Latino Conceptualization of Depression

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Abstract
Considering discrepant prevalence rates of depression (Sclar, Robinson, & Skaer, 2008; Menelson et al., 2008; Roberts, 1981) and lack of cultural emphasis in assessment measures for depression for Latino individuals (Azocar et al., 2001; Crockett et al., 2005; Garcia & Marks, 1988; Radloff, 1977), how depression is assessed in the Latino population may be inadequate. The current study examined whether there are differences between the way self-generated conceptualizations of depression by Latino and Caucasian participants are aligned with factors of the Center for Epidemiological Studies for Depression (CES-D). Both Latino and Caucasian participants were administered a demographic questionnaire and administered the Depression Conceptualization Measure (DCM), created by the author in conjunction with his research group, which is a measure asking participants to generate six responses that would indicate to them if they or someone else was depressed. After the data were analyzed, no significant differences were found between the alignment of Latino and Caucasian participants’ definitions of depression with the somatic, depressive, and interpersonal factors of the CES-D (Radloff, 1977). The findings from this study expand what we know about the conceptualization of depression with Latino individuals.

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Abstract

Considering discrepant prevalence rates of depression (Sclar, Robinson, & Skaer, 2008; Menelson et al., 2008; Roberts, 1981) and lack of cultural emphasis in assessment measures for depression for Latino individuals (Azocar et al., 2001; Crockett et al., 2005; Garcia & Marks, 1988; Radloff, 1977), how depression is assessed in the Latino population may be inadequate. The current study examined whether there are differences between the way self-generated conceptualizations of depression by Latino and Caucasian participants are aligned with factors of the Center for Epidemiological Studies for Depression (CES-D). Both Latino and Caucasian participants were administered a demographic questionnaire and administered the Depression Conceptualization Measure (DCM), created by the author in conjunction with his research group, which is a measure asking participants to generate six responses that would indicate to them if they or someone else was depressed. After the data were analyzed, no significant differences were found between the alignment of Latino and Caucasian participants’ definitions of depression with the somatic, depressive, and interpersonal factors of the CES-D (Radloff, 1977). The findings from this study expand what we know about the conceptualization of depression with Latino individuals.
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Latino Conceptualization of Depression

Latino individuals comprise the fastest growing minority population in the United States (US Bureau of the Census, 2003). According to the National Institute of Mental Health, depression is one of the most common psychological concerns affecting 14.8 million American adults or about 6.7% of the United States population in a given year, (Kessler, Chiu, Demler, & Walters, 2005). Depression is estimated to become one of the most debilitating diseases by 2020 (Murray & Lopez, 1996). Latino individuals are only half as likely as non-Latino Caucasian individuals to utilize mental health services and tend to drop out of treatment more quickly (La Roche, 2002). Although Latino individuals are not as likely to receive mental health services, they are overrepresented in psychiatric hospitals (La Roche, 2002). There is a growing awareness of the inadequacy of treatment for depression with Latino individuals, especially in primary care settings (Cabassa, Lester, & Zayas, 2007). Most psychotherapeutic strategies have been designed for non-Latino Caucasian individuals, which often overlook cultural differences (La Roche, 2002). Due to the inevitable growth of the Latino population and the noted inadequacy of treatment for depression with this population, the author will review potential reasons for these inadequacies and examine if there are differences in how Latinos and Caucasians conceptualize depression.

Purpose

Considering the discrepant prevalence rates of depression (Sclar, Robinson, & Skaer, 2008; Menelson et al., 2008; Roberts, 1981) and the lack of cultural emphasis in assessment measures for depression for Latino individuals (Azocar et al., 2001; Crockett et al., 2005; Garcia & Marks, 1988; Radloff, 1977), the assessment of depression within
the Latino population may be inadequate. Research on the factor structures, translated versions, and strengths and weaknesses of the two most commonly used assessment measures for depression with Latino individuals, the Center for Epidemiological Studies for Depression (CES-D) and the Beck Depression Inventory (BDI) has been contradictory and concerning (Azocar, Arean, Miranda & Munoz 2001; Bernall, Bonilla & Santiago, 1995; Crockett, Randall, Shen Russell & Driscoll, 2005; Garcia & Marks, 1988; Guarancia, Angel & Worobey, 1989; Vanhuele, Desmet, Groenvynck, Russell & Fontaine, 2008; Ward, 2006; Wiebe & Penley, 2005). The goal of this study is to examine whether factors of the Center for Epidemiological Studies for Depression Scale (CES-D) are more compatible with a definition of depression generated by Caucasian than Latino participants.

Overall, the purpose of this study is to better understand the conceptualization of depression for Latino individuals and to determine if commonly used assessment measures accurately represent the manner in which Latino individuals define depression. The author will accomplish this by reviewing the literature surrounding prevalence rates of depression, culture and depression, and the appropriateness of the following assessment measures: the BDI, the Beck Depression Inventory-II (BDI-II) and the CES-D. After a summary of the literature is presented, the current study’s rationale, methodology, and proposed analyses will be discussed.

For the purposes of this study some definitions will be provided. Because the United States Census Bureau does not separate Latino as a separate ethnicity from White, Black, Asian, American Indian or Alaskan Native, and Native Hawaiian or Pacific Islander, a definition for Latino and Caucasian will be provided. First, ‘Latino’ will be
used as an umbrella term that includes individuals with heritage from any Spanish-speaking country in North, Central, or South America, excluding European countries. Second, ‘Caucasian’ will be used to classify individuals with heritage from European countries. Depression will be conceptualized from a Western European perspective outlined by the Diagnostic and Statistical Manual of Mental Disorders-IV-TR (American Psychiatric Association, 2000) diagnostic criteria, unless otherwise stated.

**Background Information**

Three relevant areas of literature will be examined: (a) the discrepancy in reported prevalence rates of depression with Latino individuals (b) areas that could affect how depression is conceptualized by Latino populations (e.g., Westernized diagnostic criteria, cultural influences, protective factors, potential misinterpretation of Spanish translated assessment measures), and (c) the properties and appropriateness of the BDI, the BDI-II, and the CES-D for Latino individuals.

**Prevalence Rates**

In this section, the prevalence rates of depression among Latino communities will be explored. Currently, there is no extensive research on this topic, and there is contradictory information regarding the prevalence rates of depression within Latino populations when compared to non-Latino Caucasian populations (Sclar, Robinson, & Skaer, 2008; Menelson et al., 2008; Roberts, 1981). Sclar et al., conducted a study in order to discern the different rates of depression between races. The authors used documented visits to a medical doctor that resulted in a diagnosis of depression and assessed if antidepressant medication was utilized. The authors then examined data taken from the National Ambulatory Medical Care Survey from 1992-1997 and 2003-2004.
Sclar et al. reported a significant increase in the number of diagnoses given for all races between the selected years and observed a dramatic increase in the diagnoses designated for Caucasian participants when compared with Latino and African-American participants. The reported difference begs the question: Why are Caucasian participants more likely to be diagnosed with depression and prescribed antidepressants than Latino or African-American participants?

Menselson, Rehkopf, and Kubzansky (2008) conducted a study to evaluate whether ethnicity itself was a risk factor for depression. In order to do this the authors conducted a meta-analysis and used the following criteria to guide their analyses: a) adult sample between 18 and 65, b) measure of major depression utilized, c) at least 30 participants in the study per ethnic group, and d) studies published in peer reviewed journals. The authors’ analysis of eight studies of lifetime prevalence of Major Depressive Disorder concluded that there was not a significant difference between Latino individuals’ and non-Latino Caucasian individuals’ lifetime prevalence of depression. On the other hand, after the authors completed an analysis of 23 studies that examined depressive symptom prevalence, the authors concluded there were higher symptom levels for Latino individuals than non-Latino Caucasian individuals. The authors indicated that although Latino individuals and non-Latino Caucasian individuals were shown to share similar rates for lifetime prevalence of depression, Latino individuals had higher symptom levels and therefore something must have accounted for the similar prevalence rates. Overall, Menelson and colleagues concluded that ethnicity may not be a risk factor for depression, but that the higher accounted levels of symptoms in Latino individuals...
may be indicative of potential issues with the current means of assessment for depression for Latino individual.

