ACCULTURATION AND DEPRESSION IN OLDER MEXICAN AMERICAN

ADULTS: THE ROLE OF SOCIAL SUPPORT

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Despite socioeconomic disadvantages, less acculturated Mexican Americans tend to exhibit better mental health than their more acculturated counterparts. However, in the case of older Mexican American adults, research has demonstrated the opposite to be true (Gonzalez, Haan, & Hinton, 2001). A variable of interest potentially responsible for this difference is social support. Thus, the current study proposed to investigate the mediation and moderation effects that social support has on the relationship between acculturation and depression in older Mexican American adults age 60 or older. Data from the Health and Retirement Study (HRS) was analyzed. Results showed that the mediating effect of contact with one's children (-.109*) and the moderating effect of total social support and contact with one's children (-.127*; -.103*) were statistically significant in the relationship between acculturation and depression. Although these effects are small they may still hold important implications for better understanding this population.

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CHAPTER 1

INTRODUCTION

According to the 2010 U.S. Census Bureau, approximately one third of the U.S. population is composed of minorities (Humes, Jones, & Ramirez, 2011) and they are expected to exceed the Caucasian population by the middle of the twenty-first century. Furthermore, 16% of the U.S. population is composed of Hispanics, with more than 63% of these Hispanic individuals being Mexican American. As of today, the Hispanic population is the largest minority group (Ennis, Rios-Vargas, & Albert, 2011). Higher poverty levels, lower levels of education, and perceived discrimination among other factors are greater among minority groups and may place some of them at risk for mental illness (Chassman & Cave, 2011; U.S. Public Health Service, 2001; Williams, 1999). Hispanics after African Americans have the highest poverty level and lowest level of education among minority groups (DeNavas-Walt, Proctor, & Smith, 2009). Additionally, with discrimination increasing as a result of politics (Suro & Escobar, 2006), these individuals are at increased risk for psychological distress (Moradie & Risco, 2006). Therefore, the anticipated growth of this group and their noted actuarial greater risk emphasizes the need for improvement in mental health research among this minority population.

Acculturation

The very early traditional definition of acculturation states that "acculturation comprehends those phenomena which result when groups of individuals having different

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cultures come into continuous first-hand contact with subsequent changes in the original

culture patterns of either or both groups (Redfield, Linton, & Herskovits, 1936, p.149)."

A more recent simpler definition by Mena, Padilla, and Maldonado (1987) suggests

acculturation is the adaptive process that occurs between two or more cultures; such as

adopting different attitudes, beliefs, and values that consequently lead to the modification

of behavior. The process of acculturation usually refers to adapting to a new society. This

process may lead individuals to experience conflict due to differences between the

individual's home culture and the new culture (Samaniego & Gonzalez, 1999). For

instance, as one becomes acculturated, members of the home culture may feel that the

individual is abandoning them, while at the same time the new culture may not be

welcoming of them; thus, causing chronic stress in the individual trying to adapt to the

new society (Jackson, 2006). As used in this introduction, the process of becoming

acculturated is thought of as unidirectional, where the minority group engages in most or

all of the adaptation to the majority culture, rather than it being bidirectional as implied

by Mena et al. (1987). The construct of acculturation can be seen across individuals of

different ethnic backgrounds as low acculturation, biculturalism, and high acculturation

depending on where on the continuum of acculturation the individual stands. For

instance, individuals with low acculturation tend to hold on to their native cultural

practices even in the host culture. Bicultural individuals on the other hand, keep their

native cultural practices in addition to adopting the behaviors and values of the host

culture (Padilla, 1980). Individuals with high acculturation have adopted the new culture

completely and tend to disregard their native culture.

Overall, studies have demonstrated a curvilinear relationship between acculturation and health, such that people who are high and low acculturated tend to exhibit more health problems, while those who are bicultural tend to exhibit less. For instance, in the case of generational status, 1st generation (less acculturated) and 3rd generation (more acculturated) are more at risk than 2nd generation (bicultural). With regards to language use, English speakers (more acculturated) and Spanish speakers (less acculturated) are both at risk with those who are bilingual (bicultural) being at less risk. Both proxies of acculturation, generational status and language use, are potentially associated since 1st generation individuals tend to be Spanish speakers and 3rd generation individuals tend to be English speakers.

Overall, research indicates that individuals with high acculturation (Coonrod, Bay & Balcazar, 2004) and low acculturation (Marin, Tschann, Gomez & Kegeles, 1993) tend to report more psychological distress. On the other hand, bicultural Mexican American individuals tend to be less at risk of developing psychological distress when compared to their high and low acculturated counterparts (Hovey & King, 1996). This suggests there are different factors among people with different levels of acculturation putting them at risk for psychological distress.

For instance, it may be the case that individuals who adopt a new culture while retaining their home culture are at lower risk of developing psychological distress. On the other hand, individuals who are highly acculturated and disregard their home culture or those who ignore the need to acculturate and remain loyal to their own culture tend to be at higher risk of developing psychological distress.

Research indicates that Mexican Americans are at an increased risk for psychological distress as a function of the process of acculturation. For instance, Vega and colleagues (Vega et al., 1998) found that among Mexican individuals, those who were immigrants and had less than 13 years living in the U.S. had lower lifetime rates of psychiatric disorders and were comparable to those of Mexican citizens, while Mexican Americans, who had already acculturated, had higher lifetime rates and were closer to those of non-Hispanic Caucasian individuals. Furthermore, they indicate that U.S. born Mexican Americans' lifetime rate of any psychiatric disorder is twice that of Mexican immigrants who have been in the U.S. less than 13 years. However, this changed with years of residence with those Mexican immigrants who have been in the U.S. for 13 years or longer resembling more the U.S. population.

On the other hand, Swanson, Linskey, Quintero-Salinas, Pumariega, & Holzer (1992), when comparing individuals on both sides of the border, found that Mexicans on the Mexican side of the border had a significantly lower prevalence of depression, suicidal ideation, and drug abuse than Mexican Americans in the United States side of the border. Overall, this suggests that despite socioeconomic hardship Mexicans have better mental health than non-Hispanic Caucasians and that as time in the U.S. increases for Mexican Americans their mental health deteriorates.

There is no consensus on how to best measure acculturation; thus, researchers often use different proxies of acculturation. For the purpose of this introduction, four different proxies will be described: place of birth, generational status, age at immigration, and language use.

Place of Birth

Mexican Americans, particularly Mexican immigrants, are considered a disadvantaged and underserved minority group in terms of socioeconomic status and education. In addition, as a function of becoming acculturated, this minority group tends to experience perceived discrimination and engage in risky behaviors. As Mexican Americans acculturate, whether they are immigrants emerging themselves into U.S. culture or U.S. born Mexican Americans, they become more aware of stereotypes and prejudice against their ethnic group (Finch, Kolody, & Vega, 2000) as well as engage in risky behaviors that are more acceptable in the host culture (Abraido-Lanza, Chao, & Florez, 2005). Based on these factors, this underserved minority population is expected to develop more psychological distress than their non-Hispanic Caucasian counterparts.

Differences in the risk for developing psychological distress exist on whether the individual was born in Mexico and immigrated to the United States versus whether the individual was born in the United States from Mexican parents. Research indicates place of birth being strongly correlated with incidence of mental illness, with those who were born in Mexico showing a lower risk of mental illness when compared to their U.S. born counterparts (Vega et al., 1998). One potential explanation for this difference is the adoption of behaviors that comes with the process of acculturation. Research shows that U.S. born Mexican Americans have a higher tendency to engage in risky behaviors, such as alcohol and drug abuse and dependence than their Mexican born counterparts (Burnham, Hough, Karno, Escobar & Telles, 1987). Another possible explanation as suggested by Abraído-Lanza, Armbrister, Flórez, and Aguirre (2006) is the decrease in

personal values and the greater availability and acceptance of drug consumption in the United States when compared to Mexico.

Place of birth is a variable which was used in this study as a proxy measure of acculturation.

Generational Status

Generational status is another factor that affects how a person adapts to a new culture and is often used as a proxy for acculturation. Studies measure generational status by defining first generation (immigrants), second generation (born in the United States with parents born in a foreign country), and third generation (subject and parents born in the United States with grandparents born in a foreign country). Studies examining the effects of generational status yield contradictory findings. For instance, findings reported by Mangold, Veraza, Kinkler, and Kinney (2007) suggest that fourth generation Mexican Americans (more acculturated) experience more family, cultural, occupational, and economic conflicts when compared to third and second generation Mexican Americans. Similar to these results, research done on the U.S./Mexico border revealed a greater proportion of second generation Mexican Americans more distressed when compared to immigrants (Swanson et al., 1992).

In contrast, Padilla, Wagatsuma, and Lindholm's (1985) research with Japanese and Japanese-Americans reported that immigrants experience more stress than later generation individuals, as a result of more difficulties adapting to the host environment. Therefore, some findings indicate that later generations experience more stress than immigrants, while other findings suggest that immigrants experience more stress than

later generations. Although, the variability in results can be due to different methodologies, they are a testament that different factors affect each generation differently and put all minorities at risk for psychological distress.

Furthermore, among different generations there is the potential for conflict, with those who are bicultural experiencing less conflict than their more or less acculturated counterparts. For example, research indicates that there exists conflict between the 1st and 3rd generations as a result of acculturation, such that the 1st generation, in this case grandparents who were born in Mexico and immigrated to the U.S., identify more with traditional views, while 3rd generation, in this case grandchildren born in the U.S., tend to assimilate more with American views. Results in this case indicate that grandchildren are socially and affectually distant from their grandparents (Silverstein & Chen, 1999), therefore creating stress between two generations because of their acculturation differences. Although generational status is a useful variable, it was not examined in this study as data regarding place of birth for parents and grandparents was not available.

Age of Immigration

Another potential moderator for how a person adapts to a new environment is the age of immigration. Variation across results regarding the risk of psychological distress by acculturation may be due to differences across immigrants in their age of arrival to the U.S. and ultimately their length of time in the U.S.

Age of immigration is a detrimental factor associated with acculturation in Mexican Americans (Mena et al., 1987). For instance, individuals who immigrate at a young age tend to be more acculturated than those who immigrate later, and therefore are

at an increased risk for psychological distress. Mena and colleagues found that individuals who immigrated before the age of twelve years old experience more stress than those who immigrated after the age of twelve. These findings suggest that age of immigration may interact with level of acculturation to affect distress.

Furthermore, Vega and colleagues (Vega et al., 2002) found that immigrating before the age of 24 increases the risk for drug use. Additionally, in another report Vega and colleagues (Vega, Sribney, Aguilar-Gaxiola, & Kolody, 2004) found that immigrating into the U.S. when between 0 and 16 years of age increased the risk of later carrying a diagnosis of mood, anxiety, and substance disorders. Both immigrating at a young age and an individual's length of residence are factors known to affect the level of integration into U.S. culture. Thus, age of immigration has an impact on one's values and puts individuals at increased risk for problematic behaviors and psychological distress (Harker, 2001).

Age of immigration is a variable which was used in this study as a proxy measure of acculturation.

