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The role of sociocultural factors on mental health service utilization in women of Mexican-American farmworker families

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It is estimated that more than 3 million farmworkers residing in the United States (National Center for Farmworker Health, 2012) from which nearly 70% of all hired farmworkers (e.g., crop workers and nursery workers) are Mexican immigrants (United States Department of Agriculture, 2014). Making the decision to immigrate to the United States, in addition to the stressors associated with being a farmworker (e.g., suboptimal working conditions), may place individuals at risk for the development of mental health disorders. In addition to these stressors, cultural processes such as acculturation have been identified as contributors not only to diminished mental health, but also to the underutilization of mental health care services observed among women of Mexican-American farmworker families as well. Although structural barriers to mental health services have been identified (e.g., language), limited research has focused on cultural barriers (e.g., acculturative stress, cultural bound syndromes) on Mexican-American farmworker families’ mental health care use. Thus, the current study aimed to test whether sociocultural factors are associated with mental health care services use among mothers from Mexican-American farmworker families. The findings suggest that neither acculturative stress nor cultural perceptions of mental health disorders are associated with mental health care services use. However, acculturative stress was found to be associated with a higher incidence of somatic symptoms of psychological distress and with an increased endorsement of cultural perceptions of mental health disorders among women from Mexican-American farmworker families; the findings provide insight into the role that specific cultural stressors play on the mental health of the Mexican-American farmworker population.
The role of socio-cultural factors on mental health service utilization in women of Mexican-American farmworker families

A relatively large proportion of individuals in Mexican immigrant families tend to be employed as farmworkers (e.g., cropping, nursery, or landscaping), which pose an elevated risk to their physical and mental health (Dodge, 2009). In addition to the adverse effects that being employed as a farmworker have on Mexican immigrants’ health, when they enter American culture, they encounter a stressor termed acculturative stress - stresses associated with the process of becoming acculturated - which has been identified as a risk factor for depression and anxiety among Mexican-American farmworker families (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 1999). Despite the high incidence of depression and anxiety in this population, there is vast underutilization of mental health services. Although previous research has begun to identify barriers to mental health services (e.g., language), limited research has focused on sociocultural barriers (e.g., acculturative stress, cultural bound syndromes) on the attitudes that women of Mexican-American farmworker families have toward seeking these services and cultural influences on the predisposition to seek mental health services. Given that women of Mexican farmworker families report higher levels of mental health disorders compared to men (e.g., depression; Finch, Frank, & Vega, 2004) and play a central role on family dynamics (e.g., are in charge of making doctor’s appointments) it is imperative that researchers focus their attention on this population. Thus, the purpose of the proposed study was to explore whether sociocultural factors, including acculturative stress and cultural bound syndromes, are associated with attitudes toward mental health care and access to these services among mothers in Mexican-American farmworker families.
Estimates suggest that there are more than 3 million farmworkers residing in the United States (National Center for Farmworker Health, 2012) from which nearly 70% of all hired farmworkers (e.g., crop workers, nursery workers) are Mexican immigrants (United States Department of Agriculture, 2014). Due to the stressors that Mexican-American farmworker families are exposed to, they are at risk for the development of mental health disorders such as anxiety and depression (Alderete, et al., 1999; Crain et al., 2012; Hovey & Seligman, 2006; Kupersmidt & Martin, 1997). Some of the stressors experienced by farmworkers that contribute to diminished mental health experienced by this population include being away from family, exposure to toxic substances, poor health and limited access to health care, feelings of instability, language barriers, geographic isolation, discrimination, inability to afford basic necessities, and acculturating to a new environment (Hovey & Seligman, 2006; Magaña & Hovey, 2003; Weigel, Armijos, Posada Hall, Ramirez, & Orozco, 2007). These stressors can operate together to affect mental health. For example, migrant farmworkers who reported being stressed because they were away from their family reported higher levels of anxiety compared to those who were not stressed (Magaña & Hovey, 2003). Similarly, the ambivalence created by the decision to immigrate to the United States to seek better resources and leave family in Mexico was associated with elevated levels of anxiety and depression among Mexican migrant farmworker women (Finch et al., 2004; Grzywacz, et al., 2006). Thus, being exposed to the stressors associated with being a farmworker puts individuals at risk for the development of mental health disorders.

In addition to these stressors, cultural processes such as acculturation, can also contribute to diminished mental health observed among this population. The process of acculturation has been
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linked to poor mental health outcomes among Mexican immigrant individuals (Vega et al., 1998). This phenomenon has been labeled as the Latino Health Paradox (Gorman, Howard-Ecklund, & Heard, 2010) and suggests that individuals who immigrate from Mexico initially report better mental health status compared to U.S. born Mexican-Americans despite all the disadvantages that they were exposed to in their native country (e.g., poverty). However, as time living in the United States increases, this difference in mental health status tends to disappear (Escobar, Nervi, & Gara, 2000) such that prevalence rates of any psychiatric disorder increase with increased acculturation (Vega et al., 1998). For example, individuals who have resided in the United States for less than 13 years (short term stay) had lower prevalence rates of depression and affective disorders compared to those individuals who had resided for more than 13 years in the United States (long term stay; Vega et al., 1998). Research examining differences in mental health by nativity status used as a proxy for acculturation found that individuals of Mexican descent born in the United States were at an elevated risk for developing anxiety and depressive disorders compared to Mexican individuals born in Mexico (Alegría et al., 2008). Some possible explanations for this decrease in mental health experienced by immigrant individuals as a result of the acculturation process include lack of social support, a reduction in familial support, exposure to discrimination, legal status, and language conflict (Finch & Vega, 2003; Gil, Wagner, & Vega, 2000). Furthermore, it is also possible that immigrant individuals are more likely to underutilize health care services than non-immigrant individuals contributing to poor mental health.

Use of health services by farmworker families

Despite farmworkers’ constant exposure to factors that are detrimental to their health (e.g., pesticides, excessive sun exposure), they tend to not use preventive health services. For example,
farmworkers tend to have higher rates of mortality and hospitalization rates for conditions that could have been prevented (e.g., pneumonia; Hansen & Donohoe, 2003). Hired farmworkers in the United States have been found to only seek help when in absolute need (Villarejo, 2003). That is, if the health problem being experienced interferes with their daily activities, then they are more likely to seek medical help than if the problem does not impair their activities. Similarly, single migrant male farmworkers suffering from acute conditions were more likely to delay their visit to the doctor to receive treatment (4.4 days) compared to those male farmworkers who were in a relationship or were the head of the household (2.2 days; Schmalzried & Fallon 2012). Given that only a small percentage of farmworkers (5% to 11%) have insurance through their employer or could obtain Medicaid (7% to 11%), the most popular sources of medical care for this population are emergency rooms and community clinics which do not offer specialized mental health care services (e.g., general physician; Villarejo, 2003). For example, farmworkers who report experiencing elevated levels of depressive symptoms seek help for their mental health disorder from a primary health care physician (Georges et al., 2013). Furthermore, it has been documented that rural residents are less likely to receive psychotherapy as a treatment for their mental health disorder and that among the few that do, the usage rate is lower (7 annual visits) compared to their urban counterparts (9 annual visits; Ziller, Anderson, Coburn, 2010). Though health care services utilization for general physical complaints is low among the Mexican American farmworker population, the use of mental health services is even lower (Hovey & Seligman, 2006).

Several factors have been identified as contributing to the underutilization of mental health services. English proficiency has been identified as one of the principal factors that prevent individuals from seeking mental health care services (Arcury and Quandt, 2007). That is,
Spanish speakers are less likely to use mental health care services when compared with Mexican-American who are fluent English speakers (Solis, Marks, García, & Shelton, 1990). In addition, Mexican-Americans who only speak Spanish are less likely to have a steady source of health care (Kirkman-Liff & Mondragon, 1991; Weinick & Krauss, 2000). Furthermore, cultural differences which include beliefs in traditional remedies, self-medication with over-the-counter medicine, low literacy levels among Mexican farmworkers (average level of education is 6th grade), lack of or inadequate transportation, inability to afford the costs of the services, feeling unwelcome by the service provider, not knowing where to go to receive the help needed, and lack of health insurance were identified as barriers to mental health care use (Arcury & Quandt, 2007; Hoerster, Beddawi, Peddecord, & Ayala, 2010). Further, it has been suggested that for those individuals with high levels of acculturative stress, seeking health care can be anxiety provoking (Tung, 2014). Though external factors have been identified as barriers to mental health care services, internal factors such as the nature of the symptoms experienced have been overlooked as a possible explanation of this phenomenon.

**Acculturative Stress as a Predictor of Poor Mental Health among Mexican American Farmworkers**

When individuals first come in contact with the mainstream culture they begin to acculturate. Acculturation, a transcultural process, has been defined as a series of psychological and cultural changes that individuals and cultures undergo when two different cultures come into contact (Cuéllar, 2000; Sam & Berry, 2010). Four modes of acculturation have been identified (1) assimilation, (2) separation, (3) integration, and (4) marginalization (Berry, 1976). Assimilation occurs when the acculturating individuals seek constant contact with the dominant culture. Separation occurs when individuals avoid contact with the mainstream culture.
Integration is when individuals' original culture and identity is maintained as well as interaction with the dominant culture takes place. Lastly, marginalization has been identified among individuals who have no interest in their original culture and identity maintenance, and avoid all contact with the dominant culture. During the acculturation process, those individuals who adopt a separation mode to acculturation are more likely to experience greater stress, specifically acculturative stress, compared to individuals who adopt an integration mode to acculturation (Berry et al., 1987; Berry & Sabatier, 2010).

Acculturative stress is a type of stress that results from the changes individuals undergo while acculturating that can range from behavioral shifts to more problematic changes (e.g., cultural values; Berry et al., 1987; Sam & Berry, 2010) that can be associated with reductions of health status. For example, acculturative stress has been identified as a significant contributor to risk of illness (Cuéllar, 2000). The nature of the mainstream culture and the nature of the acculturating group have been identified as factors that contribute to the experience of acculturative stress. For example, societies with a pluralistic ideology have been identified as protective for the development of mental health problems (Murphy, 1965). Similarly, individuals who voluntarily immigrated display less difficulty in adapting to the host culture (Berry & Kim, 1988).