Breslau, Javaras, Blacker, Murphy, and Normand (2008) conducted a study to determine the potential reasons for ethnic differences in depression. The authors hypothesized that minorities would be less likely to endorse questions from a survey about depression, despite having a similar level of depression. To test this hypothesis, Breslau and colleagues used a fully structured diagnostic interview schedule (Composite International Diagnostic Interview; CIDI), with a sample of African American, Caucasian, and Latino participants. Breslau and colleagues were interested in identifying if Differential Item Functioning (DIF) could explain the different responses between groups. They found two conflicting conclusions. First, there were specific differences between Caucasian and Latino participants reported symptoms of self-reproach, suicidality, lack of energy, weight gain, and sleep disturbances, however DIF at the symptom level was only found among the suicidality item. Second, after correcting for these differences in the way people responded, it did not change the epidemiological conclusions. These results indicated that there may be some differences in how depression is expressed in different minority groups and also suggested that being a minority is not necessarily linked to higher rates of depression.

Alegria, Mulvaney-Day, Torres, Polo, Cao, and Canino (2007) examined the prevalence of psychiatric disorders across different subpopulations of the Latino community and found that Puerto Rican individuals had the highest prevalence rate of depression. They also found increased rates of depression among US-born, English-language proficient, and third generation Latino individuals. The depression rates were
similar between African American and Latino individuals. However, these rates were less than half of the rate observed for Caucasian individuals. The results of this study indicated that Latino individuals with high English-language proficiency and individuals with parents who were born in the United States posed a greater risk of having been recently diagnosed with a depressive disorder. The authors therefore demonstrated the complexity of understanding psychiatric disorders among the heterogeneous Latino community.

Robbins and Regier (1991) conducted the Epidemiologic Catchment Area Study (ECA) in order to identify rates of psychiatric disorders among adult populations in the United States. They sampled 19,182 participants in five different communities including New Haven, CT; Baltimore, MD; St. Louis, MO; Durham, NC; and Los Angeles, CA. They oversampled Mexican Americans at the Los Angeles site and conducted interviews in both English and Spanish.

Robbins and Reiger (1991) found that Mexican American individuals and Caucasian individuals had very similar rates of psychiatric disorders. However, when they separated the Mexican American individuals into those who were born in the United States and those who were born in Mexico, they found that the individuals born in the United States had higher rates of depression and phobias than those born in Mexico.

The prevalence rates for depression across ethnicities revealed that Latino individuals tend to report lower levels of depression than non-Latino Caucasian individuals, that being a minority may not be linked to higher risk for depression, and that Latino individuals who were born in the United States have higher rates of reported depression than foreign born Latino individuals (Alegria et al., 2007; Breslau et al., 2008;
Robbins et al., 1991; Sclar et al., 2008). All of these factors illustrate the need to further understand potential differences in how depression is conceptualized by Latino individuals when conducting psychological assessments. Due to the high variability in prevalence rates of depression found with Latino individuals, there may exist differences in how depression is conceptualized. The next section will explore how aspects of culture may account for some of these differences.

**Culture and Depression**

Culture may affect how depression is conceptualized by Latino individuals for four reasons. First, the Western view of clinical depression as defined by the DSM-IV-TR does not account for beliefs present in many interdependent cultures, such as greater tolerance for negative emotion, emphasis on interpersonal concerns as opposed to internal problems, and viewing the mind and body as one entity. Second, levels of acculturation may influence rates of depression in Latino individuals. Third, protective factors such as interpersonal functioning, familismo, and the *Hispanic paradox* may guard against depression in Latino individuals, which will be further examined and explored at a later section of the review. Finally, translated versions of assessment measures may lack a cultural emphasis and might not encapsulate potential different conceptualizations of the constructs being measured.

**DSM-IV-TR.** The first reason there needs to be a better understanding of how Latinos conceptualize depression is that the DSM-IV-TR definition of depression may not account for many non-Western beliefs. This section will highlight the narrow focus that a Westernized definition of depression might have when using it with individuals from non-Western cultures. The definition that is most commonly utilized in the United
States to conceptualize depression is taken from the DSM-IV-TR (American Psychiatric Association, 2000), as follows:

Having experienced at least one Major Depressive Episode that is characterized by five (or more) of the following symptoms that have been present during the same week period and represent a change from previous functioning; at least one of the symptoms is either depressed mood or loss of interest or pleasure. The symptoms are: depressed mood most of the day, nearly every day; markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day; significant weight loss when not dieting or weight gain; insomnia or hypersomnia nearly every day; psychomotor agitation or retardation nearly every day; fatigue or loss of energy nearly every day; feelings of worthlessness or excessive or inappropriate guilt nearly every day; diminished ability to think or concentrate, or indecisiveness, nearly every day; recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide (p.356).

The current Western view of clinical depression is based on the DSM-IV-TR, and may not account for Latino individuals that share non-Western views, such as greater tolerance for negative emotion, symptoms being attributed to interpersonal concerns as opposed to internal problems, and viewing the mind and body as one entity (Tsai & Chentsova-Dutton, 2002). The definition of depression outlined in the DSM-IV-TR reflects Western cultural assumptions about the nature of health and illness in the following ways. First, other cultures may possess a greater tolerance for negative emotion than what is considered normal in Western culture (e.g., emphasis on positive emotion, feeling good about the self). Second, a higher tolerance for negative emotion is much more common among individuals in more interdependent cultures such as China, Japan, and many Latin American countries (Tsai et al., 2002). Negative emotions towards the individual in more interdependent cultures may be more acceptable in order to maintain harmony in the family. Third, many non-Western cultures do not view the mind as separate from the body, unlike the more biological and medical views of depression held
by Western culture. In Western culture depressive symptoms are attributed to internal disturbances because of congruent views of individuals as self-contained and autonomous. Finally, Tsai and Chentsova-Dutton (2002) described the way many non-Western cultures have conceptualized emotional problems as related to interpersonal issues because of views of individuals in context to connections with others. Non-Western cultures have also placed more emphasis on symptoms of social withdrawal as being associated with depression.

**Acculturation.** The second reason there needs to be a better understanding of how Latino individuals conceptualize depression is the potential effect that levels of acculturation may have on rates of depression with Latino individuals. The author of this study chose to only sample more acculturated English speaking Latinos due to the belief that there exists a different conceptualization, even among more acculturated Latinos.

Acculturation needs to be more incorporated in the assessment of depression with Latino individuals. Acculturation is defined as the level of adaptation to mainstream American cultural values and beliefs (Lewis-Fernandez, Das, Alfonso, Weissman, & Olfson, 2005). Acculturation levels have been reported to have an effect on reported depression levels of Latino individuals (Lewis-Fernandez, et al. 2005). Lewis-Fernandez and colleagues conducted a study to examine the rates of mental disorders among 1,456 patents in a primary care setting in Anaheim, California, where 2 out of every 3 patients identified as being a Latino individual. Among the Latino individuals, Lewis-Fernandez and colleagues found a relationship between nativity and risk of depression. The authors found overall lower rates of depression and overall better physical functioning in Latino immigrants than US born Latino individuals. These findings suggest that acculturation
level may be a risk factor for depression. Similar findings were noted in a study of Cuban-American individuals. The lifetime rate of depression in US-born Cuban-American individuals was significantly higher than for individuals born in Cuba (Narrow, Rae, Moscicki, Locke, & Regier, 1990; Ortega, Rosenheck, Alegria, & Desai, 2000). These findings suggest a link between acculturation level and the prevalence rate of depression with Latino individuals.

**Protective Factors.** The third reason there needs to be a better understanding of how Latino individuals conceptualize depression is Latino cultural values may act as proactive factors against depression. Different cultural factors have been shown to protect against depression in Latino individuals, which highlights the need to better account for the effect of culture when assessing for depression (Plant & Sachs-Ericson, 2004; Menselson, Rehkopf, & Kubzansky, 2008; Palloni & Morenoff, 2001). The following have been described as potential cultural protective factors: interpersonal functioning, *familismo* (strong adherence to the family), and the *Hispanic paradox* (positive health outcomes in spite of elevated environmental risk).