Language

When it comes to language and its relationship to acculturation, individuals who speak the host society's language tend to be more acculturated than those who do not. Based on information gathered in 2008 by the U.S. Census Bureau (U.S. Department of Commerce, 2010), about half of the Hispanic population feels more comfortable speaking Spanish than English. This group mainly includes immigrants, who tend to be low acculturated individuals. In regards to the association between language as a proxy for

acculturation and a precursor to psychological distress, those who are Spanish speakers and therefore less acculturated are at an increased risk for psychological distress. However, even when individuals predominantly speak English, and are therefore considered to be acculturated, they are still at an increased risk for psychological distress.

There are different factors that affect the relationship between language and psychological distress. For instance, those who speak Spanish tend not to participate in mainstream American culture, and therefore they may become isolated and at an increased risk for feelings of low self-esteem that lead to depressive symptomatology. Those who speak English, tend to be more aware of stereotypes, prejudice, and discrimination; thus, these factors make them more vulnerable for depressive symptomatology than non-English speakers (Rogler, Cortes, & Malgady, 1991).

There is extensive research supporting the relationship between language and psychological distress. Finch et al. (2000) found that individuals who emigrated from Mexico and speak Spanish are more likely to perceive discrimination as they learn English and their level of acculturation increases, and therefore are at an increased risk for psychological distress. Salgado de Snyder (1987) found that married immigrant Mexican women who were Spanish speakers tended to have higher levels of stress and depressive symptomatology as a result of feelings of social isolation.

Further research demonstrates that the association between language use and psychological distress varies between Mexican Americans, with those who primarily speak Spanish or English being at greater risk for psychological distress. Therefore, we can conclude that predominantly speaking either language is not beneficial, but speaking

both and incorporating oneself to both cultures can lead to better mental health (Ortiz & Arce, 1984).

Language use is a variable which was used in this study as a proxy measure of acculturation.

<center>Social Support and Acculturation</center>

Social support has previously been identified to allow individuals to feel loved, cared for, esteemed, respected, and a sense of belonging to a social network (Cobb, 1976). Research indicates that perceiving social support can prevent individuals from developing physical and mental health problems as a result of stress. Furthermore, research indicates that social support contributes to positive feelings in addition to providing a buffer against the negative effects of stress (Cobb, 1976).

Research on acculturation indicates that as one becomes more acculturated one identifies more with U.S. cultural values and tends to identify less with their home culture's values. Research goes back and forth on whether one's support network increases or decreases as a function of acculturation. For instance, some research demonstrates that first generation Mexican Americans' family network increases with each generation, with those further and more acculturated generations having more traditional families than less acculturated Mexican Americans (Keefe, 1980). This may potentially be as a result of these families wanting to hold on to traditional values practiced by their ancestors. Along the same lines, research demonstrates that individuals low in acculturation, predominantly immigrants, have less social support as a result of having left their traditional supportive networks (Rogler et al., 1991).

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In contrast, some research on acculturation has identified that becoming acculturated to American values may have detrimental consequences as a result of disruption in social support. For instance, research shows that greater acculturation has been linked to increasing the risk for physical and mental illness as a result of the disruption of family networks, heightened conflict among generations, and overall an increase in family burden (Rogler et al., 1991). On the other hand, retaining one's cultural values, such as maintaining strong family ties, has been linked to better mental health (Finch & Vega, 2003).

Therefore, regardless of whether individuals live in the same city as their family members or not, we are left with two opposing views, one which leads us to believe that as one becomes more acculturated one tends to rely more on family support (Keefe, Padilla, & Carlos, 1979) and another which leads us to believe that as one is more acculturated one relies less on family support (Edgerton & Karno, 1971). Social Support is a variable which was used in this study.

Social Support and Mexican Americans

Researchers have identified different types of social support among different ethnic groups (Mueller, 1980). For instance, Hispanics tend to get involved less in social participation when compared to Caucasians (Cohen & Kapis, 1978). This information leads us to believe that there are differences in type, frequency, and importance of coming into contact with social networks that vary by ethnicity (Alvirez, Bean, & Williams, 1981). Keefe (1980) found that Caucasians tend to come into contact more with friends, while Mexican Americans tend to interact more with family. Furthermore,

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there are differences based on whether the individual is foreign born versus U.S. born in that individuals who are foreign born tend to relate more to family members when compared to their U.S. born counterparts.

<center>Social Support and Depression</center>

It is well known that individual differences such as temperament, personality, and one's social environment contribute to the development of mental illness (Sarason, Sarason, Potter, & Antoni, 1985). Some individuals are more prone to mental illness than others as a function of these individual differences with social variables mediating and/or moderating the relationship between individual differences and mental illness.

A potential mediator or moderator of interest is social support. Research indicates that social support protects individuals against factors that increase the risk for the development of depression (Sarason, Levine, Basham, & Sarason, 1983). Therefore, social support may mediate and/or moderate the relationship between stress and mental illness. In the case of Mexican Americans, social support may mediate and/or moderate the relationship between acculturation and the development of depression.

Furthermore, Berkman and Syme (1976) have shown that there are different types of social ties. They suggest that relationships such as marriage, contact family, friendships, church memberships, and informal and formal group associations lower mortality rates. Additionally, they mention that close ties are more protective. For example, people in a marriage and in contact with friends and family tend to be at less risk than those with only church memberships and informal and formal group associations. Research in the area of depression shows that low social support increases

the risk for depression (Monroe, 1983). Furthermore, it has been found that perceiving that one is accepted increases self-esteem and confidence, and therefore protects individuals against depression. Along the same lines, Windle (1992) found that low social support was a significant predictor for depression. Thus, social support may be a factor that has the potential for protecting Mexican Americans from depressive symptomatology.

Acculturation and Depression

As noted above, acculturation refers to the modification of behavior in order to adapt to another culture (Mena et al., 1987). Research indicates that acculturation leads to greater mental illness, such as depression, anxiety, and substance abuse and dependence. Individuals who are more prone to experience problems in mental health are those with high and low levels of acculturation. For instance, individuals highly acculturated tend to ignore their native culture's behaviors that may be protective against the development of illness. Individuals with low acculturation on the other hand may perceive distress in relation to being unable to communicate with the larger culture (Kaplan & Marks, 1990). Those individuals who are considered bicultural tend to have the healthiest psychological and physical health (Szapocznik, Kurtines, & Fernandez, 1980). Thus the relationship between acculturation and psychological distress tends to be curvilinear with those in the extremes of the continuum experiencing more distress than those in the middle.

For instance, Plant and Sachs-Ericsson (2004) found that ethnic and racial minorities experience more depressive symptomatology and at a higher prevalence when compared to Caucasians. Additionally, they found that this relationship was a function of

factors associated to the construct of acculturation. The researchers conducted mediation and moderation analyses and found that these differences could be explained by a complete mediation but not by moderation. Depressive symptomatology was completely mediated by household income but it was not moderated. Thus, being part of an ethnic or racial minority group increases the likelihood for low household income, and this leads to depressive symptomatology. This information suggests the construct of acculturation itself does not lead to psychological distress; however, constructs associated to it are responsible for psychological distress.

Acculturation, Social Support, and Depression in Mexican Americans

Overall, research suggests two directions for the relationship between acculturation and psychological health in Mexican Americans. For instance, some studies indicate a positive association between high acculturation and more psychological distress, while other studies indicate a negative association, that is, low acculturation is related to more psychological distress (Salgado de Snyder, 1987). There seem to be a number of factors mediating and/or moderating this relationship, one of which is social support. Studies suggest that more social support tends to lower the risk for mental health issues (Cohen & Willis, 1985). For instance, among Cuban and other Latino young adults, Rivera (2007) found a significant positive association between greater acculturation and greater depression that was completely mediated through family social support. Those individuals who were highly acculturated had lower levels of family social support and higher rates of depressive symptomatology. Furthermore, the authors

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investigated whether family social support moderated the relationship between acculturation and depression, and they found no support for the effects of moderation.

<center>Older Mexican American Adults and Depression</center>

The association between acculturation and depression is not clear. As noted above, there are multiple ways in which acculturation and depression can be associated. Sometimes the relationship is linear and sometimes curvilinear. This leads us to think that acculturation is a multidimensional construct that when looked at in the context of depression several other mediator and moderator factors should be taken into consideration. For instance, when looking at the relationship between acculturation and depression, the age of the individual should also be accounted for. Research with older adults has not been consistent; some researchers have found a positive relationship while other researchers have found a negative relationship.

The Hispanic Established Populations for Epidemiologic Studies of the Elderly (H-EPESE) found an overall depression prevalence of 25.6% in Hispanics when using the Center for Epidemiologic Studies-Depression (CES-D) scale (Black, Markides, & Miller, 1998). Other researchers looking also at the prevalence of depression using the CES-D on non-Hispanic Caucasians and African Americans found prevalence estimates between 9% and 16.9% (Blazer, Landerman, Hays, Simonsick, & Saunderset, 1998; Murrell, Himmerlfarb, & Wright, 1983). Thus, with these results we see an overall higher prevalence of depression in Hispanics than in non-Hispanic Caucasians and African Americans.

In terms of the degree of the association between acculturation and depression, Gonzalez, Haan, and Hinton (2001) found a higher prevalence of depression among less acculturated older Mexican American adults. They found that individuals who are less acculturated had an overall prevalence of depression of 36.1%, while those who were immigrants had 30.4% and bicultural individuals had 24.2%. In contrast, individuals who were highly acculturated had lower prevalence rates. U.S. born individuals had an overall 20.5% prevalence and high acculturated Mexican Americans had 16.1% prevalence. Thus, in this case, individuals who are highly acculturated are more protected against depression even when compared to bicultural individuals.

These findings are different from other results that suggest younger U.S. born Mexican Americans have a higher prevalence of depression than Mexican immigrants (Golding & Burnham, 1990). Therefore, we can infer that the relationship between acculturation and depression varies depending on other mediating and moderating factors. For instance, it could be the case that U.S. born older Mexican Americans have a social support network that older Mexican immigrants do not have as a result of leaving their social network behind. Thus, it is hypothesized that social support is an important factor mediating and/or moderating the relationship between acculturation and depression in older Mexican Americans adults.

Research Questions

Based on the literature reviewed here and the dataset used in this study the following research questions were addressed for a representative sample of older Mexican Americans:

1) Which proxy of acculturation is a better predictor of depression? This question is based on the complex literature on acculturation that has not so far been able to come to a consensus on a standard for measuring acculturation as a predictor variable.

2) Does social support mediate the relationship between acculturation and depression? This question is based on Rivera (2007) study, which states clearly that social support completely mediates the relationship between acculturation and depression in a sample of young Latino adults.

3) Does social support moderate the relationship between acculturation and depression in a sample of older Mexican American adults? This question is based on Rivera (2007) study, which states that social support does not moderate the relationship between acculturation and depression in young Latinos adults; however, it may be the case that social support moderates this relationship in a sample of older Mexican American adults.

4) Is there a difference between family social support and friendship social support in the relationship between acculturation and depression? This question is based on the following studies: Rivera (2007) and Berkman & Syme (1976). Both studies indicate that close ties, such as family relationships, are more protective against depressive symptomatology when compared to friendships.