Acculturative stress has been associated with adverse health outcomes. For example, Mexican-American day laborers who reported experiencing high levels of acculturative stress were more likely to have poor health (Salgado, Castañeda, Talavera, & Lindsay, 2012). Acculturative stress is also a risk factor for certain mental health disorders among Mexican-American farmworker families. For example, individuals from Mexican farmworker families who reported experiencing elevated levels of acculturative stress were more likely to self-report their mental health as poor (Finch, et al., 2004). Similarly, among a sample of Mexican migrant
farmworker families, there was a positive association between acculturative stress and depression (Alderete et al., 1999). Higher levels of acculturative stress were associated with an increased rate of depressive symptoms, suggesting that increased exposure to the mainstream culture (American) is a risk factor for poor mental health. Furthermore, there was a positive association between acculturative stress and anxiety among a sample of immigrant Mexican migrant farmworker families (Hovey & Magaña, 2002), suggesting that higher levels of acculturative stress were associated with elevated levels anxiety symptoms. In addition to influencing the mental health status of Mexican farmworker families, acculturative stress might also be associated with individuals’ health care services utilization.

Identification with Somatic Symptoms of Depression (Cultural Bound Syndromes) and Underutilization of Services

Culture can influence individual’s behaviors as well as the way in which emotional experiences are expressed. Culture can be defined as shared learned behaviors transmitted from generation to generation (e.g., artifacts, roles and institutions), and it is represented internally as values, beliefs, attitudes, epistemology, consciousness, and biological functioning with the purpose of adaptation and societal growth (Marsella, 1998). Culture influences individuals’ sources of distress, the form of the illness experienced, the symptomatology, the interpretation of symptoms, the modes of coping with distress, the help-seeking behaviors, the social response to distress, and the patient’s explanatory model of their illness (Cuéllar & González, 1999; Kirmayer, 2001). For example, individuals of Mexican descent tend to attribute symptoms of anxiety and depression as related to a physical illness (e.g., headaches, back pain, etc.; Rao, Poland, & Lin, 2012; Salgado de Snyder, Diaz-Perez, Maldonado, & Bautista, 1998). This phenomenon has received the name of somatization -tendency to express psychological and
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social distress through physical complaints - and has been observed among members of traditional cultures (Grau & Padgett, 1988; Katon, Kleinman, & Rosen, 1982a, 1982b). It has been suggested that this occurs because depression and anxiety are not socially acceptable causes for inactivity (e.g., missing work, not attending family reunions) in Mexican culture, whereas suffering from a physical problem is a socially acceptable cause for inactivity (Salgado de Snyder et al., 1998). In other words, somatization of mental health disorders is used as a way to destigmatize the disorder (Jenkins, 1988). Further, culture also influences how individuals interpret the symptoms experienced while suffering from a mental health disorder (Kirmayer, 2001). For example, in the Mexican culture, somatic symptoms that are caused by a mental health disorder (e.g., anxiety) are labeled as nervios which is a cultural bound syndrome (DSM-V, APA, 2013). Cultural bound syndromes are clusters of symptoms and attributions that tend to occur among individuals within a specific culture and are often used as an expression of distress (DSM-V, APA, 2013; Sumathipola, Siribaddanna, & Bhrugra, 2004). It is estimated that 15% to 62% of Hispanic individuals suffer from nervios (Low 1989; Salgado de Snyder, Diaz-Perez, & Ojeda, 2000). Thus, underutilization of mental health services may be associated with Hispanic individuals’ likelihood of identifying somatic symptoms of a mental health disorder as opposed to the psychological symptoms.

Present Study

Using information from the aforementioned literatures, the purpose of the current study was to explore whether sociocultural factors such as acculturative stress and culture-bound syndromes are associated with attitudes toward mental health care and access to these services among women of Mexican-American farmworker families. Due to the high incidence of mental health disorders such as depression and anxiety among Mexican-American women (Mazzoni,
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Boiko, Katon, & Russo, 2007; Valencia-García, Simoni, Alegría, & Takeuchi, 2012) and to the role they typically play in family dynamics (e.g., being in charge of making doctor’s appointments when needed and being the head of the household), the proposed study included Mexican-American women from farmworker families. Aim 1 determined whether acculturative stress was associated with use of mental health care among women of Mexican-American farmworker families (see Figure 1).

- **Hypothesis 1a:** Women of Mexican-American farmworker families that report higher levels of acculturative stress would report more negative attitudes toward seeking professional psychological help compared to individuals who report lower levels of acculturative stress.

- **Hypothesis 1b:** Higher levels of acculturative stress would be related to lower mental health care use as measured by self-reported mental health care visits of women from Mexican-American farmworkers families.

- **Hypothesis 1c:** The relationship between acculturative stress and mental health care use would be moderated by attitudes toward seeking professional psychological help. That is, women from Mexican-American farmworker families with elevated levels of acculturative stress and negative attitudes toward seeking professional psychological help would be less likely to use mental health care services as measured by self-reported use compared to women with low levels of acculturative stress and positive attitudes toward seeking professional psychological help.

The goal of Aim 2 was to determine the role of acculturative stress and the expression of somatic symptoms in association with women from Mexican-American farmworker families’ mental health care use (see Figure 1).
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- Hypothesis 2a: Higher levels of acculturative stress would be related to higher levels of reported somatic symptoms (as determined by somatic symptoms on CESD and identification with cultural-bound syndrome of nervios which were diagnosed via somatic symptoms).

- Hypothesis 2b: Higher expression of somatic symptoms by Mexican-American farmworkers would be associated with negative attitudes toward seeking professional psychological help.

- Hypothesis 2c: Higher expression of somatic symptoms by Mexican-American farmworkers would be associated with lower mental health care use.

- Hypothesis 2d: The relationship between acculturative stress and attitudes towards seeking psychological help would be moderated by somatic symptoms. That is, Mexican-American farmworkers with elevated levels of acculturative stress and high somatic symptoms would have more negative attitudes toward seeking professional psychological help, compared to those individuals with lower acculturative stress and less somatic symptoms.

- Hypothesis 2e: The relationship between acculturative stress and mental health care use would be moderated by somatic symptoms such that Mexican-American farmworkers with elevated levels of acculturative stress and high somatic symptoms would report lower mental health care use, compared to those with lower levels of acculturative stress and low somatic symptoms.
Participants

Participants included 96 women of farmworker families of Mexican descent, living in the San Diego North County area. Eligibility criteria included: (1) being at least 18 years old and (2) be a farmworker or have a partner that worked as a farmworker. A participant was considered a farmworker if she or her partner had been employed in the past year in seasonal or migrant farm work (e.g., cropping), nursery, or landscaping.

Recruitment

The majority of the participants were recruited in conjunction with the California State University San Marcos National Latino Research Center (NLRC). The NLRC has established links with the community through the involvement of líderes comunitarios (community leaders) or promotoras. Promotoras aid research staff in recruiting and scheduling data collection events. Promotoras were paid $15 dollars per participant recruited. In addition, participants were also recruited from events directed toward local farmworker families (e.g., food drives, health fairs, and parent meetings at their children’s school) in where the research staff promoted the study among the attendees by distributing informational flyers. Participants were recruited from different areas from San Diego North County (e.g., Pauma Valley, Valley Center, and Rainbow). Each farmworker community from which participants were recruited was located within 60 miles of California State University San Marcos.

Procedure

Data collection events took place at the participants’ location of choice (e.g., community center, home). Data collection occurred in groups of 2-10 people and lasted approximately 90 minutes. Informed consent was obtained from participants prior any data collection. Data was
collected both via surveys and qualitative interviews. In order to be time efficient and avoid participants’ burnout, half of the participants started with the questionnaire packet, while the other half completed the interview with the native Spanish speaking research staff (graduate students). This procedure was adopted in order to reduce any measure order effect. Given that many farmworkers report low literacy levels (average level of education is 6th grade), research staff (undergraduate students) was available to assist them while completing the questionnaire packet if needed. Prior to beginning the interview, participants were re-screened to assure that they meet the eligibility criteria and were reminded that the interview was audio-recorded as detailed in the consent. At the end of the interview, participants were thanked for their time and compensated ($30 dollars). In addition, participants received a small gift (coloring book and crayons) for their child.

Measures

Participants completed paper and pencil questionnaires and were interviewed by a member of the research staff in their language of preference (Spanish or English). The questionnaires measured the following constructs of interest: demographic characteristics, acculturative stress, attitudes toward seeking professional psychological help, use of mental health care services, beliefs on cultural-bound syndromes, symptoms of the cultural-bound syndrome of nervios and depressive symptoms. In addition, a semi-structured interview was used to assess participants’ use of health care services along with three hypothetical case vignettes to determine participants' degree of endorsement of cultural bound syndromes.

Demographics Questionnaire.

Demographic information from the participants and their partner was collected. Questions asked participants to report their ethnicity, race, present occupation, highest level of education
Acculturative Stress.

A total of 24 items were used to assess participants’ level of acculturative stress using the Societal, Attitudinal, Familial, and Environmental Acculturative Stress Scale-Short Form (SAFE-SF; Mena, Padilla, & Maldonado, 1987). This measure assessed acculturative stress in four different contexts: social, attitudinal, familial, and environmental. Further, perceived discrimination and majority group stereotypes toward immigrant individuals were measured. Statements such as the following were part of the scale: “I feel uncomfortable when others make jokes about or put down people of my ethnic background” and “In looking for a good job, I sometimes feel that my ethnicity is a limitation.” Items were rated on a 5-point Likert-type scale ranging from (1) not stressful to (5) extremely stressful. If a statement did not apply to participants, a score of 0 was assigned. The SAFE-SF has been found to have a good internal consistency score for the scale among Mexican American samples ($\alpha = .88 - .89$; Hovey & Magana, 2000, 2002; Mena et al. 1987). The alpha coefficient for the current study was 0.89. According to the guidelines published in Mena et al. (1987), an overall acculturative score was computed by summing all 24 items. The SAFE-SF score could range from 0 to 120.

Attitudes toward Psychological Help.