**Interpersonal Functioning.** Interpersonal functioning is the first protective factor that may contribute to a different conceptualization of depression with Latino individuals. Interpersonal functioning, or maintaining strong social support networks, has been shown to act as a protective factor against depression (Plant & Sachs-Ericson, 2004). Plant and Sachs-Ericson conducted a study measuring racial and ethnic differences in depression and how it relates to levels of social support and the ability to meet basic needs. The authors described the inability to meet basic needs as a possible reason for the tendency of minority individuals to have higher rates of depression. However, higher levels of
interpersonal functioning were shown by the authors to be a protective factor against depression. Having compared interpersonal functioning across ethnic groups, Plant and Sachs-Ericson found higher levels of interpersonal functioning among Latino and African-American individuals when compared to non-Latino Caucasian individuals. Interpersonal functioning was shown to protect against depressive symptoms for Latino individuals more so than for non-Latino Caucasian individuals. The collectivistic nature of many Latino cultures may foster heightened interpersonal functioning when compared to non-Latino mainstream culture. A better understanding of the mechanisms that correspond to more adaptive interpersonal functioning among Latino cultures would be beneficial.

**Familismo.** *Familismo* is the second protective factor that may contribute to a different conceptualization of depression with Latino individuals. *Familismo*, may promote social support, even when increased environmental risk is present (Menselson, Rehkopf, & Kubzansky, 2008). Gil-Rivas, Greenberger, Chen, Montero, and Lopez-Lena (2003) conducted a study to further understand the contribution of individual and family variables to depressive symptoms among Mexican youth. Gil-Rivas and colleagues noted that Mexican individuals adhere to more traditional family values and generally defined themselves in reference to family members. Individual variables that were a focus of this study were gender, negative life events, and ruminative coping style. The family variables that were explored included parental warmth and acceptance, parental-adolescent conflict, and parental monitoring. Gil-Rivas and colleagues concluded that higher levels of parental warmth and acceptance were associated with lower levels of depressive symptomatology, and that parental conflicts were associated
with higher levels of depressed mood. Parental warmth offset the risk of ruminative style, and this has important implications for understanding the relationship between the Latino culture and depressive symptomatology. *Familismo*, and more specifically parental warmth, may act as a protective factor against many potential risks that are associated with depression with Latino youth. Due to developmental and acculturation differences between adolescents and adults, these results may not reflect the same protective factors for depression with Latino adults. More research needs to be completed in order to better understand this relationship.

**Hispanic Paradox.** *Hispanic paradox* is the final protective factor that may contribute to a different conceptualization of depression with Latino individuals. Negative health outcomes are a risk factor for depression, but certain cultural aspects may act as protective factors against health concerns for Latino individuals (Palloni & Morenoff, 2001; Page, 2007). Palloni and Morenoff (2001) explained how Latino individuals appear to be more resilient, despite environmental challenges, to some negative health outcomes (e.g., low birth rate, infant mortality) when compared to non-Latino Caucasians. This protective factor has been termed as the *Hispanic paradox*.

Page conducted a study to examine the acculturation and ethnic differences among Latino, African-American, and Caucasian women as related to their health behaviors and attitudes during pregnancy. Page found that less acculturated Latino women had the lowest rates of substance abuse and reported the least risky sexual behavior when compared to Caucasian and African-American women. With regard to attitude (i.e., parenthood, maternal, and gender role attitudes), Spanish-speaking Latino women held more traditional values when compared to African-American and Caucasian women.
The value of childbearing paired with the role of motherhood in traditional Latino cultures may serve as protective factors for pregnancy outcomes. The Hispanic paradox has illustrated the impact that culture and cultural values can have on negative health outcomes (Palloni & Morenoff, 2001; Page, 2007). The *Hispanic paradox* is another reason why it is important to account for culture when assessing Latino individuals.

**Misinterpretation**

The final reason there needs to be a better understanding of how Latino individuals conceptualize depression is the potential for misinterpretation. Although, the author of this study did not use any translated versions for comparison, the lack of cultural emphasis among many translated measures illustrates how the original measures need to reevaluate what depression means to Latino individuals. Caucasian middle-class professionals have created most of the current theories and explanations of depression and they have focused on their own experiences within a post-modern, urban, Western society (Falicov, 2003). However, these theories are inevitably transferred to affected groups without being culturally translated. One common way to approach the cultural translation of depression is to use the epidemiological, biomedical approach (Tsai & Chentsova-Dutton, 2002). This approach stipulates that as long as the presenting problems are similar, depression is the same, regardless of the socio-cultural context. Neglecting to account for the effect of culture on an individual’s experience of depression limits the accuracy of measurement and increases the possibility of misdiagnosis.

In summary, there are several reasons why a better understanding of Latino individuals’ conceptualization of depression needs to be incorporated into assessment measures. First, the DSM-IV-TR definition of depression may not adequately account
for non-Western beliefs. Second, levels of acculturation may affect rates of depression in Latino individuals. Third, Latino cultural values might act as protective factors against depression. Finally, translated versions of assessments are potentially vulnerable to misinterpretation when culture is not incorporated.

Assessment Measures

Two of the most widely used assessment measures of depression with Latino individuals, the BDI and the CES-D, will be critiqued in terms of appropriateness. This section will examine the properties of the BDI, BDI-II, and the CES-D by reviewing reliability, validity, and factor analyses of each of the measures. Although, the author of this study did not utilize factors from the BDI for the analysis, the limitations of this measure highlight the need to better understand how Latino individuals conceptualize depression. Considering the utility and availability of these instruments (and the lack of alternatives), there is a sense of urgency to address the limitations of using these measures with Latino individuals.

Measurement Equivalence

For the purposes of this study it is important to highlight the importance of considering measurement equivalence when assessment measures are utilized with minority populations. Measurement equivalence is the degree to which a particular measure assesses the same construct in the same manner across groups (Knight, Roosa, & Umma-Taylor, 2009). There are three important types of measurement equivalence: item equivalence, functional equivalence, and scalar equivalence (Knight, et al., 2009). First, item equivalence exists when there are items on a specific measure that are found to have the same meaning across groups. Second, functional equivalence exists when the
totals that are generated by a measure have equivalent precursors and consequents, and are correlated across groups. Finally, scalar equivalence exists when a specific score on a measure refers to an equivalent degree, intensity, or magnitude of the construct across groups (Knight, et al., 2009).

Knight et al. (2009) reviewed measurement issues when conducting research with minority populations. They reiterated that many researchers have simply adopted measures that were created for Caucasian middle-class individuals without questioning or considering if these measures convey the same meaning in different populations. Knight et al. discussed the issue of measurement bias and how there are often inaccuracies in the numerical representation of a construct by secondary constructs other than the construct of interest. The authors stated that there is evidence that Latino individuals have a stronger extreme-alternative response bias on Likert-type response scales when compared with Caucasian individuals (Hui & Triandis, 1989; Marin, Gamba, & Marin, 1992). A response style is a participant’s tendency to respond systematically to questionnaire items on some basis other than what the items were intended to measure (Paulus, 1991). An extreme-alternative response style is the tendency of participants to favor or avoid using the endpoints of a rating scale. Participants who have an extreme-alternative response style threaten the validity of the results and any conclusions drawn for the group being sampled. Furthermore, Latino individuals who are more acculturated tend to have more extreme-alternative responses than less acculturated Latino individuals (Marin et al., 1992).

The importance of cross-cultural considerations when establishing measurement equivalence in psychological assessment is analogous to interrater reliability. Marsella
and Kameoka (1989) illustrated four conditions that should be met to demonstrate both interrater reliability and cross-cultural equivalence. First, linguistic equivalence and conceptual equivalence require that raters, in this case Latino and Caucasian individuals share a common understanding of the attribute being rated as well as an understanding of behaviors that are representative of that attribute. Next, metric equivalence requires that raters (i.e., both groups) share a common metric in order to accurately scale behaviors relevant to the attribute being rated. Finally, normative equivalence demands that raters are capable of determining the occurrence and nonoccurrence of behaviors relevant to the attribute being rated. The next section will review the factor structures, translated versions, measurement equivalence, and strengths and weaknesses of both the BDI and the CES-D.

**Beck Depression Inventory**

The first part of this section will briefly examine the features and suitability of the BDI, and the BDI-II. The BDI is a self-report measure that is frequently used for assessing depression with Latino individuals (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The original measure was created by Beck and his colleagues with the purpose of being able to quantify the level of depression in adult psychiatric patients. Beck et al. administered the instrument to a random sample of 226 psychiatric patients. The procedure was then replicated with another sample of 183 patients, and independent ratings were made by different psychiatrists to assure that the measure was indeed assessing their conceptualization of depression. They found that reliability was high based on acceptable internal consistency and stability. They also found that consensus of the psychiatrists’ independent ratings indicated a high level of validity. The measure was
used to differentiate between degrees of depression and to distinguish changes in level of depression over an interval of time. This represented a foundational step in the ability to quantify psychological constructs. The BDI has been shown to be reliable and valid in numerous studies (Beck et al., 1961; Gary & Yarandi, 2004).