This thesis only asks non-directional research questions as a result of the lack of consensus on the literature as to the direction of the relationship between acculturation and depression for older Mexican Americans.

CHAPTER 2

METHOD

Participants and Procedures

This study used data from the Health and Retirement Study (HRS). The HRS is a nationally representative, large-scale longitudinal survey focused on the health and economics of older adults. The HRS is administered and conducted at the Institute for Social Research at the University of Michigan, and is funded by the National Institute on Aging. The HRS is a research program that encompasses a series of studies designed to measure the physical and mental health, financial status, family support systems, work status, and retirement planning of the United States population. The HRS has so far collected information on more than 22,000 individuals 50 years and older and their spouses/partners and family members. These data have been collected every 2 years since 1992. The HRS program conducts a series of surveys with the purpose of obtaining a detailed longitudinal view of the health of the nation allowing for comparison across different ethnic groups. The HRS includes a nationally representative sample of Caucasian, Hispanic (1616 Mexican Americans), and African American individuals. The survey is designed to assess information coming mostly from interviews in order to have a more detailed assessment of the population. Results from these data will allow us to address the challenges and opportunities of the aging process in general (http://hrsonline.isr.umich.edu/).

For the purpose of this study, interview and questionnaire data from the 2006 and 2008 waves were analyzed. Some of the interview questions and questionnaires encompass items in regards to demographic information and psychosocial factors; social support information was gathered for different individuals in 2006 and 2008. This research study examined different measures of acculturation as predictors of depression with social support as a mediating/moderating variable. A subsample of the HRS participants was selected for inclusion in this study based on additional criteria (a) self-identified as Mexican American, (b) responded to the Leave Behind Questionnaire items in either 2006 or 2008, and (c) are age 60 or older.

<div align="center">Materials</div>

Demographic Information

Detailed demographic information from the HRS regarding participants was included. For the purposes of this study, demographic variables of interest were respondents' age, gender, marital status, and education level. These data were gathered from the HRS demographic questionnaire in the tracker file (see Appendix, pp. 50-51).

Acculturation

Acculturation is one of the primary independent variables of interest in this study. The HRS provides two proxies of acculturation, language of interview (Spanish or English) and place of birth (U.S. born or foreign born). For the purpose of this study two more proxies of acculturation were computed from the data provided by the HRS, age of immigration and years spent in the U.S.

Overall, the following proxies of acculturation were examined: language used to answer the interview and questionnaires represented the participant's predominant language, whether the person was born in the U.S. or a foreign country, age in which the individual immigrated, and years spent in the U.S. These data were either gathered from the HRS demographic questionnaire in the tracker file or computed from other variables provided by the HRS tracker file (see Appendix, pp. 52).

Social Support

Social support is the mediating/moderating variable of interest in this study. Data on social support was obtained using the Leave Behind Questionnaire developed by the HRS Psychosocial Working Group. The Leave Behind Questionnaire was included in the HRS in 2004 and later; its purpose is to collect information from participants without adding to the in-person Core Interview. HRS researchers developed this self-administered questionnaire with the purpose of leaving them in participants' houses to be completed at their convenience. Two separate questionnaires form part of the Leave Behind Questionnaire: a) Participant Lifestyle Questionnaire, which measures psychosocial variables and b) Participant Questionnaire on Work and Health, which measures work and disability variables (Clarke, Fisher, House, Smith, & Weir, 2008). For the purpose of this study, we conducted analyses on the Participant Lifestyle Questionnaire from the 2006 and 2008 Leave Behind Questionnaire (see Appendix, pp. 53-56, questions Q4 to Q18). The Participant Lifestyle Questionnaire contains questions on psychosocial topics and was administered to respondents of all ages who were not in a nursing home and who were interviewed in person. The Participant Lifestyle Questionnaire encompasses a

variety of scales looking at psychosocial topics (Clarke et al., 2008). For the purpose of this study we examined the scale of social support.

The social support scale was used to assess the quality of support and amount of contact with people of different social ties. This scale contains separate questions that are asked about four different social ties: participant's spouse/partner, children, family (brothers, sisters, parents, grandchildren, and cousins) and friends. For each social tie, there are 3 positively worded items and 4 negatively worded items to assess quality of support. Responses were rated on a 4-point Likert-type scale, 1 (*a lot*), 2 (*some*), 3 (*a little*), and 4 (*not at all*) (see Appendix, Questions Q5, Q8, Q12, and Q16 for items relating to spouse/partner which are then repeated for other social ties). Items were reverse coded for the positively worded items in order for a higher number to represent more positive support. Mean composite scores were computed for positive and negative support for spouse/partner, children, family, and friends.

Additionally, this scale assessed amount of contact with each social tie. Questions assessed how often each participant either met, spoke on the phone, or emailed with their children, family, and friends (see Appendix, Questions Q9, Q13, and Q17). For the spouse/partner social tie, participants were instead asked about closeness rather than amount of contact since it would be assumed that the participant and their spouse/partner live together (see Appendix, Question Q6). Mean composite scores were obtained for the amount of meeting, speaking on the phone, and emailing each social tie.

Other variables captured from this scale were overall network size, and overall social support (mean social support and total social support). Network size was computed

by adding up spouse and number of children, family, and friends. Mean social support was computed by averaging positive and negative support from each tie and total social support was computed by adding up the positive and negative support from each tie. Both the mean and the total social support allowed the predictive power of both these configurations to be tested.

Depression

Depression is the dependent variable of interest in this study and was assessed with the Center for Epidemiologic Studies Depression scale (CES-D) and the Short Form Composite International Diagnostic Interview (CIDI-SF). The CES-D was developed to measure the frequency of depressive symptoms in the general population (Radloff, 1977). For the purpose of this study the CES-D was used to measure symptoms of depression on a continuum, rather than determining the presence or absence of depression as a diagnosis. On the other hand, the CIDI-SF determines a probable diagnosis of a major depressive episode, as defined by the *Diagnostic and Statistical Manual of Mental Disorders,* third edition revised (*DSM-III-R).* The CIDI-SF gathers information related to symptoms and duration and can be used to identify individuals whose depressive symptoms would be recognized as major depression.

The original CES-D contains 20 items intended to measure the level of depressive symptomatology in epidemiologic studies of various populations. Due to interview time constraints, in 2006 and 2008 nine items from the CES-D were administered to participants for them to evaluate. The response format was worded as "would you say yes or no?" This nine-item scale was administered to the full sample (Steffick, 2000; see

Appendix, Questions D110-D118). A CES-D composite score was obtained by averaging the scores of those participants who reported feeling depressed during the past week.

The CIDI-SF consists of 33 items. However, respondents do not answer all 33 items. Respondents are first asked whether they ever felt sad, blue, or depressed for more than two weeks in a row in the past 12 months. If they answer "no" to this question, they are then asked about anhedonia: "during the past 12 months was there ever a time lasting two weeks or more when you lost interest in most things like hobbies, work, or activities that usually give you pleasure?" If they also answer "no" to this second question, they are finished with the CIDI-SF, as they are determined to not have had an episode of major depression in the last 12 months by their responses to these two screening questions. If respondents answer "yes" to either the depression or the anhedonia questions, they are then asked about the intensity and duration of the depressed mood or anhedonia. If respondents' responses suggest that the depressed mood or anhedonia was for most/all of the day and for almost every/every day, they are then probed for specific symptoms (Steffick, 2000). A CIDI-SF composite score representing a diagnosis of an episode of major depression within the past year was obtained by following the *DSM-IV-TR* criteria. The CIDI-SF was only available for the 2008 wave. Thus, data analysis that included the CIDI-SF were only conducted on the 2008 sample. (See Appendix, Questions C150-C182).

CHAPTER 3

RESULTS

The current study proposed to examine the mediating/moderating effect of social

support in the relationship between acculturation and depression in Mexican American

older adults age 60 and older. A total of 430 Mexican Americans completed either the

2006 or the 2008 Leave-Behind Questionnaire and Center for Epidemiologic Studies

Depression scale (CES-D) and the Short Form Composite International Diagnostic

Interview (CIDI-SF) in 2008. Of those participants meeting the established criteria, 7

participants from the 2008 wave were excluded because they did not have depression

(CES-D or CIDI-SF) data, 14 participants from the 2006 wave were excluded because

they did not have depression (CES-D) data, and 9 participants of both waves were

excluded because they did not have data to compose the variables of age of immigration

and/or years spent in the U.S. Thus, 30 participants were excluded from analysis, yielding

a sample size of 400 participants. Due to five variables failing to meet a normal

distribution as demonstrated by double digit ratios between skewness and its standard

error as well as kurtosis and its standard error, logarithmic data transformations were

computed on the following variables: negative friend support, "How often you speak on

the phone with your child," "How often you email with your family," "How often you

email with friends," and network size. Analyses were subsequently performed on a

combination of transformed and untransformed variables.

Descriptive Characteristics of the Participant Sample

Demographics

The sample was comprised of 162 men and 238 women. Men's ages ranged from 60 to 90 ($M = 70.68$, $SD = 7.21$) while women's ages ranged from 60 to 93 (M = 70.87, SD = 7.48). No significant differences were found between males and females ages; t (398) = -.248, p = .804. Regarding years of education, results demonstrated no significant differences between males ($M = 8.17$, $SD = 4.45$) and females (M = 7.66, SD = 4.43); t (398) = 1.14, p = .257. Further demographic characteristics for the participant sample are reported in Table 1.

Acculturation

The sample was comprised primarily of U.S. born Mexican American males (96) and females (145), while still a good proportion of the sample were foreign born (66 males, 93 females). In terms of the language used for the completion of questionnaires and interview, approximately equal proportions of individuals answered the questionnaire and interview in English (males = 82, females = 132) and Spanish (males = 77, females = 104). To evaluate the relationship between place of birth and interview language a cross tabulation was created; see Table 3 for overlap of individuals' place of birth and language). Means and standard deviations for years spent in the U.S. and age of immigration for males and females who were foreign born are reported in Table 2.

Social Support

Means, standard deviations, observed minima and maxima, skewness, skewness/SE-Skewness, kurtosis, and kurtosis/SE-Kurtosis are reported for the different

social support variables in Table 4 and Table 6. As these two ratios distribute as Z-scores, when they exceed 1.97, these ratios are judged to be non-normally distributed, but as parametric statistics are somewhat robust with respect to violation of this assumption, only ratios of 10 or greater were considered for transformation. In addition, extreme outliers, which were suspected to be recording errors, were found for number of children (44 and 55 children), number of family members (88 and 99 family members), and friends (89 friends). After these outliers were removed, descriptive statistics were conducted again and network size continued to have a double digit ratio. Thus, logarithmic data transformations were computed on network size and the following variables: negative friend support, "How often you speak on the phone with your child," "How often you email with your family," and "How often you email with friends." Descriptive statistics for transformed variables can be observed in Table 7.

As shown in Table 4, results of independent sample t-tests examining gender differences in variables of social support showed relevant significant differences on some variables. Interestingly, males tended to report more total social support, t (371.23) = 3.79, p = .000, compared to females. This result could be due to males reporting significantly more positive support from their wives than females reported about their husbands, t (235.15) = 3.15, p = .002.