The 10-item Attitudes toward Seeking Professional Psychological Help Short Form Scale (ATSPPH-SF; Fisher & Farina, 1995) was used to assess participants’ attitudes toward seeking professional psychological help. The scale was comprised of two factors: recognition of need for psychotherapeutic help, and confidence in mental health practitioner. Statements such as the following were part of the scale: “Would obtain psychological help if upset for a long time” and
“Psychotherapy would not have value for me”. Items were rated on a 4-point Likert-type scale ranging from (0) disagree to (3) agree. Previous research has demonstrated that the scale internal consistency ranges from fair to good ($\alpha = .67 - .84$; Constantine, 2002; Elhai, Schweinle, & Anderson, 2008; Fisher & Farina, 1995; Komiya, Good, & Sherrod, 2000). Specifically, in a Mexican-American college student sample, an internal consistency score of 0.67 was established (Ramos-Sanchez & Atkinson, 2009). For the current study, an alpha coefficient of 0.62 was achieved. A total score for attitudes toward seeking professional psychological help was computed by summing all ten items. Higher scores indicated positive attitudes towards seeking help. Given that no Spanish version of the scale exists, the scale was translated into Spanish and then back translated into English by bilingual research staff to assure adequacy of the translation.

Use of Mental Health Care Services.

A modified version of the Child and Adolescent Services Assessment (CASA) parent interview (Burns, Angobi, Magruder-Habib, Costello, & Patrick, 2008) was used to assess participants’ use of mental health care services. The CASA interview is a self-report instrument that assesses participants’ access to public and private health services (i.e., mental health) as well as informal, personal, and community resources available to participants. In addition to the assessment of mental health care access, attitudes toward treatment, costs of treatment, and perceived barriers to service use are also measured. Participants were presented with a series of questions regarding their access/use of different mental health services within the last 3 months (e.g., mental health center or alternative practitioner). Questions were answered on a “yes” or “no” format with the option to elaborate in their responses (e.g., “What was the reason for which you visited a mental health center?”). A dichotomous variable was created with those who use mental health care services and those participants who do not use these services. Moreover, a
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Binary health care use total score was computed by collapsing participants’ responses to items asking about health care access in general (e.g., have you ever been admitted into the emergency room) in an attempt to increase the data variability, because only 4.5% \((n = 5)\) of the entire sample reported having used the services of mental health centers \((n = 4)\) and psychiatric hospitals \((n = 1)\). Refer to Table 1 for detailed percentage breakdown. Due to the limited research that has been conducted on the Mexican-American farmworker population, no study reporting the reliability and validity of the CASA was located. However, research in which the majority of the sample consisted of White middle class individuals reported that the CASA has good reliability and validity (Ascher, Farmer, Burns, & Angold, 1996).

**Endorsement of Cultural-Bound Syndromes.**

Three hypothetical case vignettes taken from the work of Durá-Vilá and Hodes (2012) were used to assess participants’ knowledge about three cultural-bound syndromes known to be common among the Mexican American population: ataque de nervios (nerves attacks), nervios (nerves), and susto (fright). The case vignettes were developed based on the cases included in the DSM-IV-TR Casebook and fulfilled all the key symptoms of these ethno-specific disorders. After the participants read each case vignette, three structured questions were asked: (1) Do you think that Berta has…, (2) Do you think Berta is suffering from …?, and (3) Which help do you think Berta needs to get better? For questions one and three multiple responses were allowed, whereas for question two participants were forced to respond on a “yes” or “no” format. See appendix A.

**Nervios Symptoms Checklist.**

During the interview, participants were asked a screening question to identify whether participants have ever experienced this cultural bound syndrome (Have you ever had nervios?).
If participants responded affirmatively, they were presented with a list of 15 symptoms and were asked if they had experienced any of these symptoms during a nervios crisis. Following the guidelines provided by Guarnaccia et al. (2010), participants met the criteria for a history of nervios if they have reporting ever having nervios and experienced at least four of the symptoms in the list. Further, a total score of nervios symptoms was computed by summing all affirmative responses (see appendix C).

Depressive Symptoms.

A total of 20 items (CESD; Radloff, 1977) were used to assess participants’ depressive symptomatology in the previous week. The scale has six components (depressed mood, feelings of guilt and worthlessness, feelings of helplessness, psychomotor retardation, loss of appetite, and sleep disturbances) which comprise a four factor scale structure: depressed affect, positive affect, somatic, and interpersonal. Statements such as the following were part of the measure: “I was bothered by things that usually don’t bother me” and “I enjoyed life”. Items were rated on a 4-point Likert-type scale ranging from (0) rarely or none of the time to (3) most or all of the time. Due to the simple wording of the questions, the CES-D has been shown to be appropriate for use with populations with low literacy levels (e.g., farmworkers; Alderete et al., 1999).

Previous research has demonstrated that the scale has a good internal consistency (.82 to .92) as demonstrated by Cronbach’s alpha (Alderete et al. 1999; Clark, Mahoney, Clark, & Eriksen, 2002; Carleton et al. 2013; Radloff, 1977). The alpha coefficient for the somatic symptoms subscale in the current study was 0.82. A total score of depressive symptoms was computed by summing all 20 items. Higher scores indicated a greater depressive symptomatology. The total CESD score could range from 0 to 60. The somatic subscale was used to assess participants’ somatic symptoms of depression. A total score for somatic symptoms was created by summing
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all six items in this subscale. Higher scores indicated greater experience of somatic symptoms of depression. The somatic symptoms score could range from 0 to 18.

Planned Analysis

A combination of linear regression and logistic regression analyses were used to explore the role of acculturative stress among women in Mexican-American farmworker families’ use of mental health care (Aim 1). Hypothesis 1a, which predicted that higher levels of acculturative stress (X1) would be related to more negative attitudes towards professional psychological help (Y1), was tested using a linear regression analysis, in which acculturative stress was used as the predictor variable and attitudes towards professional psychological help was entered as the outcome variable. Hypothesis 1b, which predicted a negative relationship between acculturative stress (X1) and self-reported mental health care use (Y2), was tested with a logistic regression analysis. Acculturative stress (continuous variable) was entered as the predictor variable and self-reported use of mental health care (dichotomous variable) was the outcome variable in this model. Further, hypothesis 1c proposes that the relationship between acculturative stress (X1) and self-reported mental health care use (Y2) would be moderated by attitudes toward professional psychological help (M1). In this moderation model, acculturative stress was entered as the predictor variable, self-reported mental health care use was entered as the outcome variable and the interaction term between acculturative stress and attitudes toward professional psychological help was entered as the moderator variable (see Figure 2).

Similarly, in order to assess the role of acculturative stress and somatic symptoms on mental health care use of Mexican-American farmworker families (aim 2), a series of linear regression and logistic regression analyses were conducted. Hypothesis 2a, which predicts that higher levels of acculturative stress (X1) would related to higher expression of somatic symptoms (Y3), was
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tested using a linear regression analysis. Acculturative stress will be entered as the predictor variable and somatic symptoms as measured by the CES-D somatic symptoms subscale, the nervios symptoms checklist, and the vignettes assessing participants’ endorsement of cultural bound syndromes were entered as the outcome variables. In addition, the vignettes were coded into a continuous scale ranging from 0 to 3. A score of zero indicated that participants did not endorse any of the cultural bound syndromes portrayed in the 3 vignettes. A score of one indicated that participants endorse at least one cultural-bound syndrome (e.g., nervios) from all three vignettes. In addition, a score of two was indicative that the participants endorse two of the three cultural-bound syndromes (e.g., nervios and ataque de nervios) from all three vignettes. Lastly, a score of three indicated that participants endorsed all three cultural bound syndromes (i.e., nervios, ataque de nervios, and susto) from all vignettes. Hypothesis 2b, which proposed a negative relationship between somatic symptoms (X2) and attitudes toward professional psychological help (Y1), was tested using a linear regression analyses in which the CES-D somatic symptoms subscale, the nervios symptoms checklist, and the coded vignettes were the predictor variables and attitudes towards professional psychological help scale was used as the outcome variable. Logistic regression analyses were conducted to test hypothesis 2c, which predicted a negative association between expression of somatic symptoms (X2) and self-reported mental health care use (Y3). The CES-D somatic symptoms subscale, the nervios symptoms checklist, and the coded vignettes were entered into the model as the predictor variable and self-reported health care use (dichotomous variable) was the outcome variable. A moderation analysis was conducted to test hypothesis 2d which predicted that the relationship between acculturative stress (X1) and attitudes toward professional psychological help (Y1) would be moderated by participants' expression of somatic symptoms (CES-D somatic symptoms subscale,
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the nervous symptoms checklist, and the coded vignettes; M2). Acculturative stress was entered into the model as the predictor variable, attitudes towards professional psychological help were entered as the outcome variable and the interaction term between acculturative stress and somatic symptoms was entered as the moderator variable (see Figure 3a). Lastly, a moderation analysis was conducted to test hypothesis 2e, which predicted that the relationship between acculturative stress (X1) and mental health care use (Y2) would be moderated by somatic symptoms (M2). Acculturative stress was entered into the model as the predictor variable, mental health care use (dichotomous variable) was entered as the outcome variable and the interaction term between acculturative stress and somatic symptoms was used as the moderator variable (see Figure 3b).

Power Analysis

**Power Analysis for Aim 1.** A total of 72 women from Mexican-American farmworker families were needed for successful completion of Aim 1. The statistical tests that were conducted for the analysis of some of the hypotheses proposed under this aim were linear regressions predicting attitudes toward seeking professional psychological help and mental health care use from acculturative stress. Derived from published research that similarly explored sociocultural factors (e.g., acculturation, enculturation, and social support) as predictors of attitudes and behaviors toward seeking psychological help among Mexican-American college students ($f^2 = .15$; Miville & Constantine, 2006) and in conjunction with G*Power version 3.1.4 software, it was concluded that a minimal sample size of 68 suffice the requirements needed to achieve 80% power with a significance level (alpha) of 0.05. Furthermore, a logistic regression analysis was conducted predicting mental health care use from acculturative stress. For this model, using G*Power version 3.1.4 in combination with published research that similarly explored health care utilization among Latino farmworkers with elevated depressive symptoms
HEALTH SERVICES USE IN THE FARMWORKER POPULATION (Georges, et al., 2013), and patterns of mental health care utilization among Mexican-Americans with a recent diagnosis of psychiatric disorders (Vega, et al., 2001) in which odds ratios (ORs) ranged from 1.45 to 5.54, a minimal sample size of 34 was found to achieve a 80% power with a significance level (alpha) of 0.05. Taking into consideration that there was the possibility that participants did not fill correctly the questionnaires or did no consent to be interviewed, a possible attrition rate of 5% was taken into account resulting in a final sample of 72 women from Mexican-American farmworker families.