The BDI-II was created with the intent to increase content validity and to more closely align with current diagnostic criteria of the DSM-IV-TR. The scale consists of 21 items with three response choices to assess the participants’ reported experience over the past week. Scores of 16 or higher are indicative of moderate depression, whereas scores above 24 are indicative of severe depression (Azocar, Arean, Miranda, & Munoz, 2001). The BDI has been shown to be reliable and valid in numerous studies with Caucasian and African American individuals (Beck et al., 1961; Gary & Yarandi, 2004).

It is necessary to consider reliability and validity when using a particular assessment measure. Azocar, Arean, Miranda, and Munoz (2001) conducted a study to examine the use of a translated version of the BDI as an equivalent measure in a population of Spanish-speaking medical patients. The authors assessed the equivalence of measures and examined whether items were biased in the translated version. They also compared the functionality of each item across Spanish-speaking Latino individuals and English-speaking U.S. national individuals. The authors utilized the Mantel-Haenszel Approach for Ordered Response Categories to determine Differential Item Functioning (DIF). DIF is defined as the unexpected difference in response to a test item between two populations while controlling for a specific attribute, in this case depression. The authors assigned the English-speaking sample as the reference group and the Spanish-speaking sample as the focal group, with language as the independent variable. The groups were
further stratified into depressed and non-depressed individuals according BDI scores. An analysis of each item was conducted to determine how likely members from both groups were to endorse a response category for each item.

Azocar, et al.’s (2001) results indicated that four BDI items were biased for the Spanish-speaking sample. Specifically, items reflecting punishment were more likely to be endorsed by Latino individuals. Azocar et al. hypothesized that punishment may be more salient because many Latino individuals are strongly influenced by Catholicism and therefore may believe that negative events occur because they are being punished by God. Tearfulness and appearance were also more likely to be endorsed by Spanish-speakers regardless of their reported level of depression. The authors believed the endorsement of tearfulness may have occurred because many Latino cultures have practices and symbols that portray crying as a more acceptable response to suffering. They suspected that negative self-image is a reflection of the under representation of Latino individuals in the media and is influenced by the cultural belief that many Latino individuals feel more unattractive as they age (Azocar, et al., 2001). Finally, Latino individuals were less likely to indicate an inability to work regardless of their reported depression level. The authors stated that Latino individuals attribute importance to their ability to work due to a strong work ethic and higher rates of poverty that force many Latino individuals to work menial jobs in order to support their families. These four culturally biased items illustrated how cultural differences may alter the response to, or expressions of items meant to reflect depressive symptomatology. Azocar and colleagues highlighted the importance of exercising caution when an item is discarded or modified because this may remove certain culturally specific attitudes, behaviors, or beliefs that are
symptomatic of depression. The results indicated that the Spanish and the English versions of the BDI were not equivalent because of these four culturally biased items. Although, the authors wrote that the BDI was an adequate measure of depressive symptomatology, they urged test administrators to use caution when interpreting scores and to gather more information before making a diagnosis. In conclusion, Latino individuals were more likely to endorse specific items, which have highlighted a possible differing conceptualization of depression than that of the mainstream, Westernized culture.

Although, Azocar, et al. (2001) found culturally biased items and non-equivalence with the Spanish translated version of the BDI. Other researchers have found internal consistency and construct validity with the translated measure (Bernall, Bonilla, & Santiago, 1995). Bernall, Bonilla, and Santiago (1995) examined the internal consistency and construct validity of the Spanish version of the BDI using a clinical sample from an outpatient clinic at the University of Puerto Rico. The authors reported an alpha coefficient of .89, which represents a high level of internal consistency. The authors found a similar factor structure as described in the original study by Beck and colleagues (1961). Bernall and colleagues (1995) concluded that the Spanish version of the BDI has sufficient reliability and validity.

Confirmatory factor analysis is an important method to address if the underlying factors are similar across both translated measures and groups of participants. Wiebe and Penley (2005) evaluated the factor validity in both Spanish and English versions of the BDI-II by using Confirmatory Factor Analysis (CFAs). The CFA was used to evaluate the somatic and affective, two factor model originally derived by Beck and
colleagues (1961). Wiebe and Penley (2005) found that data from both languages represented an appropriate fit to Beck’s two-factor model, and the fit indices were similar across languages. They tested model invariance by simultaneously applying the same model to both the English and Spanish data with factor loadings constrained to equality across samples. The constraints resulted in no significant change in model fit, suggesting model invariability across groups. Unlike the Azocar et al. (2001) study that found differences when comparing the English and Spanish versions of the BDI-II, Weibe and Penley’s results found the two versions of the BDI-II to be equivalent. However, it is important to consider that the authors utilized a group of bilingual college students without assessing acculturation levels or monolingual interpretations of the translated version. Overall, the authors concluded that both versions of the BDI-II had high reliability and validity, as well as the original two-factor structure found by Beck and colleagues. The authors concluded that there were no differences between factor structures across the Spanish and English versions of the BDI-II, unlike Azocar and colleagues (2001) who found nonequivalence between the Spanish and English versions of the BDI.

Other researchers have found nonequivalence and different factor structures when examining the English version of the BDI and the BDI-II (Vanhuele, Desmet, Groenvynck, Rosseel, & Fontaine, 2008; Ward, 2006). Ward found that the item factor structure of the BDI-II differs from the earlier version. Vanhuele et al. conducted a study utilizing CFA on a sample of 404 clinical and 695 nonclinical adults to assess whether or not the somatic-affective and cognitive factors found by Beck and colleagues (1961) were an acceptable fit. Vanhuele and colleagues’ goal was to find a factor model that fit their
data after examining the multitude of previous factor models present in the literature. The authors examined the fit indices from the CFA models for both a clinical and nonclinical sample to assess for different factor models including a one-factor BDI-II model, 6 two-factor BDI-II models, 4 three-factor BDI-II models, and a shortened two-factor and three-factor factor model. Vanhuele and colleagues concluded that none of the models had an adequate fit in either sample. These results suggest different factor models based Beck et al.’s (1961) somatic-affective and cognitive factors may not be appropriate for all participants.

**Strengths and Weaknesses.** The BDI, and the BDI-II, have both been shown to have internal consistency reliability with Caucasian and Latino individuals (Gary & Yarandi, 2004; Wiebe & Penley, 2005). Another one of the strengths is that the BDI has been translated into many different languages and has been utilized in many countries (Azocar et al., 2001; Bernall et al., 1995). However, according to Azocar and colleagues, biased items discovered on the Spanish version represent an important weakness of the BDI. Latino participants placed a different level of importance on certain items, thus suggesting that the measure might be assessing two different understandings of depression and that the BDI lacks an emphasis on the impact of culture. Also, researchers using the BDI-II have found many different factor structures within the English version alone (Ward, 2006; Vanheule et al., 2008). Overall, how Latinos conceptualize depression may not be adequately assessed with the BDI and future research should examine this possibility.
Center for Epidemiological Studies of Depression Scale

The original version of the CES-D was developed by Radloff (1977) to measure depression with an emphasis on the affective component of depressed mood. When comparing a participant group with the general population sample, Radloff found higher item means, higher inter-item correlations, and very high internal consistency. The CES-D was designed to measure current levels of depressive symptomatology and is assumed to vary over time. This has resulted in some criticism of the instrument. For example, the data collected by Radloff regarding the test-retest time interval were confounded because there was no consistent time interval, and there were multiple methods of collection. Radloff found that participants who had not experienced a significant life event at either collection time had the highest test-retest reliability, followed by those where a single event occurred at one of the collection times, and then participants with events during both collection times.

The CES-D was not designed as a diagnostic tool, but was based on symptoms of depression as defined by the DSM-III (Radloff, 1977). Radloff demonstrated that the CES-D was able to discriminate well between psychiatric inpatients and the general population. Radloff used the CES-D to discriminate the severity of depression between inpatient groups at a moderate level. The CES-D had adequate discriminate validity when compared to other scales measuring depression as well.

To assess generalizability across subgroups, Radloff (1977) repeated analyses across different subsets of the population, including three age groups: younger than 25, between the ages 25 and 65, and older than 65. Radloff differentiated between male and female, African American individuals and Caucasian individuals, and between three
levels of education: less than high school, high school, and more than high school. The author found a coefficient alpha of .80 or higher in all subgroups, moderate test-retest correlations, and that no particular group seemed to have notably high scores overall. Radloff noted that the groups did not differ from each other or the general population in factor structure.