In regards to social support variables related to ties with children, females reported speaking on the phone with their children, t (365) = -3.26, p = .001, significantly more than males. Along the same lines, females reported contacting their children through e-mail, t (316.59) = -2.26, p = .025, significantly more than males.

In terms of positive family support, females reported perceiving more positive support from extended family members when compared to males, t (361) = -2.45, p = .015. Along the same lines, with regards to contact with extended family members, females reported speaking on the phone with family members, t (573) = -3.233, p = .001, and contacting family members through email, t (498.15) = -2.206, p = .028, significantly more often than males.

With regards to social support from friends, females receive significantly more positive social support, t = (538) = -4.718, p = .000, from friends when compared to males. Additionally, results suggest that females meet with friends t (325) = -2.25, p = .025, and speak over the phone with friends t (332) = -4.19, p = .000, significantly more than males.

Interestingly, there were no gender differences in mean social support, negative spouse support, spouse closeness, positive child support, negative child support, how often participants meet with their children, negative family support, how often participants meet with family members, negative friend support, how often participants email with friends, and network size.

Depression

Descriptive statistics (frequencies, percentages, means, standard deviations, observed minimums and maximums, skewness, skewness/SE-Skewness, kurtosis, and kurtosis/SE-Kurtosis) are reported for males and females for both measures of depression (CES-D and CIDI-SF) in Tables 5 and 6. The CES-D's ratio between skewness and its standard error suggested this variable needed to be transformed. However, this variable

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was expected to be negatively skewed because this data was gathered from a non-clinical sample; thus, this variable was not transformed.

Results for the CES-D across both 2006 and 2008 interviews suggest that during the past week females experienced more depressive symptomatology than males t (385.80) = -2.03, p = .043. Similarly, among participants in the 2008 wave (when the CIDI-SF data was collected), more females (13, 6.5 %) when compared to males (2, 1.0 %) met *DSM-IV-TR* criteria for an episode of major depression within the past year.

Exploratory Statistics

Research Question 1. Which proxy of acculturation is a better predictor of depression? This question was based on the complex literature on acculturation that has not so far been able to come to a consensus on a standard for measuring acculturation as a predictor variable.

First, as shown in Table 8, bivariate point-biserial, Spearman, and Pearson's coefficient correlations were conducted between the four proxy variables of acculturation (language of interview, place of birth, age of immigration, and years spent in the U.S.) to determine if multicollinearity existed between them. As expected, the four proxies of acculturation were significantly correlated to each other. Second, correlations between proxy variables of acculturation and depression measures (CES-D and CIDI-SF) were conducted to test which proxy variable of acculturation best predicts depression. Results demonstrated that language of interview was the only proxy variable of acculturation related to one measure of depression, the CES-D. None of the acculturation variables

were related to the CIDI-SF; thus, it was not used for further analyses. Thus, language of interview was used in different mediation and moderation analyses to predict depression as measured with the CES-D.

In order to conduct the mediation and moderation analyses, first correlations between the different social support variables and the CES-D were conducted. Correlations were conducted in sets based on the type of social support. First, the different variables for spousal/partner support (positive spouse support, negative spouse support, and closeness) were correlated with the CES-D. Second, correlations between the child support variables (positive child support, negative child support, frequency of meeting with children, speaking on the phone with children, and emailing with children) were conducted with the CES-D. The same was done for family support, friend support, network size, total social support, and mean social support.

Some variables were more related to depression than others across the different groups. Only those social support variables that were correlated with depression were used in the mediation and moderation analyses discussed below. Social support variables used as mediators and moderators included mean social support, total social support, positive spouse support, spouse closeness, positive child support, and frequency of meeting with children.

In general, it was evident during the different analyses that the prediction of depression based on the language of interview varied from model to model. This was the case because of the sample size changing from one analysis to the next since the different measures of social support were composed of different sample sizes. For instance, under

some circumstances acculturation predicted depression and on other instances it did not

predict depression because different people composed each model.

Research Question 2. Does social support mediate the relationship between

acculturation and depression? This question is based on the following study, Rivera

(2007), which states clearly that social support completely mediates the relationship

between acculturation and depression.

Exploratory mediation analyses were conducted to test the research question that

social support mediates the relationship between acculturation and depression. Six

mediation models were conducted with the different social support variables that had

previously been correlated with the CES-D. Five mediation models did not meet Baron

and Kenny's (1986) criteria to assess for mediation. Only one mediation model met

Baron and Kenny's conditions needed for mediation and slightly demonstrated the

mediation effect of social support. Following is an explanation of the mediating model

investigating language of interview as a predictor variable.

Language of Interview and Frequency of Meeting with Children

The first model regressed depression on acculturation (language of interview)

before entering the mediating variable (frequency of meeting with children; see path c

Figure 1). As predicted, the results showed a significant association between less

acculturation and higher levels of depression. Model 2 introduced the mediating variable

of frequency of meeting with children into the regression equation to test whether the

relationship between acculturation and depression is mediated by how often people meet

with their children. As demonstrated in Table 9, the results revealed that the effect of

acculturation on depression decreased when the variable of frequency of meeting with children was introduced into the model. The mediation model for frequency of meeting with children is outlined in Figure 1. On Table 10, as expected, acculturation was significantly and positively related to frequency of meeting with children. Thus, the significance of the relation between acculturation and depression decreased with the introduction of the indirect paths through frequency of meeting with children. Frequency of meeting with children paths "a" and "b" were significant and, as the results indicate, the relationship between acculturation and depression (path c') decreased.

Research Question 3. Does social support moderate the relationship between acculturation and depression? This question is based on the following study, Rivera (2007), which states that social support does not moderate the relationship between acculturation and depression in young Latinos; however, it may be the case that social support moderates this relationship in a sample of older adults.

For moderation analyses, we centered the predictor variables (language of interview and social support variables) due to the possibility of multicollinearity in the interaction term. Moderation analyses were conducted between language of interview and CES-D with various variables of social support as mediators as determined by significant correlations conducted between social support variables and depression. As demonstrated in Table 11, main effects were found on depression based on the following social support variables: positive spouse support, spouse closeness, positive child support, and negative child support.

Language of Interview and Total Social Support

To examine the moderation by acculturation as measured by language of interview-total social support link, regressions were conducted. Separate analyses were done for each variable. Acculturation as language of interview was entered in Step 1; total social support was entered in Step 2; and acculturation by total social support was entered in Step 3. The focus was on the interaction term. No VIF greater than 1.01 was observed, which suggests no multicollinearity. The standardized coefficient for the interaction term ($\beta = -.127$) shows how the effect of language of interview changes with one-unit decrease in total social support. The interaction is depicted in Table 12 and Figure 2.

Language of Interview and Mean Social Support

Although the moderation by acculturation as measured by language of interview-mean social support link was not significant, description of analyses and results are reported since the results were approaching significance. Separate analyses were done for each variable. Acculturation as language of interview was entered in Step 1; mean social support was entered in Step 2; and acculturation by mean social support was entered in Step 3. The focus was on the interaction term. No VIF greater than 1.01 was observed, which suggests no multicollinearity. The standardized coefficient for the interaction term ($\beta = -.093$) shows how the effect of language of interview changes with one-unit decrease in mean social support. The interaction is depicted in Table 12 and Figure 3.

Language of Interview and Frequency of Meeting with Children

To examine the moderation by acculturation as measured by language of interview-frequency of meeting with children link, regressions were conducted. Separate analyses were done for each variable. Acculturation as language of interview was entered in Step 1; frequency of meeting with children was entered in Step 2; and acculturation by frequency of meeting with children was entered in Step 3. The focus was on the interaction term. No VIF greater than 1.00 was observed, which suggests no multicollinearity. The standardized coefficient for the interaction term (β = -.103) shows how the effect of language of interview changes with one-unit decrease in frequency of meeting with children. The interaction is depicted in Table 12 and Figure 4.

Research Question 4. Is there a difference between family social support and friendship social support in the relationship between acculturation and depression? This question is based on the following studies: Rivera (2007) and Berkman & Syme (1976). Both studies indicate that close ties, such as family relationships, are more protective against depressive symptomatology when compared to friendships.

To test this question first three variables were computed. Whereas in previous analyses we used positive and negative sources of support, for these analyses we combined both sources of support in order to have an overall measure of support for each of the three different sources of support; child, family, and friends.

Next, an independent sample t-test looking at the difference in depression between Spanish and English speakers was conducted. As expected, based on the previous regression analyses, results revealed significant differences between Spanish

and English speakers in their reports of depression; t (357.51) = 1.99, p = .047. Spanish (M = .19, SD = .32) speakers significantly report more depression than English (M = .13, SD = .28) speakers.

With this in mind, independent samples t-tests were conducted to look at the difference in different sources of support between Spanish and English Speakers. Results demonstrated that family support is not significantly different for Spanish speakers (M = 3.32, SD = .53) and English speakers (M = 3.24, SD = .55); t (357) = 1.319, p = .188. Similarly the same was found for friend support. There were no significant differences among Spanish (M = 3.27, SD = .47) and English (M = 3.30, SD = .41) speakers in friend support; t (323) = -.631, p = .528.

With regards to social support from children, results revealed no significant differences between Spanish (M = 3.39, SD = .57) and English (M = 3.30, SD = .51) speakers in child support; t (353) = 1.677, p = .094. However, results showed significant differences between Spanish (M = 3.86, SD = 1.57) and English (M = 4.33, SD = 1.38) speakers in frequency of meeting with children, with English speakers experiencing significantly more contact with their children than Spanish speakers; t (354) = -3.011, p = .003, (Table 13).

With these results in mind, one-way ANCOVAS were conducted looking at the difference in depression scores between Spanish and English speakers with family support, friend support, child support, and amount of contact with children as covariates (these were run separately). Results revealed that frequency of meeting with children

slightly accounts for the difference in depression scores between English and Spanish speakers, (Table 14).

However, this does not answer the question of whether or not the effect of varying sources of support differ in the relationship between acculturation and depression. Using a multiple regression, we tested whether or not there were significant differences between the effect of child support and friend support. Results demonstrated that the effect of child support is not significantly different from that of friend support in the relationship between acculturation and depression in older Mexican American adults. The other betas were not compared since the magnitude of the difference was smaller.

CHAPTER 4

DISCUSSION

Following is a discussion of the major findings of this study. Furthermore, an examination is presented regarding the extent to which they answer the proposed questions in the introduction.

Social Support

Results demonstrated that males tend to report more total social support when compared to females. This result could be explained by the fact that males also reported significantly more positive support from their wives than females did from their husbands. Research by Schwarzer and Gutierrez-Dona (2005) with a Costa Rican sample, found that men generally receive more support from women than women receive from men. Along the same lines, Schulz and Schwarzer (2004) found that women who have suffered from cancer receive on average less support from their husbands when compared to similar males with cancer.

Findings indicated that females have more contact with children and family members through speaking on the phone and email than males do. These results are along the same lines with research by Moore (1990) which suggested that women's networks are more focused on family, while men's networks are more focused on coworkers.

In regards to social support from friends, females in our sample received significantly more positive social support from friends when compared to males. Additionally, results suggest that females speak significantly more on the phone and

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through e-mail with friends when compared to males. These results are in line with

research by Daalen, Sanders, and Willemson (2005) that indicates that women receive

more social support from relatives and friends when compared to males.