*Power analysis for aim 2.* A total of 100 women from Mexican-American farmworker families were needed for completion of aim 2. The statistical tests that were conducted for the analysis of some of the hypotheses proposed under this aim were linear regressions predicting expression of somatic symptoms, attitudes toward seeking professional psychological help, and mental health care use from acculturative stress. Derived from research looking at the relationship between cultural-bound syndromes and acculturative stress (Alcantara, Abelson, & Gone, 2012), and help seeking attitudes (Dura-Vila & Hodes, 2012; Miville & Constantine, 2006) among Hispanic American individuals and research looking at health care service utilization patterns among Mexican-American individuals (Georges et al., 2013; Vega, et al., 2001) in which a range of small to medium effect sizes (.05 - .15) was found and in conjunction with G*Power version 3.1.4 software it was concluded that a sample size of 96 suffice the requirements needed to achieve a 80% power with a significance level (alpha) of 0.05. Furthermore, logistic regression analyses were conducted predicting expression of somatic symptoms and mental health care use from acculturative stress. For these models, using G*Power version 3.1.4 in combination with published research that explored whether cultural bound syndromes were associated with Hispanics’ help seeking attitudes (Dura-Vila & Hodes,
whether a lifetime prevalence of ataque de nervios and acculturative stress were associated (Alcantara, et al., 2012), health care utilization among Latino farmworkers with elevated depressive symptoms (Georges, et al., 2013), and patterns of mental health care utilization among Mexican-Americans with a recent diagnosis of psychiatric disorders (Vega, et al., 2001; ORs range: 1.02 - 6.72). An average of the obtained ORs from the aforementioned literatures was calculated and used to estimate the required sample size for the proposed study. A minimal sample size of 42 was found to achieve a 80% power with a significance level (alpha) of 0.05. Taking into consideration that there was the possibility that participants did not fill correctly the questionnaires or did not consent to be interviewed, a possible attrition rate of 5% was taken into account resulting in a final sample of 100 women from Mexican-American farmworker families.

Results

Sample Characteristics

Women of Mexican-American families (n = 96), in which at least one family member was employed as a farmworker at the time of data collection, completed all procedures in the research protocol. The sample age ranged from 22 to 57 years with a mean age of 35.25 years (SD = 7.96). The majority of the sample reported being a stay at home mother (60%) whereas twenty one percent of the women reported being a farmworker as their current occupation. In addition, more than half of the sample reported having an annual household income of less than $20,000. Thirty six percent (n = 39) of participants reported experiencing an episode of nervios in their lifetime. Refer to Table 2 for detailed demographic information.
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Correlations and Covariates

Table 3 presents the means, standard deviations, and correlations for all variables of interest (i.e., acculturative stress, attitudes toward seeking psychological help, cultural perceptions of mental health, and somatic symptoms of depression). Mothers with an educational level of eighth grade or less scored significantly lower on the nervios checklist ($M = 3.77$, $SD = 2.40$) compared to mothers who had completed some high school education ($M = 7.75$, $SD = 5.25$) or had a high school degree ($M = 6.00$, $SD = 2.83$), $F = 2.35 = 3.96$, $p = 0.03$. Maternal age was significantly associated with cultural perceptions of mental health disorders (i.e., endorsement of cultural bound syndromes; $r = 0.24$, $p = 0.04$) such that that older individuals were more likely to endorse cultural perceptions of mental health disorders as measured by the vignettes compared to younger individuals. No other demographic variables were associated with attitudes towards psychological help, health care use, and somatic symptoms of depression. Thus, maternal education and age were entered as covariates into subsequent regression analyses.

Acculturative Stress and Attitudes Toward Seeking Psychological Help

It was hypothesized that higher levels of acculturative stress reported by women of Mexican-American farmworker families would be associated with negative attitudes toward seeking professional psychological help (H1a). Linear regression analyses were used to test this hypothesis. Acculturative stress did not predict attitudes toward seeking psychological help ($R^2 = 0.003$, $\beta = -0.01$, $t = -0.51$, $p = 0.61$).

Acculturative Stress and Mental Health Care Use

It was hypothesized that women who reported elevated levels of acculturative stress would be less likely to have used mental health care services (H1b). A logistic regression was
used to test this hypothesis. The hypothesis was not supported; acculturative stress did not predict health care use ($\beta = -0.01, SE = 0.01, OR = 0.99, 95\% CI = 0.97 – 1.01, p = 0.45$).

It was also hypothesized that the relationship between acculturative stress and mental health care use would be moderated by attitudes toward seeking professional psychological help ($H_{1c}$). The hypothesis was not supported; attitudes toward seeking psychological help did not moderate the relationship between acculturative stress and health care use ($\beta = -0.01, SE = 0.003, OR = 0.99, 95\% CI = 0.99 – 1.00, p = 0.67$). Refer to Figure 4 for a graphical depiction.

In addition, it was predicted that women who reported higher levels of acculturative stress and greater expression of somatic symptoms would be less likely to seek mental health care ($H_{2c}$). Moderation analyses were conducted to test this hypothesis. The hypothesis was not supported; neither somatic symptoms of depression ($\beta = 0.001, SE = 0.002, OR = 1.00, 95\% CI = 0.99 – 1.00, p = 0.63$), identification with cultural bound syndromes ($\beta = -0.004, SE = 0.02, OR = 0.99, 95\% CI = 0.97 – 1.02, p = 0.78$), nor the nervios checklist ($\beta = 0.01, SE = 0.01, OR = 1.01, 95\% CI = 0.99 – 1.02, p = 0.16$) significantly moderated the relationship between acculturative stress and health care use. See Figures 5-7 for a graphical depiction.

**Acculturative Stress and Expression of Somatic Symptoms of Psychological Distress**

Additionally, it was hypothesized that women with high levels of acculturative stress would be more likely to experience somatic symptoms of psychological distress ($H_{2a}$). Linear regression analyses were conducted to test this hypothesis. Acculturative stress was positively associated with somatic symptoms of depression ($R^2 = 0.38, \beta = 0.14, t = 7.41, p < 0.001$), such that that mothers with high levels of acculturative stress were more likely to score higher on the somatic symptoms subscale of the CES-D compared to mothers with lower levels of acculturative stress. Moreover, when controlling for the effects of maternal education,
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Acculturative stress was positively associated with nervios ($R^2 = 0.24$, $\beta = 0.05$, $t = 2.18$, $p = 0.04$). Thus, mothers who reported high levels of acculturative stress were more likely to experience more symptoms of nervios than mothers who reported lower levels of acculturative stress. Similarly, when controlling for participants’ age, acculturative stress was associated with identification with cultural bound syndromes ($R^2 = 0.16$, $\beta = 0.01$, $t = 2.86$, $p = 0.01$), such that higher levels of acculturative stress were associated with greater identification of cultural bound syndromes.

**Somatic Symptoms and Attitudes Toward Seeking Psychological Help**

It was hypothesized that greater reported levels of somatic symptoms would be associated with negative attitudes toward seeking help (H2b). Linear regression analyses were performed to test this hypothesis. Somatic symptoms of depression ($R^2 = 0.00$, $\beta = -0.01$, $t = -0.09$, $p = 0.92$), identification with cultural bound syndromes ($R^2 = 0.00$, $\beta = -0.06$, $t = -0.11$, $p = 0.91$), and the nervios checklist ($R^2 = 0.01$, $\beta = -0.16$, $t = -0.74$, $p = 0.47$) were not associated with attitudes toward seeking psychological help.

In addition, it was also hypothesized that the relationship between acculturative stress and attitudes toward seeking help would be moderated by somatic symptoms (H2d). Moderation analyses were conducted to test this hypothesis. The hypothesis was not supported as neither somatic symptoms of depression ($R^2 = 0.006$, $\beta = -0.002$, $t = -0.523$, $p = 0.60$), identification with cultural bound syndromes ($R^2 = 0.005$, $\beta = 0.01$, $t = 0.23$, $p = 0.82$), nor symptoms of nervios ($R^2 = 0.05$, $\beta = -0.01$, $t = -0.73$, $p = 0.47$) significantly moderated the relationship between acculturative stress and attitudes toward seeking psychological help. Refer to Figures 8-10 for a graphical depiction.
Somatic Symptoms and Health Care Use

A negative association between self-reported expression of somatic symptoms and self-reported use of mental health care services was hypothesized (H2c). Logistic regression analyses were performed to test this hypothesis. The hypothesis was not supported as neither somatic symptoms of depression ($\beta = -0.06$, $SE = 0.05$, $OR = 0.23$, 95% $CI = 0.86 – 1.04$, $p = 0.23$), identification with cultural bound syndromes ($\beta = 0.06$, $SE = 0.26$, $OR = 1.06$, 95% $CI = 0.64 – 1.75$, $p = 0.82$), nor symptoms of nervios ($\beta = 0.05$, $SE = 0.11$, $OR = 1.05$, 95% $CI = 0.84 – 1.31$, $p = 0.68$) were significantly associated with health care services use.

Exploratory Analysis

Chi-squared analysis were computed to further analyze if endorsement of cultural bound syndromes as well as the underlying cause were associated with the treatment participants would recommend using to deal with the syndrome. Individuals who endorsed the cultural bound syndrome of ataque de nervios were more likely to recommend seeing a psychologist/psychiatrist (94.2%) compared to those who did not endorse the syndrome (62.5%). Talking to a priest (71.9%) and seeking the services from a general practitioner (78.9%) were commonly recommended by individuals who endorsed the cultural bound syndrome of nervios. Moreover, individuals who did not endorse susto as a cultural bound syndrome were more likely to recommend taking psychiatric medications (73.9%). Table 4 displays column percentages and Chi-squared values. Among individuals who believed that the syndromes depicted in the vignettes originated from misfortune, going to a general practitioner was commonly recommended (79%). Further, those individuals who believed that the syndromes were caused by a mental illness were more likely to recommend taking psychiatric medications to treat the syndrome (64.6%). Similarly, individuals who believed that the syndromes were originated by a
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physical illness were more likely to recommend seeing a folk healer (46%), talking to a wise person (82%), seeing a general practitioner (82%), and using psychiatric medicine (66%). Table 5 displays column percentages and Chi-squared values.