Radloff (1977) found four factors that were consistent across the three groups of participants. The first factor was depressed affect, which is characterized by words such as blues, depressed, lonely, cry, and sad. The second factor was positive affect, described by words such as good, hopeful, happy, and enjoy. The third factor was somatic and included key words such as bothered, appetite, effort, sleep, and get going. The final factor was interpersonal and was noted when words like unfriendly and dislike were mentioned. In all three groups, the depressed affect factor shared the highest amount of variance (16%), and the interpersonal factor shared the lowest amount of variance (8%). Radloff concluded that the CES-D had both high reliability and validity and was suitable for use with English-speaking populations across many different age and economic ranges, without mentioning Latino individuals. Radloff made an advisory statement about using this scale as a clinical diagnostic tool and cautioned using this scale with bilingual participants. Instead, he recommended using it only with monolingual African American and Caucasian adults.

To examine the factor structure of the CES-D with Latino individuals, Guarancia, Angel, and Worobey (1989) used the Hispanic Health and Nutrition Examination Survey (Hispanic HANES). Guarancia and colleagues examined the results of the Hispanic HANES across ethnic groups and noted social and cultural differences between Latino
individuals and other ethnic groups in the expression of depressive symptoms and depressive affect. Other differences were illustrated between Mexican-American, Puerto Rican-American, and Cuban-American individuals in the expression of depression. Guarancia and colleagues believed some possible explanations for the inter-group differences were influenced by the gender of the respondent and the language that was being used during the interview.

Guarancia and colleagues (1989) highlighted two important issues in cross-cultural psychiatry that need to be addressed. First, studies needed to focus on how the patterns of depressive symptoms differ across cultural groups, not how they are universally represented. Second, the issue of affective versus somatic representations of symptoms of depression also needed to be further explored. It is possible that people from less developed countries may have less differentiated language for expressing depressive affect and other emotions.

One aspect that is important to consider when evaluating assessment measures is whether or not they were validated using non-equivalent groups (Crockett, Randall, Shen, Russell, & Driscoll, 2005). Therefore, if a measure is adapted from a Caucasian group, it may not be accurately identifying differences in the conceptualization of depression for another cultural group. Also, in defining or measuring this construct, it is important to be aware of the heterogeneous nature of the Latino population and the multiple cultures, countries, and values inherent in this population. Unfortunately, many assessment measures are tested on a pooled group of Latino participants that encompass many different countries and cultures. Crockett and colleagues conducted a study to measure the equivalence of the CES-D on three groups including, Cuban-American, Puerto Rican-
American, and Mexican-American adolescents. The authors found that Cuban and Puerto Rican-American youths did not support the original 4-factor structure of the CES-D or a 3-factor structure. The authors concluded that Cuban-American and Puerto-Rican American youth did not show the distinct dimension of depression found in the other groups. This study was conducted on an adolescent sample, which may account for some of the variability when compared to adult samples. However, the variability could also be attributed to a distinct cultural difference that needs to be further researched.

Another important area to consider when evaluating translated versions of an assessment measure is to examine the differences in response by participants across measures (Garcia & Marks, 1988). Garcia and Marks (1988) compared responses on the CES-D between a group of Caucasian adults and Mexican-American adults. They found certain types of responses such as hopelessness about the future, lack of enjoyment out of life, and depreciation of self in relationships to be more prevalent among Mexican-American participants than Caucasian participants. One can hypothesize that those response types may in fact be very relevant aspects of psychological functioning for Mexican-American individuals. After factor analysis, a specific factor for the Mexican-American group arose encompassing items that dealt with loneliness, sadness, and crying which was not observed for the Caucasian group.

The CES-D has been shown to be both a reliable and a valid measure of depressive symptomatology for Caucasian individuals, and has been used and translated into many different languages (Radloff, 1977; Garcia & Marks, 1988). However, there are some concerns with the factors found across diverse populations. Specific differences found between different subpopulations of the Latino community are of particular
interest. Radloff cautioned using the CES-D with bilingual participants because of complex wording and colloquial phrases that may be confusing to some bilingual individuals. Grzywacz, Hovey, Seligman, Arcury, and Quandt (2006) conducted a study to examine whether different 10-item short versions of the CES-D were appropriate to use with the Mexican immigrant population in the United States. Gryzywacz and colleagues examined three different short versions of the CES-D that were utilized in seven different studies in the past 8 years prior to publication of the study. The authors noted that the short versions have been found to be reliable and valid, but have never been assessed within a Mexican immigrant population. The short forms had acceptable reliability, and 75% of the variance from the full CES-D was accounted for by the short forms. The authors found the short versions to be just as likely to identify potential cases of depression as the full version of the CES-D. The results suggested that these short forms of the CES-D are adequate assessments that can be utilized with a Mexican immigrant population.

**Strengths and Weaknesses.** The CES-D has been used in many research studies with diverse populations in many settings (Radloff, 1977; Guarancia et al., 1989). Radloff found four distinct factors: depressed affect, positive affect, somatic, and interpersonal, all of which have been replicated numerous times (Crockett, et al., 2005; Guarancia et al., 1989). Grzywacz and colleagues (2006) demonstrated the utility of using a shorter version of the CES-D with Latino individuals. One of the weaknesses of the CES-D is a lack of emphasis on the cultural and social uniqueness of the Latino culture and its expression of depression. Another weakness is the issue of non-equivalent groups and different factor loadings between Latino individuals and non-Latino
Caucasian individuals. Finally, there may be differences among sub-groups of the Latino population.

Overall, the CES-D and the BDI may not be the appropriate measures to be utilized with the Latino population because of potential inconsistencies of factor structures and item biases found across ethnicities and translated versions (Guarnaccia et al., 1989; Azocar et al. 2001). Also, item analyses across both measures found certain types of responses such as punishment, tearfulness, appearance, hopelessness about the future, lack of enjoyment out of life, and depreciation of self in relationships to be more prevalent among Latino participants than Caucasian participants (Azocar, et al., 2001; Garcia & Marks, 1988). Considering the utility, availability, and the lack of alternatives, further examination should be conducted to assess potential differences in how depression is conceptualized by Latino individuals and to address potential inadequacies in how depression is currently being assessed.

The current study will compare factors from the CES-D only and factors derived from the BDI will not be observed in order to simplify the focus of this study. Although, both measures are used to assess depression and have illustrated some commonalities, combining factors would be complicated, time consuming, and outside of the scope of this preliminary analysis. However, due to the reported cultural inadequacies found with both the BDI and the CES-D (Guarnaccia et al., 1989; Azocar et al. 2001), the goal of this study is to propel the psychological community to examine if there are any additional assessment measures that can be used to accurately assess how Latino individuals conceptualize depression.
This study is a preliminary attempt to address the need to develop a better understanding of how Latino individuals conceptualize depression and whether it is aligned with our current assessment measures for depression. The following sections include the study’s rationale, methodology, analyses, and findings.

**Research Question**

Based on the previous literature review, assessment measures used with Latino participants need to be evaluated in order to better understand if the conceptualization of depression with Latino individuals is aligned with the factors of depression used in the CES-D. In this study, the research question focused on examining whether factors of the Center for Epidemiological Studies for Depression Scale (CES-D) were more compatible with a definition of depression generated by Caucasian participants than Latino participants.

**Hypothesis**

The hypothesis of this study was that on average, Latino participants would generate fewer responses that described depression as aligned with the three factors derived from the CES-D when compared to Caucasian participants. The independent variable was the ethnicity of the participants in the study separated into Latino participants compared to Caucasian participants. For the purposes of this study the term Caucasian will encompass individuals with heritage from Europe whereas the term Latino will encompass individuals with heritage from Spanish speaking countries in North, Central, or South America. The dependent variable was the number of responses that aligned with the somatic, depressed, and interpersonal factors of the CES-D.

**Method**
Participants

This study included a total of 74 participants; 32 Latino participants and 42 Caucasian participants. Ten participants began the study, but did not complete the study, leaving 64 total participants. Of those 64 participants, two generated less than six total responses, but both were kept in the study. There were 42 female participants, 30 male participants, and two participants who elected not to provide information on gender. The age ranged from 19 to 61 years old for the participants.