Interestingly, there were no gender differences in mean social support, negative

spouse social support, spouse closeness, positive child support, negative child support,

how often they meet with their children, positive family support, negative family support,

how often they meet with family, how often they meet with friends, and network size.

However, these results overall suggest that Mexican American male and female older

adults demonstrate characteristics similar to that of various different samples around the

world.

<div align="center">Depression</div>

The results for both depression scales indicated that overall females experience

more depressive symptoms than males within any given week and are more vulnerable to

experiencing an episode of major depression within a year. These results are consistent

with other research demonstrating that females experience more depression than males.

For instance, Weissman and Olfson (1995) found in epidemiological data from around

the world that women are twice as likely to develop major depression when compared to

males.

<div align="center">Acculturation and Depression</div>

As expected, the four proxies of acculturation were significantly correlated to

each other. However, they were all inter-correlated to various degrees and no two

variables were perfectly correlated. In regards to proxy variables of acculturation related

<div align="center">37</div>

to depression, results demonstrated that language of interview was the only proxy variable of acculturation related to one measure of depression (CES-D). The fact that the CIDI-SF did not correlate with any proxy variable of acculturation supported the idea that depression is a continuous construct and this was not a clinical sample. Although, ultimately we only used the CES-D as a measure of depression, this methodology is consistent with Rivera's (2007) study which also only used the CES-D.

Language of interview was the proxy variable of acculturation best correlated to depression; thus, it was assumed to be the best proxy of acculturation in our sample in predicting depression. Results demonstrated that older Mexican American adults who are predominately Spanish speakers experience more symptoms of depression compared to their English speaking counterparts. It may be the case that Spanish speakers participate less in mainstream American culture, therefore becoming isolated and at an increased risk for feelings of depression (Rogler, Cortes, & Malgady, 1991). These results are also consistent with research conducted by Gonzalez et al. (2001) that showed that less acculturated older Mexican Americans exhibit greater depression than their more acculturated counterparts.

Contrary to the current findings, research usually demonstrates that aside from socioeconomic disadvantages, Mexican Americans who speak Spanish and were born in Mexico (i.e., those who are less acculturated), have lower rates of mental illness than those more acculturated (English speakers and U.S. born; Burnham et al., 1987, Escobar, 1998, Vega et al., 1998). Along the same lines, some of the same researchers have found that among those least acculturated, their report of mental illness are equivalent to those

of Mexicans in Mexico, whereas reports of more acculturated Mexican Americans are more similar to those of non-Hispanic whites. Escobar (1998) further mentions that the reason why better mental health is seen in less acculturated individuals could be due to holding to one's Mexican cultural values, which may be protective against mental illness. For instance, often extended family members among Hispanics offer a high level of support almost comparative to those of immediate family members (Keefe, 1979). However, as is suggested by the current sample, this may not be the case for less acculturated older adults if they have children and grandchildren who are acculturated and/or most of their family members live in another country. For instance, Salgado de Snyder (1987) found that among married immigrant Spanish speaking Mexican women, their feelings of stress and depression were a function of social isolation. Furthermore, it has been suggested that foreign born Spanish speakers tend to believe individuals recover from symptoms of depression by staying close to their families (Edgerton, 1971) and seek other sources of support aside from family significantly less than more acculturated Mexican Americans (Keefe, 1979).

Other reasons for acculturated Mexican Americans to maintain social ties could be as a result of discrimination. Keffe (1979) suggested that perceived discrimination from the majority culture strengthens kin ties among Mexican Americans. Furthermore, it could be the case that more acculturated, English speaking individuals get involved in culturally relevant behaviors that could be protective against mental illness; for instance, Abraído-Lanza, et al. (2005) suggest that Latinos are less likely than their non-Latino white counterparts to participate in physical exercise. However, other research

demonstrates that the more acculturated someone is the more they engage in other culturally relevant behaviors like drinking and are thus more prone to depression (Abraído-Lanza et al., 2005).

Overall, these results support the idea that acculturation is a nebulous construct, difficult to research and highly variable among different segments of the same subethnic group. Furthermore, these results reinforce the fact that different proxies of acculturation do not predict health outcomes to the same degree. There are different variables, such as perceived discrimination, health behaviors, and values among others, that could explain the relationship between language of interview and depression, reiterating the fact that when looking at acculturation as a predictor of depression we are mostly looking at acculturation as a predictor of behaviors that make someone more or less vulnerable for depression.

Being high or low acculturated as measured by these proxies (language, place of birth, age of immigration, years in the U. S.) can further mean different things based on the state the person lives in. For instance, someone highly acculturated living in North Dakota may have a very different life from someone highly acculturated living in Texas. The same can be said with individuals who are low acculturated. For example, someone who is low acculturated as a result of speaking Spanish may have a very different life in North Dakota from Texas. Whereas in North Dakota Mexican American individuals may have less resources as a result of not being able to emerge themselves into the culture, individuals in Texas might find more people in their same situation.

Social Support as a Mediator

Only one social support variable (frequency of meeting with children) was found to slightly mediate the relationship between acculturation and depression. Furthermore, this variable's change in beta weight is too small to be considered clinically significant. Results demonstrated frequency of meeting with children slightly mediating the relationship between acculturation as measured by language of interview and depression. These results suggest that individuals who are more acculturated tend to meet more often with their children and thus report fewer symptoms of depression. However, the effect sizes are small and may hold little practical importance; thus, these results did not replicate those of Rivera (2007).

Social Support as a Moderator

Opposite from Rivera's (2007) study, which was composed of 1,803 males and females between the ages of 18 to 23 and did not find social support moderating the relationship between acculturation and depression, these current results were based on a sample of 400 males and females between the ages of 60 to 93 and demonstrated that social support moderates the relationship between acculturation and depression. However, these beta weights, although statistically significant, hold little practical importance.

Total social support and the average social support experienced by Mexican Americans were found to moderate the relationship between acculturation as measured by language of interview and depression. These results suggest that the effect of language of interview changes as total social support and mean social support decreases. Thus, the

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effect of acculturation on depression varies as a function of the amount of total social support and mean social support an individual has.

Similar results were found for the variables of language of interview and frequency of meeting with children. Results demonstrated that the effect of language of interview changes as frequency of meeting with children decreases, which suggests that the effect of acculturation on depression varies as a function of the frequency with which an individual meets with their children. These results indicate that for older Mexican American adults who have experienced depression as a result of being predominantly Spanish speakers, social support could be a protective factor for them.

Similar to mediation analyses, all of these results were statistically significant but the effects are small. Thus, although interaction terms were significant, it could be assumed this was because of the sample size and not because of a strong moderating effect of social support.

Unfortunately, mediation and moderation analyses fall short at demonstrating the effects of social support on the relationship between acculturation and depression. These results overall demonstrate the predictive effect of acculturation on depression, with lower levels of acculturation predicting more depression.

Differences between Sources of Support

Although results demonstrated that social support does not have a conceptually significant effect on the relationship between acculturation and depression, results demonstrated that some social support variables were more related to depression than others. Thus, based on the fact that different conceptualizations of support demonstrate

different effects on depression we looked at whether there was a difference between frequency of meetings with child, child support, family support, and friend support in the relationship between acculturation and depression. This question was partly based on studies by Rivera (2007) and Berkman and Syme (1976), which indicate that close ties, such as family relationships, are more protective against depressive symptomatology than are friendships.

Results demonstrated that child support, family support, and friend support are not significantly different for Spanish speakers when compared to their English speaking counterparts. However, English speakers reported significantly more child contact than Spanish speakers. Thus, it could be assumed in this case that language of interview predicts how much people will meet with their children. A potential explanation for these results could be the effects of acculturation on familism. Marin (1986; as cited in Sabogal, Marin, Otero-Sabogal, VanOss Marin, & Perez-Stable, 1987) distinguished between two components of familism, attitudinal and behavioral. He suggested that attitudinal familism refers to beliefs and attitudes, such as loyalty, solidarity, and reciprocity; whereas behavioral familism refers to the behaviors associated with the previously mentioned beliefs and attitudes. He further mentioned the possibility high acculturated Hispanics showing more familism as a means of maintaining cultural traditional values.

Furthermore, we looked at the difference in depression scores between Spanish and English speakers when controlling for contact with children, child support, family

support, and friend support. Results showed that in fact contact with children slightly

accounts for the difference in depression scores between English and Spanish speakers.

Overall, these results suggest acculturation and social support are constructs of

importance in the lives of older Mexican American adults. Although the effect sizes

demonstrated in this study are small, there is evidence to suggest that acculturation and

social support have some effect on the lives of older Mexican American adults. Thus,

when interacting with these individuals, it is important to keep in mind where they stand

on the acculturation continuum as a factor that may be having an influence on their lives.

Furthermore, now the challenge is on identifying other constructs that could be

contributing more variance to this relationship between acculturation, social support, and

depression.

Limitations and Future Research

Unfortunately, this study did not give us a better understanding of social support

in low and high acculturated Mexican Americans. Nevertheless, it demonstrated that we

are not closer to understanding acculturation as a predictor of mental health. Some of the

limitations and areas in which this study can be expanded include the following. This

study was conducted with the use of archival data. Thus, there was no control over how

the data was collected and entered into the statistical package. This limitation was highly

noticeable during the process of data cleaning. Another limitation includes the fact that

analyses were only conducted in cross-sectional data; therefore, causality could not be

suggested from analyses. It is possible that less acculturated individuals' social support

could change and match that of more acculturated individuals as a function of time.

Future studies could include a longitudinal component in the search of variability in social support systems across time.

Third, this sample was only evaluated as low and high acculturated Mexican Americans, consequently analyses including a way to measure bicultural Mexican Americans was not included. Comparing low acculturated, bicultural, and high acculturated Mexican Americans could shed some light regarding variability in social support across different levels of acculturation. Similarly, this sample was only composed of Mexican Americans; thus, analyses including other Latino groups were not included. Comparing different Latino groups (e.g. Puerto Ricans, Cubans, Mexican Americans, etc.) could provide us with information regarding variability in acculturation experiences and availability in social support. Furthermore, other measures of acculturation may do a better job at understanding whether there is a relationship between acculturation, social support, and depression. For instance, researchers propose taking into consideration an increase and decrease in behaviors related to cultural factors in order to understand the relationship between acculturation and health (Abraído-Lanza et al., 2006; Landrine & Klonoff, 2004).

Conclusion

In conclusion, this study demonstrated something opposite from what most research suggests. Most research has demonstrated that more acculturated Mexican Americans have worse mental health outcomes; in the case of this study, less acculturated Mexican Americans demonstrated somewhat greater depression. It is important to keep in mind that this sample was composed of individual ages 60 to 93. Thus, it may be the case

that factors related to age determined lower acculturated older Mexican American adults to experience more symptoms of depression than younger Mexican Americans. Additionally, it is important to keep in mind that this sample was a nonclinical sample, thus participants' depression scores were low. Furthermore, based on these results it is detrimental to keep in mind that acculturation as a predictor of mental illness is something that continues to puzzle researchers and other methods to measure this construct should be explored.