Discussion

Despite the high prevalence rates of mental health disorders experienced by Mexican-American individuals, a gap in service utilization has been observed (Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999). Acculturation is associated with this underutilization of services (Berdahl & Torres Stone, 2009; Wells, Hough, Golding, Burnam, & Karno, 1987; Wells, Golding, Hough, Burnam, & Karno, 1989), suggesting that more acculturated individuals are more likely to seek help for mental health problems compared to less acculturated individuals. However, it is unclear what specific aspect of acculturation may lead individuals to underutilize mental health services. As a result of the acculturation process, individuals experience acculturative stress, which has been found to negatively impact individuals’ health. For example, among Mexican-American farmworkers elevated levels of acculturative stress have been associated with an increased likelihood of suffering from depression and anxiety (Alderete et al., 1999, Hovey & Magaña, 2002). Although acculturative stress has been suggested to be the underlying mechanism by which acculturation negatively impacts the mental health of Mexican farmworkers (Hovey, 2000), its role on mental health care services use is unknown.

Given, that acculturation has been positively associated with health care use (Berdahl & Torres Stone, 2009; Wells, et al., 1987; Wells, et al., 1989) and that less acculturated individuals report increased levels of acculturative stress (Miranda & Matheny, 2000), the present study tests the role of acculturative stress as a potential predictor of mental health care in the Mexican-American farmworker population. Furthermore, although structural barriers to mental health care
use have been identified (e.g., lack of transportation), no attention has been given to whether cultural perceptions of mental health disorders (i.e., nervios, ataque de nervios, and susto) may also contribute to the observed underuse of mental health care services among this population. Thus, cultural perceptions of mental health care disorders were tested as potential barriers to mental health care use. The findings suggest that neither acculturative stress nor cultural perceptions of mental health disorders are associated with mental health care services use. However, acculturative stress was found to be associated with a higher incidence of somatic symptoms of psychological distress and with an increased endorsement of cultural perceptions of mental health disorders among women from Mexican-American farmworker families; providing insight into the role that specific cultural stressors play on the mental health of the Mexican-American farmworker population.

**Acculturative Stress and Mental Health Care Use**

Even though acculturation has been established as a predictor of mental health care use, in the current study this was not the case for acculturative stress. It could be possible that this discrepancy in results between these two closely related constructs may be due to the way in which acculturation has been traditionally conceptualized. It is thought that individuals are fully acculturated once they have abandoned their country of origin’s set of values and beliefs and have adopted those of the mainstream culture (unidimensional process; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Thus the positive association that has been observed between acculturation and mental health care use, may be due to the fact that once individuals are fully acculturated they perceive seeking help for their mental health problems as normative; whereas under the acculturative stress perspective, individuals may realize that they need to seek help but hesitate seeking the help in an attempt to avoid the stress that this might cause them by the
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conflict that may arise between both sets of values and beliefs. The negative influence of acculturative stress on mental health care use may be overridden by physical barriers such as language fluency, lack of inadequate transportation, and inability to afford the costs of the services (Arcury & Quandt, 2007; Hoerster, Beddawi, Peddecord, & Ayala, 2010). For example, among immigrant individuals limited English proficiency has been associated with lack of health insurance, decrease doctor visits, lower use of preventative health care services, and lack of mental health care use (Arcury and Quandt, 2007; Derose, & Baker, 2000; Derose, Escarce, & Lurie, 2007; Jacobs, Karavolos, Rathouz, Ferris, & Powell, 2005; Pincay & Guarnaccia, 2007; Ponce, Hays, & Cunningham, 2006; Solis, Marks, Garcia, & Shelton, 1990). In addition to the aforementioned physical barriers, social stigma regarding suffering from a mental health disorder and seeking mental health services has also been cited as a barrier to mental health care use (Añez, Paris, Bedregal, Davidson, & Grilo, 2005; Corrigman, 2004; Derose, Escarce, & Lurie, 2007; Eisenberg, Downs, Goldberstein, & Zivin, 2009; Pincay & Guarnaccia, 2007). For example, the fear of being stigmatized as “loco” (crazy) has been shown to prevent and delay individuals’ help seeking for mental health disorders (Dennis, & Chung-Lee, 2006; Elwy, Yeh, Worcester, & Eisen, 2011; Pincay & Guamanccia, 2007). The influence of mental health stigma has also been observed in medical settings as individuals diagnosed with mental health disorders receive fewer medical services (Desai, Rosenheck, Druss, & Perlin, 2002), which might lead individuals to restrain from seeking help for their mental problems in an attempt to avoid any discomfort that may arise from the patient-provider relationship. These results suggest that acculturative stress is not as important as social aspects (i.e., social stigma) and structural barriers when examined as a factor preventing mental health care use among the Mexican-American farmworker population.
Social support, which is reflected in individuals’ cultural orientations, may also contribute to the underutilization of mental health care services observed among the Mexican-American farmworker population. Cultures are often conceptualized in terms of collectivism and individualism. Collectivistic cultures are characterized by an increased value of group membership because individuals perceive it as a steadily source of social support (Goodwin & Hernandez-Plaza, 2000); whereas individualistic cultures value autonomy and pursuit individual goals (Oettingen, 1995; Triandis, 2009). Given that during the acculturation process individuals’ set of beliefs and values are modified (Cuéllar, 2000; Sam & Berry, 2010), it may be that Mexican immigrant’ cultural orientation (collectivistic) shifts to that of the mainstream culture (individualistic). This shift in cultural orientation may have an impact on the approach that is adopted to cope with mental health disorders. For instance, it has been noted that individuals from individualistic cultures are less likely to rely on family as a source of social support for their problems and more likely to look for nonfamily sources of social support (Kim & McKenry, 1998) which may lead to more positive attitudes towards seeking help as well as increased help seeking behaviors in an attempt to relieve the distress caused by mental health disorders. Contrary, individuals from collectivistic cultures value group membership (e.g., family) because it provides a sense of protection to the members of the group (i.e., coping resource; Oettingen, 1995; Triandis, 2009), which may result in more negative attitudes toward seeking help which in turn might lead to a delay in seeking help from a mental health provider (i.e., member of the out-group). In addition to perceiving a sense of protection, members of collectivistic cultures have also reported an increased level of social support compared to members of individualistic cultures (Goodwin & Hernandez-Plaza, 2000) which has been associated with better mental health outcomes (Finch & Vega, 2003; Strine, Chapman, Balluz, &
Thus, if collectivism provides protection as well as social support, individuals may prefer to deal with their mental health problem within the group nucleus instead of seeking help outside of the comfort of the group, which may translate to underuse of mental health care services among this population.

**Somatization, Cultural Perceptions of Mental Disorders and Health Care Use**

Further, the current study aimed to investigate whether traditional cultural perceptions of mental health disorders were associated with mental health care use among the Mexican-American farmworker population. Culture influences an individuals’ experience of an illness by shaping how symptoms are interpreted (Cuéllar & González, 1999; Kirmayer, 2001). For example, in an attempt to avoid the stigma that is associated with being diagnosed with mental health disorders (Jenkins, 1988; Kleinman, 1977, 1978; Nichter, 2010) and receive the medical help needed (Simon et al., 1999) the symptoms of these disorders tend to be somaticized. (Rao, Poland, & Lin, 2012; Salgado de Snyder, et al., 1998). Contrary to past research, the current study found that somatic symptoms of psychological distress were not associated with mental health care use. Hence, this non-association may be explained by the individuals’ idea that mental help might not be relevant to the disorder they are suffering from (Bhugra et al., 2011) or on whether individuals’ problems are defined as mental health related or not (Cauce, et al., 2002). For example, among individuals who believed that depression was not a mental illness had a lower rate of mental health care use. Reasons cited for not seeking help included believing that the problem would improve by itself and the desire to handle the problem on their own (Martinez Pincay & Guarnaccia, 2007; Pérez-Zepeda et al., 2013). Similarly when depression was believed to arise from social interactions and social factors, increased socialization and family reunification were suggested as the treatments of preference (Cabassa, Lester, & Zayas,
If individuals perceive mental health disorders as not being an illness rather as a phenomenon that originates from social interactions, somatization of symptoms may not be relevant in determining whether individuals would seek help from mental health care facilities. Thus, future research should study whether individuals’ etiology of mental health disorders influence the type of help individuals seek for their mental problems.

Similarly, in the current study endorsement of traditional cultural perceptions of mental disorders was not predictive of mental health care use among women from Mexican-American farmworker families. However, when endorsement of cultural bound syndromes as well as their underlying causes were explored as potential contributors as the type of help individuals would seek to deal with the disorder, reliance on formal (e.g., psychologist) and non-formal sources of help (e.g., priest) were found to be commonly recommended as the treatment of choice. Thus, it could be possible that the mechanisms individuals choose to cope with the cultural bound syndromes explains why they were not associated with health care use. For instance, it has been noted that as a way to cope with the distress caused by suffering from one of the cultural bound syndromes, individuals tend to ignore the existence of the problem (Winkelman, Chaney, & Betherl, 2013) or just wait until the symptoms go away by themselves (Baer, Weller, García de Alba García, Glazer, Trotter, Pachter, & Klein, 2003). Similarly, lack of mental health care services use for cultural bound syndromes has been attributed to the fear of the consequences that seeking help may bring with it (England, Mysyk, & Avila-Gallegos, 2007). Furthermore, use of the services of a *curandero* (folk healer) have been recommended as one of the appropriate remedies for nervios and ataque de nervios among a sample of Hispanic immigrants (Durà-Vilà & Hodes, 2012). In the same line, qualitative data from the current study, suggests that folk remedies, such as getting cured by cleaning themselves with an egg and to drink a traditional
beverage called “espiritus”, were the treatment of choice by Mexican-American farmworkers to treat the cultural bound syndrome of susto. Despite participants stating that they would rely on folk remedies to treat cultural bound syndromes, when formally asked whether they have used the services of a folk healer (e.g., curandero), only two percent of the sample admitted having used such services. Hence, although endorsing cultural bound syndromes may be less stigmatizing to the individual, there may still be some degree of stigma involved in a diagnosis of nervios, ataque de nervios, and susto that may be preventing the individual from seeking the help needed.