A demographic questionnaire was administered that included, gender, Latino cultural heritage, languages used at home, socioeconomic status, and education level. Of the participants that reported Latino cultural heritage: 26 reported Mexican heritage, two reported a mix of Cuban, Guatemalan, or El Salvadorian heritage, and 1 participant reported Puerto Rican heritage.

To assess the participants’ socioeconomic status the participants reported their family’s annual income. There were 32 participants who indicated their family’s total income was less than 25,000 dollars, 18 participants indicated between 25,000 and 50,000 dollars, 11 participants indicated between 50,000 and 75,000 dollars, 4 participants indicated between 75,000 and 100,000 dollars, and 7 participants indicated over 100,000 dollars.

Cultural heritage was assessed by the reported number of generations that the participants’ family had resided in the United States (US). Of all of the participants that answered this question, 6 participants indicated no one in their family was born in the US, 5 indicated they were born in the US and not their parents, 24 indicated that at least one of their parents was born in the US, 19 indicated that at least one of their
grandparents were born in the US, and 18 indicated that at least three of their great grandparents were born in the US.

Education level was assessed by reported highest education level of participants. Of the participants who reported education level, 1 participant indicated elementary or middle school, 8 participants indicated high school, 29 participants indicated some college, 18 indicated an undergraduate degree, and 16 indicated a graduate degree or advanced training. All of the participants indentified as at least 18 years old and either self-identified as a Latino or Caucasian individual.

Measures

Demographic Inventory. Participants were administered two measures in an online format. First, participants were administered a demographics questionnaire asking about the participants’ gender, socio-economic status, educational background, cultural heritage, and languages used at home. A copy of the demographics questionnaire can be found in Appendix A.

Depression Conceptualization Measure. Participants were administered the Depression Conceptualization Measure (DCM). This measure was developed by the author in conjunction with his research team. The research team consisted of faculty and graduate students in clinical psychology, all of whom had training in psychopathology. Participants were asked, “Name six things that would help you know if you or someone else is depressed.” The generated responses were compared to the three factors found in the original factor analysis of the CES-D by Radloff (1977): somatic (bothered, appetite, effort, sleep, get going), depressed (blues, depressed, lonely, cry, sad), and interpersonal (unfriendly, dislike).
There were two steps associated with the coding of DCM responses. The first step involved the classification of all of the words generated by the participants in this study. The second step involved creating DCM scores for each participant. These steps are described in further detail below.

**Classification of responses.** Given the variability of responses generated by participants in this study, five raters independently coded each response. Raters were provided with guidance and a scoring criteria and the raters were asked to each response with a score ranging from 0 to 4. A score of 0 indicated the response was not aligned with any of the factors of the CES-D, a score of 1 indicated alignment with the depressive factor, a score of 2 indicated alignment with the somatic factor, a score of 3 indicated alignment with the interpersonal factor, and a score of 4 indicated alignment with multiple factors. The coded responses by the five raters were used to determine a DCM score for each participant.

In order to account for linguistic, conceptual, metric, and normative equivalence, the raters were all enrolled in a masters or doctoral program in clinical psychology, as well as encompassed multiple ethnicities and Spanish language proficiencies (Marsella & Kameoka, 1989). The raters included: a Spanish speaking native Latino individual, the author, (a Spanish speaking non-Latino individual), a Spanish speaking non-Latino individual, and two non-Spanish speaking, non-Latino individuals. All of the raters blindly coded each of the participant’s six responses. Interrater reliability will be discussed further in the results section.

**Coding of DCM scores.** Once a score was generated for each response, the DCM for each participant was calculated. These scores were determined by the total number of
responses aligned with the somatic, depressive, and interpersonal factors of the CES-D. Thus, each participant’s DCM score ranged from 0-6. The previously coded responses by the five raters were used to determine an overall DCM. The DCM score was calculated for each participant to address whether or not each response was aligned with any of the factors of the CES-D. If three or more of the five raters scored a response 0, the response was determined to be not aligned and given a score of 0. If three or more of the five raters scored a response 1, 2, 3, or 4, the response was determined to be aligned and given a score of 1. After each response received a score of either 0 or 1, the overall DCM score was calculated by adding all of the six responses for each participant. A comprehensive list of the participants’ responses is included in Table 1 and the frequency and percentage of the raters coded responses is included in Table 3.

Procedure

The participants were recruited through the online venue Craigslist. Participants were presented a link to a Survey Monkey questionnaire. Before reaching the questionnaire, participants had to read and sign an informed consent document that outlined their rights as a participant. After they had read and signed the informed consent document they were guided to the demographics questionnaire and then finally to a section where they completed the DCM. Whether or not the participants agreed to participate in the study, they were provided with an opportunity to send their preferred contact information to the researcher to be entered into a raffle to win one of four $25 visa gift cards.

Results

Power
Before the study was conducted a power analysis was administered to identify the ideal number of participants to ensure an appropriate effect size. The author used a power level of .80 and an effect size of .65 (i.e., a moderate to large effect) to determine the appropriate number of participants. The power analysis concluded that 180 participants (90 in each group) would be appropriate for the desired effect size. Unfortunately, the sample of participants recruited for the study did not meet the a priori power analysis’s number of 180 total participants.

**Interrater Reliability**

To determine the level of agreement between raters, two types of analyses were conducted: Pearson product-moment correlation coefficient (PPMMC) and an Intraclass Correlation Coefficient (ICC). A PPMMC is a measure of the correlation (linear dependence) between two variables, in this case between two of the raters. An ICC is a descriptive statistic that can be used when quantitative measurements are made on units that are organized into groups, in this case to measure the agreement between all five raters.

To address the agreement among the five raters the, Spanish speaking Latino rater was excluded and the group was first divided into a group of Spanish speaking non-Latino raters and non-Spanish speaking non-Latino raters. A PPMCC was computed to assess the relationship between both sets of coded responses from the Spanish speaking non-Latino raters. There was a positive correlation between the two raters, \( r = 0.378, n = 326, p = 0.001 \). Another PPMCC was computed to assess the relationship between both sets of coded responses from the Caucasian monolingual raters. There was a positive correlation between the two raters, \( r = 0.472, n = 326, p = 0.001 \) Overall, there was a
positive, but a low amount of agreement among raters in both groups and the non-Spanish speaking non-Latino raters exhibited a slightly stronger relationship than the Spanish-speaking non-Latino raters.

To address the agreement between all five raters, an ICC, *two-way mixed model* was calculated. The ICC examined to what degree the differences among all ratings had to do with potential differences between raters or the responses themselves. *A single measure reliability* was examined and a higher ICC score would have indicated a high degree of inter-rater agreement between all of the five raters. Unfortunately, the ICC was 0.33, indicating a low amount of agreement between the raters.

**Independent samples t-tests**

An independent-samples t-test was conducted to compare DCM scores of the Latino and Caucasian participants. There was not a significant difference in the scores of Latino (M=4.4, SD=1.8) and Caucasian participants (M=4.8, SD=1.6); *t*(61)=0.81, *p* = 0.23. These results did not show a significant difference between the conceptualization of depression in Latino and Caucasian participants. Specifically, our results found no significant difference between the DCM scores of the Latino and Caucasian participants. Independent-sample t-tests were conducted to compare ethnicity and the following demographic variables: gender, cultural heritage, education level, and income. There were not significant differences between Latino and Caucasian participants and the previously listed demographic variables. The statistics are included in Table 2.

**Trends**
The participants' responses on the DCM were separated into categories depending on whether the responses were aligned with factor 0 (no alignment), factor 1 (depressed), factor 2 (somatic), factor 3 (interpersonal), or factor 4 (multiple). In the factor 0 section the responses were separated into two groups. Group 1 lists responses that did not appear related to depression and Group 2 included responses that appeared related, but were coded as no alignment responses regardless. The group 1 responses by Caucasian participants includes responses such as a good listener, a good therapist, a hug, a positive creative outlet, chocolate, house, meditation or prayer, less responsibility, lots of fun exercise, understanding friends, and voice. The group 1 responses by the Latino participants included responses such as family, fashion, friends, hard to drive, therapy, running, relaxation, pets, money, medication, keeping busy with music and hobbies, work, and writing happy thoughts. All of the participants’ responses are depicted in Table 1 following this section.