Table 1

Descriptive Statistics for Sample Demographic Variables

	Males (n = 162)			Females (n = 238)			
	M (*SD*)	Min.	Max.	*M* (*SD*)	Min.	Max.	Test of Differences
Age (years)	70.68 (7.21)	60	90	70.87 (7.48)	60	93	*t* (398) = -.248, *p* =.804
Education (years)	8.17 (4.45)	0	17	7.66 (4.43)	0	17	*t* (398) = 1.14, *p* =.257
	Count (Percentage)			Count (Percentage)			
No formal education	7 (1.8)			19 (4.8)			
Elementary	45 (11.3)			55 (13.8)			
Junior HS	32 (8.0)			53 (13.3)			
Some HS	22 (5.5)			41 (10.3)			
HS grad	29 (7.3)			45 (11.3)			
Some college	22 (5.5)			21 (5.3)			
College grad	4 (1.0)			2 (.5)			
Some graduate school	1 (.3)			2 (.5)			
Marital Status	Count (Percentage)			Count (Percentage)			χ^2 (3,400) = 44.02, *p* = .000
Married spouses living together	129 (32.3)			116 (29.0)			
Living with someone regardless of marital status	7 (1.8)			8 (2.0)			
Living alone	1 (.3)			1 (.3)			
Not married, not partnered	25 (6.3)			113 (28.3)			

Table 2

Descriptive Statistics for Proxy Variables of Acculturation

	Males			Females			
	Count (Percentage)			Count (Percentage)			Test of Differences
Language of interview							$\chi^2 (1,395) = .727, p = .411$
English	82 (20.8)			132 (33.4)			
Spanish	77 (19.5)			104 (26.3)			
Place of Birth							$\chi^2 (1,400) = .112, p = .756$
U.S. Born	96 (24.0)			145 (36.3)			
Foreign Born	66 (16.5)			93 (23.3)			
	M (*SD*)	Min.	Max.	*M* (*SD*)	Min.	Max.	
Age of Immigration	28.72 (12.05)	2.13	65.46	28.94 (12.54)	3.62	62.04	$t (154) = -.112, p =.911$
Years in the U.S.	44.28 (14.14)	15.79	85.71	41.73 (14.35)	16.88	85.71	$t (156) = 1.11, p =.270$

*Number of men and women varied from 64 to 162 and 92 to 238 respectively, based on missing data.

Table 3

Overlap of Individuals' Place of Birth and Language of Interview

Predictor	Spanish	English	Chi-square
Foreign Born	138 (34.9%)	17 (4.3%)	$\chi^2 (1,395) = 191.857, p =.000$
Born in U.S.	43 (10.9%)	197 (49.9%)	

Table 4

Descriptive Statistics for Social Support Variables

	Males			Females			
	M (SD)	Min.	Max.	*M (SD)*	Min.	Max.	Test of Differences
Social Support							
Total Social Support	79.79 (18.97)	13.0	112.0	71.92 (21.99)	8.00	112.00	*t* (371.23) = 3.79, *p* = .000
Mean Social Support	3.21(.41)	1.86	4.00	3.28 (.43)	2.12	4.00	*t* (391) = -1.56, *p* = .120
Spouse							
Positive Spouse S.	3.46 (.60)	1	4	3.17 (.82)	1	4	*t* (235.15) = 3.15, *p* = .002
Negative Spouse S.	2.93 (.68)	1	4	2.82 (.71)	1	4	*t* (259) = 1.38, *p* = .169
Closeness	3.20 (.90)	1	4	3.15 (.87)	1	4	*t* (246) = .446, *p* = .656
Child							
Positive Child SS	3.32 (.74)	1	4	3.40 (.60)	1	4	*t* (267.783) = -1.06, *p* = .291
Negative Child SS	3.32(.63)	1	4	3.29 (.67)	1	4	*t* (356) = .429, *p* = .668
Meet with Children	4.01 (1.44)	1	6	4.19 (1.51)	1	6	*t* (358) = -1.08, *p* = .280
Speak on Phone	5.07 (1.11)	1	6	5.42 (.95)	1	6	*t* (365) = -3.26, *p* = .001
Email with Children	1.68 (1.32)	1	6	2.06 (1.72)	1	6	*t* (316.59) = -2.26, *p* = .025
Other Family							
Positive Family SS	2.92 (.86)	1	4	3.14 (.81)	1	4	*t* (361) = -2.45, *p*=.015
Negative Family SS	3.43 (.58)	1	4	3.44 (.57)	1	4	*t* (359) = -.309, *p*=.758
Meet with Family	3.51 (1.51)	1	6	3.71 (1.64)	1	6	*t* (348) = -1.16, *p*=.246
Speak on Phone	4.30 (1.42)	1	6	4.86 (1.35)	1	6	*t* (353) = -3.771, *p*=.000
Email with Family	1.45 (1.06)	1	6	1.90 (1.61)	1	6	*t* (309.75) = -2.99, *p*=.003
Friends							
Positive Friend SS	2.68 (.77)	1	4	3.00 (.80)	1	4	*t* (328) = -3.64, *p*=.000
Negative Friend SS	3.54(.52)	1	4	3.62 (.48)	1	4	*t* (326) = -1.57, *p*=.118
Meet with Friends	3.32 (1.69)	1	6	3.74 (1.63)	1	6	*t* (325) = -2.25, *p*=.025
Speak on Phone	3.72 (1.55)	1	6	4.43 (1.52)	1	6	*t* (332) = -4.19, *p*=.000
Email with Friends	1.42 (1.11)	1	6	1.62 (1.29)	1	6	*t* (295.34) = -1.38, *p*=.169
Network Size	10.79 (9.91)	0	73	10.86 (9.32)	0	96	*t* (397) = -.072, *p*=.942

*Number of men and women varied from 129 to 160 and 119 to 233 respectively, based on missing data. All data here is before any data outlier elimination transformation as described in text.

Table 5

Descriptive Statistics for Measures of Depression

	Males (130) Count (Percentage)			Females (214) Count (Percentage)			Test of Differences
CIDI							χ^2 (1,200) = 4.49, *p* =.051
No depression diagnosis	76 (38.0)			109 (54.5)			
Depression diagnosis	2 (1.0)			13 (6.5)			
	M (*SD*)	Min.	Max.	*M* (*SD*)	Min.	Max.	
CESD	.12 (.26)	0	1	.18 (.32)	0	1	*t* (385.80) = -2.03, *p* =.043

*Only the 2006 wave responded to the CIDI-SF.
*CIDI depression criteria based on a DSM-IV-TR Major Depressive Episode Diagnosis.

Table 6

Skewness, Standard Error of Skewness, Standard Error of Skewness/Skewness, Kurtosis, Standard Error of Kurtosis, and Standard Error of Kurtosis/Kurtosis for all Continuous Variables

	Males						Females					
	S	*SE* S	S/SES	K	*SE* K	K/SEK	S	*SE* S	S/SES	K	*SE* K	K/SEK
Demographics												
Age	.573	.190	3.02	-.254	.385	-.659	.909	.158	5.76	.431	.318	1.36
Education	-.089	.190	-.468	-1.118	.385	-2.905	-.153	.158	-.969	-1.11	.318	-3.48
Acculturation												
Age of Immigration	.349	.299	1.17	.954	.612	1.56	.062	.251	.247	-.661	.512	-1.29
Years in U.S.	.618	.197	3.14	1.09	.608	1.79	.441	.250	1.76	.147	.508	.289
Social Support												
Total Social Support	-1.03	.192	-5.37	1.28	.387	3.30	-.575	.159	-3.61	-.259	.321	-.807
Mean Social Support	-.193	.192	-1.01	-.418	.387	-1.08	-.464	.159	-2.91	-.275	.321	-.857
Spouse												
Positive Spouse Support	-1.50	.209	-7.16	2.93	.423	6.92	-1.16	.212	-5.47	.587	.430	1.37
Negative Spouse Support	-.292	.210	-1.39	-.377	.424	-.889	-.268	.214	-1.25	-.475	.433	-1.09
Spouse Closeness	-.926	.213	-4.34	.017	.431	.039	-.850	.221	-3.85	.084	.450	.187
Child												
Positive Child Support	-.1.27	.201	-6.32	1.21	.405	2.99	-1.054	.167	-6.32	.868	.335	2.59
Negative Child Support	-.938	.201	-4.67	.255	.405	.630	-1.09	.167	-6.53	.827	.336	2.46
Meet with Children	-.450	.201	-2.23	-.757	.407	-1.86	-.675	.166	-4.07	-.43	.334	-1.28
Speak on Phone	-1.37	.200	-6.85	1.59	.404	3.95	-2.56	.164	-15.58	8.103	.330	24.53
E-mail with Children	1.83	.208	8.80	1.83	.420	4.36	1.83	.208	8.80	1.27	.632	2.01
Other Family												
Positive Family Support	-.499	.197	-2.53	-.579	.399	-1.45	-1.03	.167	-6.14	.475	.336	1.41
Negative Family Support	-1.07	.197	-5.43	.505	.399	1.27	-1.11	.168	-6.62	.779	.338	2.30
Meet with Family	-.087	.199	-.436	-.865	.403	-2.15	-.342	.171	-1.99	-1.042	.344	-3.02
Speak on Phone	-.641	.199	-3.22	-.222	.403	-.551	-1.39	.169	-8.25	1.57	.340	4.62
E-mail with Family	2.286	.206	11.10	4.278	.416	10.28	1.561	.206	7.58	.958	.365	2.62
Friends												
Positive Friend Support	-.043	.205	-.210	-.636	.414	-1.54	-.605	.176	-3.43	-.325	.355	-.91
Negative Friend Support	-1.23	.205	-6.02	1.07	.414	2.57	-1.61	.177	-9.07	2.77	.357	7.75
Meet with Friends	-.038	.206	-.185	-1.34	.414	-3.23	-.334	.177	-1.88	-1.08	.357	-3.03
Speak on Phone	-.258	.205	-1.26	-.963	.414	-2.33	-.943	.175	-5.40	.091	.351	.259
E-mail with Friends	2.67	.211	12.65	6.05	.426	14.20	1.98	.187	10.57	2.79	.377	7.37
Network Size	3.35	.191	17.53	15.75	.385	40.91	4.12	.158	26.07	30.12	.318	94.61
Depression (CES-D)	1.40	.161	8.70	2.98	.385	7.74	1.40	.158	8.85	.352	.317	1.11

Table 7

Descriptive Statistic for Logarithmic Transformations

	Males					Females					
	M (*SD*)	Min.	Max	S	K	*M* (*SD*)	Min.	Max	S	K	Test of Differences
Negative Friend Support	.14 (.14)	.00	.48	.64	-.50	.12 (.13)	.00	.54	.92	.09	$t(326) = 1.634, p = .103$
Speak Children	.23 (.23)	.00	.78	.47	-.90	.15 (.20)	.00	.78	1.15	.65	$t(284.50) = 3.471, p = .001$
E-mail family	.10 (.21)	.00	.78	1.92	.2.03	.17 (.28)	.00	.78	1.23	-.23	$t(316.79) = -2.688, p = .008$
E-mail friend	.09 (.20)	.00	.78	2.27	3.69	.12 (.24)	.00	.78	1.60	.88	$t(295.73) = -1.484, p = .139$
Network Size	.92 (.33)	.00	1.8	-.14	.80	.94 (.31)	.00	1.98	-.28	.99	$t(392) = -.535, p = .593$

*Untransformed variables are shown in Table 3.