**Acculturative Stress, Somatization, and Cultural Perceptions of Mental Health Disorders**

As hypothesized increased levels of acculturative stress were associated with an increased experience of somatic symptoms of psychological distress among women from Mexican-American farmworker families. These findings are in line with existing research in which a positive association between elevated levels of stress and experiencing somatic symptoms of psychological distress has been observed (Donlan & Lee, 2010). Similarly the findings of the current study are consistent with past research in which acculturative stress and adverse mental health outcomes have been positively associated in Mexican farmworkers (Alderete et al., 1999; Finch, et al., 2004; Hovey, 2000; Hovey & Magaña, 2002). Acculturative stress results from psychological and behavioral changes that individuals undergo while integrating their set of values and believes to those of the mainstream culture (Hovey, 2000) which may result in a feeling of being trapped between the Mexican and American culture among those individuals who are going through the acculturation process (Hovey & Magaña, 2002). Thus it could be possible that while trying to successfully adapt to the mainstream culture, family conflict arises as a result of divergence on cultural values as well as intragroup
marginalization due to the perception that being acculturated poses a threat to the heritage culture (Castillo, Cano, Chen, Blucker, & Olds, 2008), which may result in a depletion of coping mechanisms Mexican individuals may use to cope with the negative effects of acculturative stress on mental health. For example, increased socialization (e.g., spending time with friends and family) has been reported to be among the most common positive coping mechanisms employed used by seasonal farmworkers to deal with stress and depression (Winkelman, Chaney, & Bethel, 2013). Thus if intragroup conflict occurs as a result of acculturation and acculturative stress, individuals may end up coping with psychological distress all by themselves (isolation) which has been associated with an increased likelihood of experiencing adverse mental health outcomes (Lackey, 2008).

Furthermore, elevated levels of acculturative stress were found to be predictive of a higher endorsement of traditional cultural perceptions of mental disorders among the Mexican American farmworker population. These results are consistent with previous research in which acculturative stress and stressful experiences (e.g., immigration journey) have been positively associated with the prevalence of nervios among a sample of Mexican-American women (Alcántara, Abelson, & Gone, 2012; Lewis-Fernandez, Gorritz, Raggio, Pelaez, Chen, & Guarnaccia, 2010). It could be possible that individuals who are less acculturated prefer to stick to explanatory models of psychological distress (e.g., nervios) that are familiar to them as a way to ameliorate the stress that may result from adopting the Western etiology of depression (O’Connor, Stoecklin-Marois, & Schenker, 2015). In other words, identifying with traditional cultural perceptions of mental health might work as a coping mechanism that individuals rely on as a way to buffer the effects of acculturation (adopting Western etiology of depression) on acculturative stress.
There were some limitations that should be noted when interpreting the results of the current study. Given that the sample was constituted of women, and women have more positive attitudes toward seeking help (Mackenzie, Gekoski, & Knox, 2006) and higher prevalence of ataque de nervios than men (Guarnaccia, et al., 2010) generalizations beyond this particular group should be done with caution. Thus, future research should also recruit male participants. Furthermore, due to the relatively closeness of the site of data collection to the Mexican border, participants’ level of acculturative stress may differ from those individuals living in areas distant from the U.S/Mexican border, because of “free mixing of influences” that result from cyclical migration between the United States and Mexico (Hunt, Schneider, & Comer, 2004). Thus, future research should address this limitation by recruiting participants from more diverse geographic locations. The fact that in the current study, acculturative stress was not predictive of mental health care use, gives the way to speculate whether it moderates the relationship between sociocultural stressors such as discrimination and mental health care use. Thus, this is an issue that warrants future research. Further, though valid and reliable measures were used in the current study, the Attitudes toward Seeking Professional Psychological Help (ATSPPH-SF) scale did not achieve an acceptable reliability value. There are some possible explanations that may have accounted for this result. First, a paraphrased version of the ATSPPH-SF was used in the current study. Second, given the lack of a Spanish version of this scale, the researchers translated and then back-translated it, thus it could be possible that during this process key aspects of the items comprised in the scale were missed. Therefore, future research should address this limitation by validating the Spanish version of the ATSPPH-SF in a sample of low literacy Mexican-American individuals. Lastly, with only five participants admitting have used the
services offered by mental health centers, not enough data variability was found on participants’ responses. Hence, two approaches could be adopted by future research in order to address this limitation. First, researchers may change the approach used to gather this data from a qualitative interview to self-report questionnaires. Second instead of relying of participants’ self-reports of health care use, future research might gather this information from participants’ medical records, which will be an indicator of actual help seeking behaviors. Despite the aforementioned limitations, the present study has some strengths that add to the existing body of literature exploring psychosocial factors as barriers to mental health care use. First, the role of acculturative stress as a potential barrier to mental health care use was assessed for the first time in a sample that is at an increased vulnerability for the development of depression and anxiety. Second, somatization of psychological distress was assessed through different measures that map into the three different definitions recognized for this disorder: presenting somatic symptoms; reporting unexplained somatic symptoms; and denial of psychological symptoms (Simon, Vonkorff, Piccinelli, Fullerton, & Oimel, 1999). The fact that increased levels of acculturative stress predicted all three measures of somatization sheds light into the important role that acculturative stress plays as a risk factor for adverse mental health outcomes in the Mexican-American farmworker population.

**Conclusion**

The present study had as a purpose to explore whether sociocultural factors were associated with mental health care use among women from Mexican-American farmworker families. Though acculturative stress, somatization of psychological distress, and traditional cultural perceptions of mental health disorders were not associated with mental health care use; higher levels of acculturative stress were associated with increased somatization of psychological
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distress as well as identification with traditional cultural perceptions of mental health. Future work, should attempt to identify other sociocultural stressors (e.g., discrimination) that may contribute to the underutilization of mental health care services observed among the Mexican-American farmworker population.


Constantine, M. G. (2002). Predictors of satisfaction with counseling: Racial and ethnic minority clients' attitudes toward counseling and ratings of their counselors' general and
multicultural counseling competence. *Journal of Counseling Psychology, 49*(2), 255-263. doi: 10.1037/0022-0167.49.2.255


doi:10.1016/j.ajp.2012.01.006

Salgado de Snyder, V., Diaz-Perez, M., & Ojeda, V. (2000). The prevalence of nervios and
associated symptomatology among inhabitants of Mexican rural communities. *Culture,

Salgado de Snyder, V., Diaz-Perez, M., Maldonado, M., & Bautista, E., (1998). Pathways to
mental health services among inhabitants of a Mexican village. *Health and Social Work,

Salgado, H., Castañeda, S., Talavera, G., & Lindsay, S. (2012). The role of social support and
acculturative stress in health-related quality of life among day laborers in Northern San
9568-0.

cultural backgrounds meet. *Perspectives on Psychological Science, 5*(4), 472-481. doi:
10.1177/1745691610373075

health care services to migratory agricultural workers. *Rural & Remote Health, 12*(3), 1-
10.

Schwartz, S. J., Unger, J. B., Zamboanga, B. L., & Szapocznik, J. (2010). Rethinking the concept
237-251. doi:10.1037/a0019330


**Table 1. Frequency and percentage breakdown of use of different types of medical services**

<table>
<thead>
<tr>
<th>Medical Service</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visited family doctor</td>
<td>56 (61%)</td>
<td>35 (39%)</td>
</tr>
<tr>
<td>Used medical services</td>
<td>51 (53%)</td>
<td>45 (47%)</td>
</tr>
<tr>
<td>Visited a mental health center</td>
<td>88 (97%)</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>Visited the emergency room</td>
<td>88 (92%)</td>
<td>8 (8%)</td>
</tr>
<tr>
<td>Admitted into a hospital</td>
<td>87 (96%)</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>Admitted into psychiatric hospital</td>
<td>90 (99%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Used services of alternative practitioner/healer</td>
<td>94 (98%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>Would use psychological services</td>
<td>2 (2%)</td>
<td>89 (98%)</td>
</tr>
<tr>
<td>Health care use total</td>
<td>45 (47%)</td>
<td>51 (53%)</td>
</tr>
</tbody>
</table>

*Note. Binary health access total score computed by collapsing participants’ responses to items asking about different types of health care use.*
### Table 2. Sample Demographic Information