Although, there was not a significant effect found between the DCM scores between Latino and Caucasian participants, there were interesting differences noted between the two groups. For example, the Latino group reported more responses related to appearance including: “Doesn’t shower or change, doesn’t bathe, the way they look, poor eating habits, and unclean.” The Latino group also reported more performance related responses such as: “Work, family, bills, hard to drive, declining performance at work which is consistent with some of the existing literature (Azocar, et al., 2001; Garcia & Marks, 1988). This will be discussed further in the Discussion section.
### Factor Alignment of Participants’ Generated Responses

<table>
<thead>
<tr>
<th>Factor Alignment</th>
<th>GROUP 1</th>
<th>Frequency of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>No alignment (0)</td>
<td>• a good listener(1 C)</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>• a good therapist(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• a hug(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• a positive creative outlet(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• chocolate(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• common signs(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• counseling(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• dizziness(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• easier to find a job(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• family(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• fashion(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• food(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• friends(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• hard to drive(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• keeping busy with music and hobbies(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• hobbies(2L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• house(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• less expensive cost of living(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• less responsibility(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• lots of fun exercise(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• meditation or prayer(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• offer advice or sugestions(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• pets(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• relaxation(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• running(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• quiet (1L, 1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• say they are(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• seeing a psych doctor(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• talking(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• that people care(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• understanding friends(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• voice(1C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• weather(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• work(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• writing Happy thoughts(1L)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Smoking, smoking weed, taking meds</td>
<td></td>
</tr>
</tbody>
</table>
GROUP 2

- anxiety(2L)
- appearance(1 C)
- bills(1 L)
- change of priorities when coming to self respect or moral values(1C)
- complacent(1 C)
- drink(1L)
- drinking to much alcohol(1C)
- drinks a lot(1L)
- drinks, smokes, does drugs often(1L)
- drug use(1L)
- drug/alcohol abuse(1C)
- fear of the future(1C)
- forgetfulness(1L)
- have nothing to do when I wake up(1L)
- if the person began using drugs(1C)
- if the person seemed to care less
- about his/her appearance(1C)
- If they are abusing alcohol or drugs(1C)
- income(1C)
- to escape(1C)
- taking medication for depression(1C)
- the things they do(1L)
- the way they act(1L)
- the way they look(1L)
- their moods change dramatically(1L)
- therapy (1L)
- they are not interested in talking (1L)
- they deny/ignore the problem(1C)
- they have no money / food / place to live(1L)
- they tell you(1L)
- unclean(1L)
- uneasy(1C)
- very shy introvert(1L)
- weight(1C)
- when they are silent (1L)
- irritability(1C)
- just want to be inside(1L)
- masochistic tendencies(1C)
- medication(2L)
- messy(1C)
- money(1L)
- moody(1C)
- no future(1L)
- not showering/dressing well(1C)
- obsession with lost opportunities(1C)
- passiveness(1L)
- pessimism(3C)
- puts off things to be done until later(1C)
- Sickly pallor(1C)

<table>
<thead>
<tr>
<th>Depressed</th>
<th>64</th>
</tr>
</thead>
<tbody>
<tr>
<td>- always sad</td>
<td></td>
</tr>
<tr>
<td>- amount of time person spends alone too much time</td>
<td></td>
</tr>
<tr>
<td>- apathetic</td>
<td></td>
</tr>
<tr>
<td>- Apathy, things you used to enjoy hold no interest</td>
<td></td>
</tr>
<tr>
<td>- cries a lot</td>
<td></td>
</tr>
<tr>
<td>- cries than laughs or change in behavior</td>
<td></td>
</tr>
<tr>
<td>- cry</td>
<td></td>
</tr>
<tr>
<td>- cry for know reason</td>
<td></td>
</tr>
<tr>
<td>- crying</td>
<td></td>
</tr>
<tr>
<td>- Crying Alot</td>
<td></td>
</tr>
<tr>
<td>- crying more often than usual</td>
<td></td>
</tr>
<tr>
<td>- lack of interest in usual activities</td>
<td></td>
</tr>
<tr>
<td>- lonely</td>
<td></td>
</tr>
<tr>
<td>- loss of interest</td>
<td></td>
</tr>
<tr>
<td>- loss of interest in activities previously enjoyed</td>
<td></td>
</tr>
<tr>
<td>- Loss of interest in typical activities</td>
<td></td>
</tr>
<tr>
<td>- lost of interest</td>
<td></td>
</tr>
<tr>
<td>- mood</td>
<td></td>
</tr>
<tr>
<td>- mood change</td>
<td></td>
</tr>
<tr>
<td>- mood swings</td>
<td></td>
</tr>
<tr>
<td>- negative attitude in general</td>
<td></td>
</tr>
<tr>
<td>- no interest in</td>
<td></td>
</tr>
</tbody>
</table>
• Crying Spells
• do feel like talking or doing anything
• doesn't want to do anything
• failure to experience joy normally
• feeling helpless
• feeling hopeless
• feeling lonely
• Feeling sad
• feelings of hopeliness
• Feelings of worthlessness, sadness
• Frequent crying
• general sadness
• gloomy and hopeless about future
• hopeless
• Hopelessness
• I will have suicidal thoughts
• If they say they are depressed
• inability to become excited about things that they usually loved
• Increased irritability and activities
• not engaging in regular activities
• not happy
• not interested in anything
• Not participating in any activities previously enjoyed
• Not wanting to do things/not having fun
• osolated
• sad
• Sad looking face
• sadness
• sadness
• sadness for no reason
• seemed bummed out
• seemingly down/preoccupied
• suicidal
• they are uninterested in things
• thoughts of death or suicide
- sensitivity to criticism
- intense boredom
- lack of enthusiasm
- lack of interest
- lack of interest in anything
- when they are mad all the time
- when they say they feel like no one likes them
- worthlessness

<table>
<thead>
<tr>
<th>Somatic (2)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Always feeling tired</td>
<td>• lock of appetite</td>
</tr>
<tr>
<td>• appetite</td>
<td>• loss of energy</td>
</tr>
<tr>
<td>• body language</td>
<td>• losing weight</td>
</tr>
<tr>
<td>• can't sleep</td>
<td>• loss of appetite</td>
</tr>
<tr>
<td>• Change in eating habits</td>
<td>• loss of interest in own appearance</td>
</tr>
<tr>
<td>• Change in sleeping habits</td>
<td>• low energy</td>
</tr>
<tr>
<td>• changes in appetite</td>
<td>• no ambition or motivation</td>
</tr>
<tr>
<td>• Changes in eating habits</td>
<td>• no appetite</td>
</tr>
<tr>
<td>• Changes in sleep patterns</td>
<td>• No Motivation</td>
</tr>
<tr>
<td>• changes in weight (gains or loses)</td>
<td>• non motivation</td>
</tr>
<tr>
<td>• chronic pain</td>
<td>• Not Active</td>
</tr>
<tr>
<td>• doesn't bath</td>
<td>• not eating</td>
</tr>
<tr>
<td>• doesn't eat much</td>
<td>• Not Eating Right</td>
</tr>
<tr>
<td>• doesn't eat or over eats</td>
<td></td>
</tr>
</tbody>
</table>
• doesn't shower or change
• don't eat
• don't go out
• dresses sloppy
• drowsiness sleepiness
  fatigue inertia
• eating habits
• eating habits change
• eating to much
• Eating too much and/or
  eating junk foods
• Energy loss
• excessive sleeping
• fat
• Fatigue
• Fatigued
• Feeling tired and/or
  sleeping too much
• have nothing to look
  forward to
• I don't work out
• I feel numb
• I have no appetite
• I sleep more than average
• I want to sleep more than
  necessary
• not hungry
• not sleeping at all
• not wanting to get
  up
• not wanting to go
  out
• noticeable weight
  change...
  gained/lost
• over eating / loss
  of appetite
• over eats
• over- or under-
  eating
• over weight
• Over-eating
• oversleep / not
  enough sleep
• Poor Diet
• poor eating habits
• Poor sleeping
  habits
• Restlessness
• sleep
• sleep a lot
• sleep problems
• sleep too much
• sleeping all the
• If he/she had low energy  
• increased or decreased libido  
• Insomnia  
• lack of energy  
• Lacking motivation  
• Less activity  
• lethargic  
• Lethargy, inability to concentrate  
• a day  
• sleeps most of the day  
• sleeping too much  
• slow body movement  
• Sluggish movement  
• stay in bed all day  
• Sudden Weight Loss or Gain  
• they sleep too much/ or no sleep at all  
• tired  
• Tiredness  
• Too Much Sleeping  
• tried  
• tried  

Interpersonal (3) 