Table 8

Correlations Between the Proxy Variables of Acculturation and Measures of Depression

	1	2	3	4	5	6
1. CES-D		.459**	-.101*	-.083	-.030	.030
		N = 200	N = 395	N = 400	N = 156	N = 158
2. CIDI-SF			-.091	-.116	-.069	.071
			N = 199	N = 200	N = 80	N = 80
3. Language of Interview*		.		.697**	-.292**	.248**
				N = 395	N = 153	N = 155
4. Place of Birth*						
5. Age of Immigration*						-.838**
						N = 156
6. Years in the U.S.*						

*Information regarding age of immigration and years in the U.S. available only for individuals foreign born.

Table 9

Regression Analyses Looking at the Mediating Effect of Frequency of Meeting with Children in the Relationship between Acculturation (Language of Interview) and Depression (CES-D)

	Model 1			Model 2		
	B	β	t	B	β	t
Acculturation	-.068	-.116	-2.202*	-.058	-.099	-1.860
Meet Children				-.022	-.109	-2.056*

Table 10

Summary of Regression Analysis for Frequency of Meeting with Children Predicted by Acculturation (Language of Interview), Model 1

	B	β	t
Meet Children	.470	.158	3.011**

Table 11

Summary of Main Effects for Various Social Support Scales on Depression

Predictor	B	β	t
Positive Spouse Support	-.050	-.137	-2.238*
Spouse Closeness	-.043	-.151	-2.250*
Positive Child Support	-.078	-.174	-3.323**
Negative Child Support	-.047	-.103	-1.950*

Table 12

Moderation Analyses Looking at the Interaction between Acculturation (Language of Interview) and Total Social Support on Depression (CES-D)

Predictor Variable	ΔR^2	B	β	t
Acculturation	.009	-.052	-.087	-1.735
Total SS	.022	-.002	-.169	-3.341**
Acculturation X total SS	.016	-.001	-.127	-2.505*
Acculturation	.009	-.050	-.083	-1.626
Mean SS	.013	-.084	-.116	-2.315*
Acculturation X mean SS	.008	-.132	-.093	-1.825, p = .06
Acculturation	.014	-.058	-.098	-1.855
Meet Children	.012	-.022	-.112	-2.112*
Acculturation X Meet Children	.011	-.041	-.103	-1.974*

Table 13

Means, Standard Deviations, and T-tests for Sources of Support between Spanish and English Speakers

	M (*SD*)	*M* (*SD*)	Test of Differences
	Spanish	English	
Depression	.19 (.32)	.13 (.28)	t (357.51) = 1.99, p = .047
Contact with children	3.86 (1.57)	4.33 (1.38)	t (354) = -3.011, p =.003
Child Support	3.39 (.57)	3.30 (.51)	t (353) = 1.677, p = .094
Family Support	3.32 (.53)	3.24 (.55)	t (357) = 1.319, p = .188
Friend Support	3.27 (.47)	3.30 (.41)	t (323) = -.631, p =.528

Table 14

ANCOVA Results for the Effects of Acculturation and Sources of Support on Depression

Predictor	*F*	*df*	β
Acculturation	3.459	1, 353	
Contact with Children	4.228	1, 353	-.022*
Acculturation	6.094	1, 352	
Child Support	9.713	1, 352	-.090
Acculturation	2.973	1, 356	
Family Support	.355	1, 356	-.017
Acculturation	4.961	1, 322	
Friend Support	.701	1, 322	.030

Acculturation ——————→ Depression
                Path c; β = -.116*

                        Meeting
        Path a;   ↗Children↘   Path b;
        β = .158**   β = -.109*
Acculturation ——————→ Depression
                Path c'; β = -.099
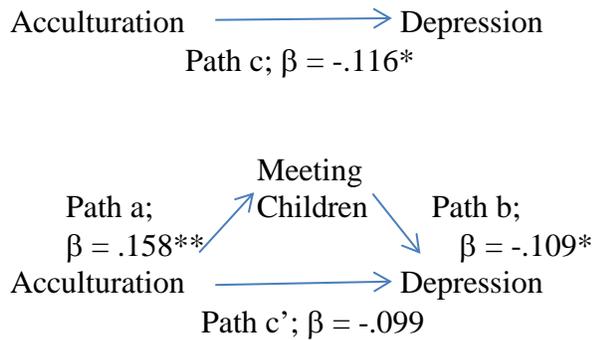
Figure 1. Mediation paths demonstrating that frequency of meeting with children mediates the relationship between acculturation (language of interview) and depression.

Acculturation   a; β = -.087

Total SS   b; β = -.169**   Depression

Acculturation X Total SS   c; β = - .127*
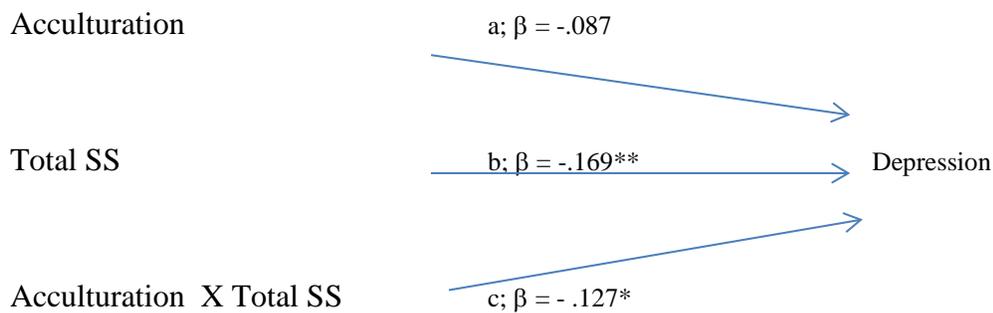
Figure 2. Moderation by acculturation as measured by language of interview-total social support link.

Acculturation   a; β = -.083

Mean SS   b; β = -.116*   Depression

Acculturation X Mean SS   c; β = - .093, p = .06
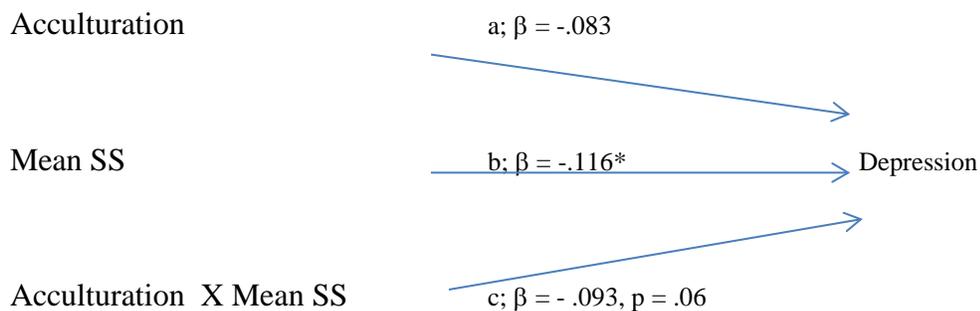
Figure 3. Approaching moderation by acculturation as measured by language of interview-mean social support link.

Acculturation   a; β = -.098

Meeting Children   b; β = -.112*   Depression

Acculturation X Meeting   c; β = .103*
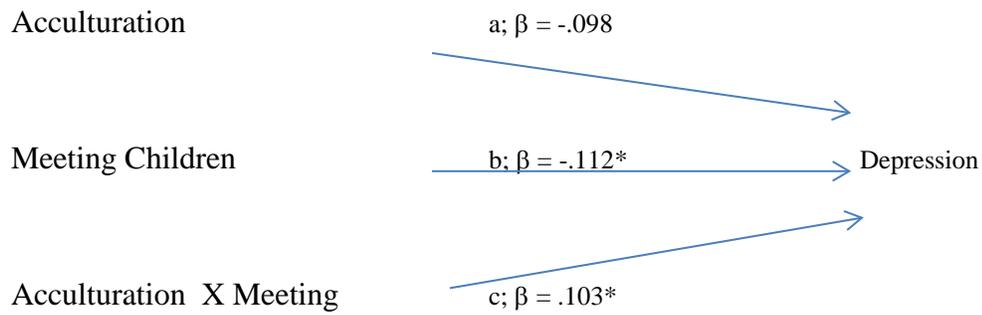
Figure 4. Moderation by acculturation as measured by language of interview-frequency of meeting with children link.

APPENDIX

VARIOUS PORTIONS OF THE HRS 2008 QUESTIONNAIRE

USED IN THE CURRENT STUDY

Reproduced from http://hrsonline.isr.umich.edu/index.php?p=qnaires

Demographic Information Questionnaire

HRS 2008 - SECTION A: COVERSCREEN & SECTION B:
DEMOGRAPHICS

1 Is respondent's first name male or female?

| 1. MALE | | 2. FEMALE |

2 In what month, day, and year was respondent born?

| 01. JAN | 02. FEB | 03. MAR | 04.APR | 05. MAY | 06. JUN | 07. JUL |

| 08. AUG | 09. SEP | 10. OCT | 11. NOV | 12. DEC | 98. DK | 99.RF |

| | | DK | RF |
| DAY | | | |

| | | DK | RF |
| YEAR | | | |

3 Are you married?

| 1. YES | | 5. NO |

4 Are you living with (a/another) partner as if married?

| 1. YES | | 5. NO |

Do you consider yourself Hispanic or
5 Latino?

| 1. YES | 5. NO | 8. DK | 9.RF |

6 Would you say you are Mexican American, Puerto Rican, Cuban American
or something else?

| 1. MEXICAN/ AMERICAN CHICANO | 2. PUERTO RICAN | 3. CUBAN AMERICAN | 7. OTHER |

| 8. DK | 9. RF |

7   What is the highest grade of school or year of college you completed?

| 0 NO FORMAL EDUCATION | | 1-11 GRADES | | 12 HIGH SCHOOL |

| 13-15 SOME COLLEGE | | 16 COLLEGE GRAD | | 17 POST COLLEGE |

Acculturation Questionnaire

HRS 2008 - SECTION A: COVERSCREEN & SECTION B:
DEMOGRAPHICS

1   Select English or Spanish

1. ENGLISH		2. SPANISH

2   Were you born in the United States?

1. YES	5. NO	8. DK	9.RF

3   In about what year did you first come to live in the United States?

	8. DK
YEAR	9. RF

Social Support Questionnaire

Q4.   Do you have a husband, wife, or partner with whom you live?

Yes	Continue to Q5.	
No	Skip to Q7.	

Q5.   We would now like to ask you some questions about your PARTNER OR SPOUSE.
       Please mark the answer which best shows how you fell about each statement.

	A lot	Some	A little	Not at all
a) How much do they really understand the way you feel about things?				
b) How much can you rely on them if you have a serious problem?				
c) How much can you open up to them if you need to talk about your worries?				
d) How often do they make too many demands on you?				
e) How much do they criticize you?				
f) How much do they let you down when you are counting on them?				
g) How much do they get on your nerves?				