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N = 96</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age: M (SD)</strong></td>
<td>35.25 (7.97)</td>
<td></td>
</tr>
<tr>
<td>20 – 29 years</td>
<td>25 (27%)</td>
<td></td>
</tr>
<tr>
<td>30 – 39 years</td>
<td>44 (48%)</td>
<td></td>
</tr>
<tr>
<td>40 – 49 years</td>
<td>20 (22%)</td>
<td></td>
</tr>
<tr>
<td>50 – 59 years</td>
<td>3 (3%)</td>
<td></td>
</tr>
<tr>
<td><strong>Years of residency in the U.S.: M (SD)</strong></td>
<td>13.56 (6.45)</td>
<td></td>
</tr>
<tr>
<td>1 – 9 years</td>
<td>23 (29%)</td>
<td></td>
</tr>
<tr>
<td>10 – 19 years</td>
<td>39 (50%)</td>
<td></td>
</tr>
<tr>
<td>20 – 29 years</td>
<td>14 (18%)</td>
<td></td>
</tr>
<tr>
<td>More than 30 years</td>
<td>2 (3%)</td>
<td></td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>59 (61%)</td>
<td></td>
</tr>
<tr>
<td>Living Together</td>
<td>29 (30%)</td>
<td></td>
</tr>
<tr>
<td>Separated</td>
<td>5 (5%)</td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>1 (1%)</td>
<td></td>
</tr>
<tr>
<td>Never Married</td>
<td>1 (1%)</td>
<td></td>
</tr>
<tr>
<td>Father Deceased</td>
<td>1 (1%)</td>
<td></td>
</tr>
<tr>
<td><strong>Primary Language</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td>88 (95%)</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>2 (2%)</td>
<td></td>
</tr>
<tr>
<td>Bilingual</td>
<td>3 (3%)</td>
<td></td>
</tr>
<tr>
<td><strong>Present Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>58 (60%)</td>
<td></td>
</tr>
<tr>
<td>Farmworker</td>
<td>20 (21%)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>12 (12%)</td>
<td></td>
</tr>
<tr>
<td><strong>Highest Educational Attainment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8th grade or less</td>
<td>72 (80%)</td>
<td></td>
</tr>
<tr>
<td>Some high school</td>
<td>11 (12%)</td>
<td></td>
</tr>
<tr>
<td>High school graduate/GED</td>
<td>5 (6%)</td>
<td></td>
</tr>
<tr>
<td>Some College</td>
<td>3 (3%)</td>
<td></td>
</tr>
<tr>
<td><strong>Annual Family Income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; $20,000</td>
<td>52 (60%)</td>
<td></td>
</tr>
<tr>
<td>$20,001 - $40,000</td>
<td>33 (38%)</td>
<td></td>
</tr>
<tr>
<td>$40,001 - $70,000</td>
<td>2 (2%)</td>
<td></td>
</tr>
<tr>
<td><strong>Access to Transportation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>46 (82%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>10 (18%)</td>
<td></td>
</tr>
<tr>
<td>Characteristic</td>
<td>$N = 96$</td>
<td>$n$ (%)</td>
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<tr>
<td>----------------------------------------</td>
<td>----------</td>
<td>---------</td>
</tr>
<tr>
<td>Maternal Health Insurance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>19</td>
<td>(34%)</td>
</tr>
<tr>
<td>No</td>
<td>37</td>
<td>(66%)</td>
</tr>
<tr>
<td>Mexican Region of Origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North</td>
<td>4</td>
<td>(8%)</td>
</tr>
<tr>
<td>Occidental</td>
<td>19</td>
<td>(38%)</td>
</tr>
<tr>
<td>Central</td>
<td>7</td>
<td>(14%)</td>
</tr>
<tr>
<td>South</td>
<td>20</td>
<td>(40%)</td>
</tr>
<tr>
<td>Depressive Symptoms Clinical Cutoff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 16</td>
<td>60</td>
<td>(68%)</td>
</tr>
<tr>
<td>More than 16</td>
<td>31</td>
<td>(32%)</td>
</tr>
<tr>
<td>Criteria for Nervios ($n = 39$)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>25</td>
<td>(64%)</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>(36%)</td>
</tr>
</tbody>
</table>
Table 3.

Means, Standard Deviations and Correlations between Primary Variables of Interest

<table>
<thead>
<tr>
<th>Scale</th>
<th>M</th>
<th>SD</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Acculturative Stress</td>
<td>54.69</td>
<td>20.34</td>
<td>-0.05</td>
<td>0.37**</td>
<td>0.62**</td>
</tr>
<tr>
<td>2. Attitudes toward Seeking Psychological Help</td>
<td>12.03</td>
<td>3.94</td>
<td>-</td>
<td>-0.01</td>
<td>-0.01</td>
</tr>
<tr>
<td>3. Endorsement of Cultural Bound Syndromes</td>
<td>2.25</td>
<td>0.88</td>
<td>-</td>
<td></td>
<td>0.24*</td>
</tr>
<tr>
<td>4. Somatic Symptoms of Depression</td>
<td>4.26</td>
<td>4.50</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 4.

Chi-squared analyses looking at the endorsement of cultural bound syndromes and recommended treatment

<table>
<thead>
<tr>
<th></th>
<th>Ataque de nervios</th>
<th>Nervios</th>
<th>Susto</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$X^2$, $P$ value</td>
<td>$X^2$, $P$ value</td>
<td>$X^2$, $P$ value</td>
</tr>
<tr>
<td></td>
<td>Yes $n$ %</td>
<td>No $n$ %</td>
<td>Yes $n$ %</td>
</tr>
<tr>
<td>Social Support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>67 97.1</td>
<td>8 100</td>
<td>t, 1.00</td>
</tr>
<tr>
<td>No</td>
<td>2 2.9</td>
<td>0 0</td>
<td></td>
</tr>
<tr>
<td>Folk Healer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>26 37.7</td>
<td>2 25</td>
<td>t, 0.70</td>
</tr>
<tr>
<td>No</td>
<td>43 62.3</td>
<td>6 75</td>
<td></td>
</tr>
<tr>
<td>Wise Person</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>47 68.1</td>
<td>6 75</td>
<td>t, 1.00</td>
</tr>
<tr>
<td>No</td>
<td>22 31.9</td>
<td>2 25</td>
<td></td>
</tr>
<tr>
<td>Priest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>43 62.3</td>
<td>4 50</td>
<td>t, 0.70</td>
</tr>
<tr>
<td>No</td>
<td>26 37.7</td>
<td>4 50</td>
<td></td>
</tr>
<tr>
<td>General Practitioner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>49 71</td>
<td>5 62.5</td>
<td>t, 0.68</td>
</tr>
<tr>
<td>No</td>
<td>20 29</td>
<td>3 37.5</td>
<td></td>
</tr>
<tr>
<td>Psychiatric Medicine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>40 58</td>
<td>3 37.5</td>
<td>t, 0.45</td>
</tr>
<tr>
<td>No</td>
<td>29 42</td>
<td>5 62.5</td>
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</tr>
<tr>
<td>Psychologist/ Psychiatrist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>65 94.2</td>
<td>5 62.5</td>
<td>t, 0.02</td>
</tr>
<tr>
<td>No</td>
<td>4 5.8</td>
<td>3 37.5</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Percentages indicate column percentages. The degree of freedom for all Chi-squared tests is 1 ($df = 1$). *Fisher’s exact test (not Chi-squared test) was used given that at least one cell had a count of 5 or less. **Bold:** significant, $p \leq 0.05$. 
### Table 5.
**Chi-squared analyses looking at the relationship between underlying causes of the syndrome and recommended treatment**

<table>
<thead>
<tr>
<th></th>
<th>Misfortune</th>
<th></th>
<th>Stress</th>
<th></th>
<th>Mental Illness</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Social Support</td>
<td></td>
<td>60</td>
<td>96.8</td>
<td>15</td>
<td>100</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>2</td>
<td>3.2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Folk Healer</td>
<td>Yes</td>
<td>23</td>
<td>37.1</td>
<td>5</td>
<td>3.3</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>39</td>
<td>62.9</td>
<td>10</td>
<td>66.7</td>
<td>46</td>
</tr>
<tr>
<td>Wise Person</td>
<td>Yes</td>
<td>46</td>
<td>74.2</td>
<td>7</td>
<td>46.7</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>16</td>
<td>25.8</td>
<td>8</td>
<td>53.3</td>
<td>23</td>
</tr>
<tr>
<td>Priest</td>
<td>Yes</td>
<td>40</td>
<td>64.5</td>
<td>7</td>
<td>46.7</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>22</td>
<td>35.5</td>
<td>8</td>
<td>53.3</td>
<td>27</td>
</tr>
<tr>
<td>General Practitioner</td>
<td>Yes</td>
<td>49</td>
<td><strong>79</strong></td>
<td>5</td>
<td><strong>33.3</strong></td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>13</td>
<td>21</td>
<td>10</td>
<td>66.7</td>
<td>22</td>
</tr>
<tr>
<td>Psychiatric Medicine</td>
<td>Yes</td>
<td>37</td>
<td>59.7</td>
<td>6</td>
<td>40</td>
<td>42</td>
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<tr>
<td></td>
<td>No</td>
<td>25</td>
<td>40.3</td>
<td>9</td>
<td>60</td>
<td>32</td>
</tr>
<tr>
<td>Psychologist/</td>
<td>Yes</td>
<td>58</td>
<td>93.5</td>
<td>12</td>
<td>80</td>
<td>67</td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>No</td>
<td>4</td>
<td>6.5</td>
<td>3</td>
<td>20</td>
<td>7</td>
</tr>
</tbody>
</table>

