in Self-Efficacy To To Identify the Need for Treatment (N =133)

	Mean Difference in Self-Efficacy to ID Need for Treatment			
	Model 1		Model 2	
Variable	*B*	*SE B*	*B*	*SE B*
Group Type	3.05***	.52	3.91***	.61
Previous Treatment	-.09	.58	.57	.78
Previous Treatment * Group Type			-1.48	1.15
R^2	.27		.27	

* *p* < .05. ** *p* < .01. *** *p* < .001.

Table 5

Regression Analysis Exploring the Influence of Previous Treatment on The Mean Difference in Future Intent to Seek Treatment (N = 120)

	Mean Difference in Future Intent to Seek Treatment			
	Model 1		Model 2	
Variable	*B*	*SE B*	*B*	*SE B*
Group Type	1.94***	.69	2.34***	.81
Previous Treatment	1.32	.77	2	1.05
Previous Treatment * Group Type			-1.50	1.54
R^2	.08		.08	

* *p* < .05. ** *p* < .01. *** *p* < .001.