Q6.   How close is your relationship with your partner or spouse?

Very close
Quite close
Not very close
Not at all close

Q7.   Do you have any living children?

Yes	Continue to Q8.	
No	Skip to Q11.	

Q8.   Thinking about all of YOUR LIVING CHILDREN, please check the answer which

	A lot	Some	A little	Not at all
a) How much do they really understand the way you feel about things?				
b) How much can you rely on them if you have a serious problem?				
c) How much can you open up to them if you need to talk about your worries?				
d) How often do they make too many demands on you?				
e) How much do they criticize you?				
f) How much do they let you down when you are counting on them?				
g) How much do they get on your nerves?				

Q9.   On average, how often do you do each of the following with any of your children, not counting any who live with you?

	Three or more times a week	Once or twice a week	Once or twice a month	Every few months	Once or twice a year	Less than once a year or never
a) Meet up (include both arranged and chance meetings)						
b) Speak on the phone						
c) Write or email						

Q10.   How many of your children would you say you have a close relationship with? (Please write a number in the box.)

Number of children with close relationship

Q11.   Do you have any OTHER IMMEDIATE FAMILY, for example, any brothers or sisters, parents, cousins or grandchildren?

Yes	Continue to Q12.	
No	Skip to Q15.	

Q12.   We would now like to ask you some questions about these family members. Please check the answer which shows how you feel about each statement.

	A lot	Some	A little	Not at all
a) How much do they really understand the way you feel about things?				
b) How much can you rely on them if you have a serious problem?				
c) How much can you open up to them if you need to talk about your worries?				
d) How often do they make too many demands on you?				
e) How much do they criticize you?				
f) How much do they let you down when you are counting on them?				
g) How much do they get on your nerves?				

Q13.   On average, how often do you do each of the following with any of these family members, not counting any who live with you?

	Three or more times a week	Once or twice a week	Once or twice a month	Every few months	Once or twice a year	Less than once a year or never
a) Meet up (include both arranged and chance meetings)						
b) Speak on the phone						
c) Write or email						

Q14.   How many of these family members would you say you have a close relationship with? (Please write a number in the box.)

Number of family members with close relationship

Q15.   Do you have any friends?

Yes	Continue to Q16.	
No	Skip to Q19.	

Q16.   We would now like to ask you some questions about YOUR FRIENDS. Please check the answer which best shows how you feel about each statement.

	A lot	Some	A little	Not at all

a) How much do they really understand the way you feel about things?				
b) How much can you rely on them if you have a serious problem?				
c) How much can you open up to them if you need to talk about your worries?				
d) How often do they make too many demands on you?				
e) How much do they criticize you?				
f) How much do they let you down when you are counting on them?				
g) How much do they get on your nerves?				

Q17.   On average, how often do you do each of the following with any of your friends, not counting any who live with you.

	Three or more times a week	Once or twice a week	Once or twice a month	Every few months	Once or twice a year	Less than once a year or never
a) Meet up (include both arranged and chance meetings)						
b) Speak on the phone						
c) Write or email						

Q18.   How many of your friends would you say you have a close relationship with?
(Please write a number in the box.)

Number of friends with   [   ]
close relationship

Depression, CES-D Questionnaire

HRS 2008 – SECTION D: COGNITION

IF THIS IS QUESTION D110:
Now think about the past week and the feelings you have experienced.
Please tell me if each of the following was true for you much of the
time during the past week.

IF THIS IS ONE OF THE QUESTIONS D111-D118:
(Now think about the past week and the feelings you have experienced.
Please tell me if each of the following was true for you much of the
time during the past week.)

DK: Don't Know
RF: Refuse

		1. YES	2. NO	8. DK	9. RF
D110	Much of the time during the past week, you felt depressed. Would you say yes or no?				
D111	Most of the time during the past week, **You felt that everything you did was an effort.** (Would you say yes or no?)				
D112	(Much of the time during the past week…) **Your sleep was restless.** (Would you say yes or no?)				
D113	(Much of the time during the past week…) **You were happy.** (Would you say yes or no?)				
D114	(Much of the time during the past week…) **You felt lonely.** (Would you say yes or no?)				
D115	(Much of the time during the past week…)				

	You enjoyed life. (would you say yes or no?)				
D116	(Much of the time during the past week…) **You felt sad.** (Would you say yes or no?)				
D117	(Much of the time during the past week…) **You could not get going.** (Would you say yes or no?)				
D118	(Much of the time during the past week…) **You had a lot of energy.** (Would you say yes or no?)				

Depression, CIDI-SF Questionnaire

HRS 2008 - SECTION C:
HEALTH

DK: Don't Know
RF: Refuse

C150   During the last 12 months, was there ever a time when you felt sad,
blue, or depressed for two weeks or more in a row?

1. YES	3. DID NOT FEEL DEPRESSED BECAUSE ON ANTI-DEPRESSANT MEDICATION	5. NO	8. DK	9. RF

IF CHOSE 3., 5., 8., OR 9. GO TO C167 BRANCHPOINT

C151   Please think of the two-week period during the last 12 months when these
feelings were worst.
During that time did the feelings of being sad, blue, or depressed usually
last all day long, most of the day, about half the day, or less than half
the day?

1. ALL DAY LONG	2. MOST OF THE DAY

3. LESS OFTEN	8. DK	9. RF

IF CHOSE 3., 8., OR 9. GO TO C167 BRANCHPOINT

C152   During those two weeks, did you feel this way every day, almost every day,
or less often than that?

1. EVERY DAY	2. ALMOST EVERY DAY

3. LESS OFTEN	8. DK	9. RF

IF CHOSE 3., 8., OR 9. GO TO C167 BRANCHPOINT

C153   During those two weeks, did you lose interest in most things?

1. YES	5. NO	8. DK	9. RF

C154   Thinking about those same two weeks, did you ever feel more tired out or
        low in energy than is usual for you?

| 1. YES | 5. NO | 8. DK | 9. RF |

C155   During those same two weeks, did you lose your appetite?

| 1. YES | 5. NO | 8. DK | 9. RF |

IF CHOSE 1. GO TO C157

C156   Did your appetite increase during those same two weeks?

| 1. YES | 5. NO | 8. DK | 9. RF |

C157   Did you have more trouble falling asleep than you usually do during those
        two weeks?

| 1. YES | 5. NO | 8. DK | 9. RF |

IF CHOSE 5., 8., OR 9. GO TO
C159

C158   Did that happen every night, nearly every night, or less often during those
        two weeks?

1. EVERY NIGHT
2. NEARLY EVERY NIGHT
3. LESS OFTEN
8. DK
9. RF

C159   During the same two-week period, did you have a lot more trouble
        concentrating than usual?

| 1. YES | 5. NO | 8. DK | 9. RF |

C160   People sometimes feel down on themselves, and no good or worthless.
        During the two-week period, did you feel this way?

| 1. YES | 5. NO | 8. DK | 9. RF |

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C161   Did you think a lot about death - either your own, someone else's, or death
        in general - during those two weeks?

| 1. YES | 5. NO | 8. DK | 9. RF |

C163   To review, you had two weeks in a row during the last 12 months when you
        were sad, blue, or depressed, and also had some other feelings or problems like

        losing interest
        feeling tired
        lose appetite
        appetite increase
        trouble falling asleep
        trouble concentrating
        feeling down on yourself
        thoughts about death

        About how many weeks altogether - out of 52 - did you feel this way during
        the last 12 months?

| | or | | or | |

WEEKS   MONTHS   ALL YR.
C163   C164   C165

| DK |
| RF |

| IF CHOSE C165 |
| GO TO C183 |

C166   Think about the most recent time when you had two weeks in a row when
        you felt this way.
        In what month was this (during the last 12 months)?

| 1. JAN | 2. FEB | 3. MAR | 4. APR | 5. MAY | 6. JUN | 7. JUL |
| 8. AUG | 9. SEP | 10. OCT | 11. NOV | 12. DEC | 98. DK | 99. RF |

C167   During the last 12 months, was there ever a time lasting two weeks or more
        when you lost interest in most things like hobbies, work, or activities that
        usually give you pleasure?

| 1. YES | 3. DID NOT FEEL DEPRESSED | 5. NO | 8. DK | 9. RF |

BECAUSE ON ANTI-
DEPRESSANT
MEDICATION

IF CHOSE 3., 5., 8., OR 9. GO TO C183

C168   Please think of the two-week period during the last 12 months when you had
the most complete loss of interest in things.
During that two-week period, did the loss of interest usually last all day long,
most of the day, about half the day, or less than half the day?

1. ALL DAY LONG	2. MOST OF THE DAY
3. HALF THE DAY	4. LESS THAN HALF THE DAY
8. DK	9. RF

IF CHOSE 3., 4., 8., OR 9. GO TO C183

C169   Did you feel this way every day, almost every day, or less often during the
two weeks?

1. EVERY DAY	2. ALMOST EVERY DAY	
3. LESS OFTEN	8. DK	9. RF

IF CHOSE 3., 8., OR 9. GO TO C183

C170   During those two weeks, did you feel tired out or low on energy all the time?

1. YES	5. NO	8. DK	9. RF

C171   During those same two weeks, did you lose your appetite?

1. YES	5. NO	8. DK	9. RF

IF CHOSE 1. GO TO C173

C172   Did your appetite increase during those same two weeks?

| 1. YES | 5. NO | 8. DK | 9. RF |

C173   Did you have more trouble falling asleep than you usually do during those
two weeks?

| 1. YES | 5. NO | 8. DK | 9. RF |

| IF CHOSE 5., 8., OR 9. GO TO C175 |

C174   Did that happen every night, nearly every night, or less often during those
two weeks?

| 1. EVERY NIGHT |
| 2. NEARLY EVERY NIGHT |
| 3. LESS OFTEN |
| 8. DK |
| 9. RF |

C175   During the same two-week period, did you have a lot more trouble
concentrating than usual?

| 1. YES | 5. NO | 8. DK | 9. RF |

C176   People sometimes feel down on themselves, and no good or worthless.
During the two-week period, did you feel this way?

| 1. YES | 5. NO | 8. DK | 9. RF |

C177   Did you think a lot about death - either your own, someone else's, or death
in general - during those two weeks?

| 1. YES | 5. NO | 8. DK | 9. RF |

C178   To review, you had two weeks in a row during the last 12 months when you
lost interest in most things like hobbies, work, or activities that usually
give you pleasure, and also had some other feelings or problems like

feeling tired
lose appetite
appetite increase
trouble falling asleep

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trouble concentrating

feeling down on yourself

thoughts about death

About how many weeks altogether - out of 52 - did you feel this way during the last 12 months?

	or		or	
WEEKS		MONTHS		ALL YR.
C179		C180		C181

DK
RF

IF CHOSE C181
GO TO C183

C182   Think about the most recent time when you had two weeks in a row when you felt this way.

In what month was this (during the last 12 months)?

1. JAN	2. FEB	3. MAR	4. APR	5. MAY	6. JUN	7. JUL
8. AUG	9. SEP	10. OCT	11. NOV	12. DEC	98. DK	99. RF

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