**Note.** Percentages indicate column percentages. The degree of freedom for all Chi-squared tests is 1 (df = 1). *Fisher’s exact test (not Chi-squared test) was used given that at least one cell had a count of 5 or less. Bold: significant, p ≤ 0.05.
<table>
<thead>
<tr>
<th>Service</th>
<th>Yes</th>
<th>%</th>
<th>No</th>
<th>%</th>
<th>X^2, P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Illness</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>50</td>
<td>100</td>
<td>25</td>
<td>92.6</td>
<td>t, 0.12</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>7.4</td>
<td></td>
</tr>
<tr>
<td><strong>Folk Healer</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.72, 0.02</td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>46</td>
<td>5</td>
<td>18.5</td>
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<tr>
<td>No</td>
<td>27</td>
<td>54</td>
<td>22</td>
<td>81.5</td>
<td></td>
</tr>
<tr>
<td><strong>Wise Person</strong></td>
<td></td>
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<td></td>
<td></td>
<td>11.53, 0.001</td>
</tr>
<tr>
<td>Yes</td>
<td>41</td>
<td>82</td>
<td>12</td>
<td>44.4</td>
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<td>No</td>
<td>9</td>
<td>18</td>
<td>15</td>
<td>55.6</td>
<td></td>
</tr>
<tr>
<td><strong>Priest</strong></td>
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<td></td>
<td>2.90, 0.08</td>
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<td>34</td>
<td>68</td>
<td>13</td>
<td>48.1</td>
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<tr>
<td>No</td>
<td>16</td>
<td>32</td>
<td>14</td>
<td>51.9</td>
<td></td>
</tr>
<tr>
<td><strong>General Practitioner</strong></td>
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<td></td>
<td></td>
<td>9.59, 0.002</td>
</tr>
<tr>
<td>Yes</td>
<td>41</td>
<td>82</td>
<td>13</td>
<td>48.1</td>
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</tr>
<tr>
<td>No</td>
<td>9</td>
<td>18</td>
<td>14</td>
<td>51.9</td>
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</tr>
<tr>
<td><strong>Psychiatric Medicine</strong></td>
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<td></td>
<td></td>
<td></td>
<td>5.96, 0.01</td>
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<td>66</td>
<td>10</td>
<td>37</td>
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</tr>
<tr>
<td>No</td>
<td>17</td>
<td>34</td>
<td>17</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td><strong>Psychologist/Psychiatrist</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>t, 0.69</td>
</tr>
<tr>
<td>Yes</td>
<td>46</td>
<td>92</td>
<td>24</td>
<td>88.9</td>
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<tr>
<td>No</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>11.1</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Percentages indicate column percentages. The degree of freedom for all Chi-squared tests is 1 (df = 1). Fisher’s exact test (not Chi-squared test) was used given that at least one cell had a count of 5 or less. **Bold:** significant, p ≤ 0.05.
Figure 1. Proposed conceptual model explaining the role of cultural perceptions of mental health disorders (somatization of mental health disorders) and societal influences (acculturative stress) on Mexican-American women of farmworker families attitudes toward professional psychological health and mental health care use.
Figure 2. Moderation model (H_{1c}) suggesting that the relationship between acculturative stress and mental health care use would be moderated by attitudes toward professional psychological help.
Figure 3a. Moderation model (H2a) suggesting that the relationship between acculturative stress and attitudes toward professional psychological help would be moderated by somatic symptoms.
Figure 3b. Moderation model (H2c) suggesting that the relationship between acculturative stress and mental health care use would be moderated by somatic symptoms.
Figure 4. Non-significant interaction between acculturative stress and attitudes toward seeking psychological help in predicting health care use among women from Mexican-American farmworker families ($\beta = -0.01, SE = 0.003, OR = 0.99, 95\% CI = 0.99 – 1.00, p = 0.67$).
Figure 5. Non-significant interaction between acculturative stress and somatic symptoms of depression in predicting health care use among women from Mexican-American farmworker families ($\beta = 0.001$, $SE = 0.002$, $OR = 1.00$, 95% CI $= 0.99 – 1.00$, $p = 0.63$).
Figure 6. Non-significant interaction between acculturative stress and identification with cultural bound syndromes in predicting health care use among women from Mexican-American farmworker families ($\beta = -0.004$, $SE = 0.02$, $OR = 0.99$, 95% $CI = 0.97 - 1.02$, $p = 0.78$).
Figure 7. Non-significant interaction between acculturative stress and symptoms of nervios in predicting health care use among women from Mexican-American farmworker families ($\beta = 0.01$, $SE = 0.01$, $OR = 1.01$, 95% CI = 0.99 – 1.02, $p = 0.16$).
Figure 8. Non-significant interaction between acculturative stress and somatic symptoms of depression in predicting attitudes toward seeking psychological help ($R^2 = 0.006$, $B = -0.002$, $t = -0.523$, $p = 0.60$).
Figure 9. Non-significant interaction between acculturative stress and identification with cultural bound syndromes in predicting attitudes toward seeking psychological help ($R^2 = 0.005, B = 0.01, t = 0.23, p = 0.82$).
Figure 10. Non-significant interaction between acculturative stress and symptoms of nervios in predicting attitudes toward seeking psychological help ($R^2 = 0.05$, $B = -0.01$, $t = -0.73$, $p = 0.47$).
CASE VIGNETTE 1: BERTA

Berta is a 45 year old married woman with two grown-up independent sons and three more children below the age of 14 years old. She has been under considerable stress during the last month as her husband left the family home and she has been on her own in charge of the household and the children. She is very worried about not being able to maintain her family economically without her husband’s help.

Berta receives the news that her husband is asking for a divorce and wants to re-marry. When her older children and brother meet her she appears very distressed and agitated, shaking, crying and screaming that she “can’t go on like this”. She complains of heat and numbness in her hands and of feeling that her mind is “going blank”. Her appearance is dishevelled and she refuses to eat or go to bed.

On the following day, her older sons and other members of Berta’s family organize a family reunion. She is reassured by her older sons, who have contacted their father, that he intends to pay for the maintenance of her younger children, and she is receiving the support and care of her family. Berta’s distress and agitation disappears and she becomes her normal self again.

(A) Do you think that Berta has... (Please tick all the statements that apply)

- Experienced misfortune
- Suffered from a reaction to stress
- Developed a mental illness
- Developed a physical illness
- Developed a mental and physical illness
- Developed an illness that requires medical attention
- Developed another problem (If yes, please specify below)

(B) Do you think Berta is suffering from an ataque de nervios (attack of nerves)?

- Yes
- No

(C) Which help do you think Berta needs to get better? (Please tick as many as apply)

- Needs the support, help and care of her family and friends
- Should see a folk healer or curandero
- Should see a wise and respected person for advice
- Should seek the help of a priest or religious person
- Should see a GP
- Should see a psychiatrist or psychologist
- Should take some sort of psychiatric medicine
- Is there any other help that you think the character should seek or could benefit from?
- (Please specify)
CASE VIGNETTE 1: ROSA

Rosa is a 55 year old married woman who lives in the house in which she was born, along with her husband who is an ex-builder on incapacity benefits due to an accident at work. She has two grown-up daughters who left the home village many years ago, as most of her childhood friends did, and live far away only visiting their parents occasionally. Rosa also looked after her elderly mother who lived with them until she died five years ago.

When Rosa talks about her feelings of sadness and loneliness, her eyes fill with tears, and she seems a helpless and dependent woman. She feels abandoned and without energies to go anywhere, preferring to “stay at home sitting down”. She cannot enjoy things and has lost interest in her activities. She complains of hot flushes, feeling exhausted, headaches, palpitations and tingling feelings in her hands. Her doctor has run recent physical examinations and they are all within normal limits as they were the ones done in the past. Her doctor who knows her well has witnessed these symptoms for the last 25 years since he started working in Rosa’s village. When Rosa is asked what does she thinks it is wrong with her, she sighs and states that she has been feeling like this “for a very long time”, summarizing her situation with the following sentence that she frequently repeats: “It is all due to my nerves, I can’t do anything, my nerves are broken!”

(A) Do you think that Rosa has... (Please tick all the statements that apply)

- Experienced misfortune
- Suffered from a reaction to stress
- Developed a mental illness
- Developed a physical illness
- Developed a mental and physical illness
- Developed an illness that requires medical attention
- Developed another problem (If yes, please specify below)

(B) Do you think Rosa is suffering from a nervios (nerves)?

Yes ☐
No ☐

(C) Which help do you think Berta needs to get better? (Please tick as many as apply)

- Needs the support, help and care of her family and friends
  - Should see a folk healer or curandero
  - Should see a wise and respected person for advice
  - Should seek the help of a priest or religious person
  - Should see a GP
  - Should see a psychiatrist or psychologist
  - Should take some sort of psychiatric medicine
  - Is there any other help that you think the character should seek or could benefit from?
  - (Please specify)
Diego is a 12 years old boy, and he was normal and cheerful. On a Sunday morning when he was having breakfast on his own at the kitchen table, a driver lost control of his car and crashed the car onto the house, ending up in the kitchen. Although Diego was physically intact, a few weeks after this unnerving experience his family and his teachers at school were concerned as they noticed a considerable change in him.

Diego became restless and fearful during his sleep. During the day, Diego complained of feeling sad, tired, and of having a stomach-ache. He was no longer interested in his usual activities, not even in playing football which used to be his favorite hobby. He also lost his appetite whereas in the past he enjoyed his mother’s food very much. His teacher noticed a lack of concentration during lessons and a deterioration in his personal hygiene needing lots of encouragement from his mother to wash and comb his hair.

After over a month of not getting better, his parents took him to a folk healer (curandero) who told them that Diego suffered from susto as a result of this frightening experience and that Diego’s soul had separated from his body causing his condition. He recommended a healing session to encourage the soul to return.

- Do you think that Diego has... (Please tick all the statements that apply)
  - Experienced misfortune
  - Suffered from a reaction to stress
  - Developed a mental illness
  - Developed a physical illness
  - Developed a mental and physical illness
  - Developed an illness that requires medical attention
  - Developed another problem (If yes, please specify below)

- Do you think Diego is suffering from a susto?
  - Yes
  - No

- Which help do you think Diego needs to get better? (Please tick as many as apply)
  - Needs the support, help and care of her family and friends
    - Should see a folk healer or curandero
    - Should see a wise and respected person for advice
    - Should seek the help of a priest or religious person
      - Should see a GP
      - Should see a psychiatrist or psychologist
      - Should take some sort of psychiatric medicine
  - Is there any other help that you think the character should seek or could benefit from?
    - (Please specify)
Earlier you mentioned having an episode or nervous attack when you felt totally out of control. During that episode did you:

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>Refused</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Shout a lot?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2. Have crying attacks?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>3. Break things or become aggressive?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>4. Get very angry or in rage?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>5. Feel very scared or frightened?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>6. Become hysterical?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>7. Tremble a lot?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>8. Feel strange like it was not you who was doing this?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>9. Have a period of amnesia?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10. Get dizzy?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>11. Fall to the floor with a “seizure”?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>12. Have heart palpitations (you heart beat hard)?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>13. Have a chest tightness or heat in your chest?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>14. Faint or fell on the verge of fainting?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>15. Try to hurt yourself or attempt suicide?</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

Using a 0 to 10 scale, where 0 means no interference and 10 means very severe interference, think about the month or longer in the past 12 months when your episode of losing control or nervous attack was most severe. What number describes how much the episode or nervous attack interfered with each of the following activities during that month or longer?

<table>
<thead>
<tr>
<th>Activity Description</th>
<th>No interference</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Very severe interference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your household chores, like cleaning, shopping, or taking care of the apartment/house?</td>
<td>0</td>
<td>1-3</td>
<td>4-6</td>
<td>7-9</td>
<td>10</td>
</tr>
<tr>
<td>2. The quality of your work?</td>
<td>0</td>
<td>1-3</td>
<td>4-6</td>
<td>7-9</td>
<td>10</td>
</tr>
<tr>
<td>3. Your ability to have and maintain close relationships with other people?</td>
<td>0</td>
<td>1-3</td>
<td>4-6</td>
<td>7-9</td>
<td>10</td>
</tr>
<tr>
<td>4. Your social life?</td>
<td>0</td>
<td>1-3</td>
<td>4-6</td>
<td>7-9</td>
<td>10</td>
</tr>
</tbody>
</table>