• Angry  
• loss of communication;
- Anti-Social
- Anti-social behavior
- avoids people
- Comments (negative/fatalistic view)
- defensive more often than usual
- doesn't engage socially
- doesn't make contact via phone
- doesest like to talk
- dont want to do nothing
- don't want to socialize with others
- hang out alone
- how they are around people
- I don't socialize with friends or family
- I the person seemed withdrawn
- If the person stopped participating in social activities
- If they stop interacting with family and friends
- increased or decreased social interaction
- isolated from friends and
- not answering the phone/missing holidays
- low self confidence
- Low Self Esteem
- no friends
- not answering phone
- not feeling like being around people.
- not very conversational
- not wanting to socialize
- say by themsefls
- secluded from others
- secluding oneself
- Social withdrawal
- stops including themselves in activities with friends
- they dont want to go out
- want to be alone
- when they are not very social
- when they never
family

- isolating
- Isolating - wanting to be alone all the time
- isolation
- keeps to yourself
- lack of interest in social activities

<table>
<thead>
<tr>
<th>Multiple (4)</th>
<th>act different</th>
<th>listlessness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>anger</td>
<td>miss motivation</td>
</tr>
<tr>
<td></td>
<td>anger on animals</td>
<td>more anxiety</td>
</tr>
<tr>
<td></td>
<td>Change in behavior</td>
<td>not caring about anything</td>
</tr>
<tr>
<td></td>
<td>declining performance at school/work</td>
<td>not motivated to look for work</td>
</tr>
<tr>
<td></td>
<td>Distracted easily</td>
<td>problems within their career- boss is upset w them, if self empl</td>
</tr>
<tr>
<td></td>
<td>doesn't have much of an opinion on anything</td>
<td>Symptoms interfering with daily life</td>
</tr>
<tr>
<td></td>
<td>Grades Drop</td>
<td>talks about killing self</td>
</tr>
<tr>
<td></td>
<td>hurting self</td>
<td>there is loss of their regular personality/happiness</td>
</tr>
<tr>
<td></td>
<td>If his/her attitude took a pessimistic change</td>
<td>Withdrawn from social interaction-No Interest</td>
</tr>
<tr>
<td></td>
<td>If they are failing in school or work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If they are hurting themselves (e.g., cutting)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>if they dont have goals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>if they never go any where</td>
<td></td>
</tr>
</tbody>
</table>
• If they start giving things away
• Lack of ambition
• Lack of enjoyment in previously fun activities

• worried anxious
  irritable

Notes: In the no alignment section, Group 1 includes responses that do not appear related to depression and Group 2 includes items that may have some relation to depression. Typos were included to preserve the actual responses. *L= Latino participant
**C=Caucasian participant.

Table 2

Interaction between Ethnicity and Demographic Variables
<table>
<thead>
<tr>
<th>Variable</th>
<th>Ethnicity</th>
<th>Mean</th>
<th>SD</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Caucasian</td>
<td>1.42</td>
<td>.502</td>
<td>.242</td>
<td>.810</td>
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<tr>
<td></td>
<td>Latino</td>
<td>1.39</td>
<td>.499</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural Heritage</td>
<td>Caucasian</td>
<td>3.24</td>
<td>1.03</td>
<td>1.99</td>
<td>.051</td>
</tr>
<tr>
<td></td>
<td>Latino</td>
<td>2.61</td>
<td>1.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education Level</td>
<td>Caucasian</td>
<td>3.85</td>
<td>.939</td>
<td>1.22</td>
<td>.230</td>
</tr>
<tr>
<td></td>
<td>Latino</td>
<td>3.48</td>
<td>1.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>Caucasian</td>
<td>2.21</td>
<td>1.38</td>
<td>1.41</td>
<td>.163</td>
</tr>
<tr>
<td></td>
<td>Latino</td>
<td>1.74</td>
<td>.964</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: *p<.05

Table 3

*Frequency of Raters Coded Responses*
<table>
<thead>
<tr>
<th>Raters</th>
<th>No factors</th>
<th>Depressed</th>
<th>Somatic</th>
<th>Interpersonal</th>
<th>Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>119</td>
<td>36.4%</td>
<td>51</td>
<td>15.6%</td>
<td>101</td>
</tr>
<tr>
<td>R2</td>
<td>90</td>
<td>27.5%</td>
<td>73</td>
<td>22.3%</td>
<td>96</td>
</tr>
<tr>
<td>R3</td>
<td>50</td>
<td>15.3%</td>
<td>55</td>
<td>16.8%</td>
<td>97</td>
</tr>
<tr>
<td>R4</td>
<td>123</td>
<td>37.6%</td>
<td>47</td>
<td>14.4%</td>
<td>114</td>
</tr>
<tr>
<td>R5</td>
<td>68</td>
<td>20.8%</td>
<td>66</td>
<td>20.2%</td>
<td>90</td>
</tr>
</tbody>
</table>

Note: R1 = Spanish speaking Latino rater, R2 = Spanish speaking non-Latino rater, R3 = Spanish speaking non-Latino rater, R4 = non-Spanish speaking non-Latino rater, R5 = non-Spanish speaking non-Latino rater.

Discussion
The discussion section will be comprised of four parts. First, the author will highlight the rationale for conducting the current study. Second, the author will describe the power analysis conducted and the impact on the study. Third, the author will examine the interrater reliability and its impact on the study. Fourth, the author will examine trends that were observed and implications of the study.

The Latino population is continuing to grow and the psychological community needs to address reported inadequacies in treatment and cultural limitations in assessment measures. The current study was conducted to examine potential differences in the conceptualization of depression between Latino and Caucasian individuals based on reported discrepant prevalence rates of depression, the impact of culture, and the inadequacies of the CES-D and the BDI. First, this study was conducted due to discrepant prevalence rates of depression for Latino individuals that may be due to a difference in how depression was conceptualized by Latino individuals. Second, this study was conducted due to the over reliance by practitioners on Westernized diagnostic criteria, such that cultural influences, and protective factors are ignored, and potential misinterpretation is likely to occur. Finally, this study was conducted due to concerns about whether both the BDI and the CES-D were appropriate assessment measures for depression with Latino individuals.

Although, the results indicated mean differences in the hypothesized direction, there was not enough power to detect a significant difference even if one had existed. Due to the small sample size (N= 64; Latino group 27; Caucasian group 37), even if a significant effect had existed, there most likely would not have been enough power to
detect it. To determine whether the findings were due to a lack of power or to the lack of effect, a future study would need to be conducted with a larger sample size.

This study included five raters from multiple ethnicities and Spanish language proficiencies to account for any potential measurement concerns. Unfortunately, there was a low amount of agreement found between the five raters used in this study. The ICC score of 0.33, indicated a low inter-rater reliability coefficient. This could have resulted in more or less responses that were aligned with the three factors of the CES-D. One potential explanation for the low agreement between raters is the difference in ethnicity. There was only one Latino rater who coded the responses; the remaining 4 raters were non-Latino raters. The Latino rater tended to code responses differently than the other raters. Although, the Latino rater along with one non-Latino rater coded more not aligned with any factor responses overall than the other raters, the Latino rater coded responses differently than the other raters. The Latino rater coded responses as not aligned with any factors such as: “Weight, eating, insomnia, and change in eating habits”; that the other raters coded as somatic responses. The Latino rater also coded responses as not aligned with any factors such as: “Withdrawn, leave alone, keeps to yourself, isolation, lethargic, and listlessness”; that the other raters coded as either interpersonal, depressed or multiple responses. Race-related biases have been demonstrated by raters of different racial backgrounds and have been attributed to either different culture-based stereotypes or culturally mediated differences in the understanding of behavioral cues (Melby, Hoyt, & Bryant, 2003). The difference between the Latino rater and non-Latino raters could potentially indicate a difference in how the raters conceptualized depression. Future research should reevaluate this possibility with a larger sample size and an equal
number of Latino and non-Latino raters. This would help ensure more alignment between raters and address any potential differences in the conceptualization of depression between both Latino and non-Latino participants and raters.

Due to the inability to find any significant effects and the small sample size, no definitive conclusions can be drawn from this research. However, there are trends in the results that are consistent with the broader literature. For example, the Latino participants reported more responses related to appearance including: “Doesn’t shower or change, doesn’t bathe, the way they look, poor eating habits, and unclean.” The Latino participants also reported more performance related responses such as: “Work, family, bills, hard to drive, declining performance at work. This trend reflects item analyses across both the CES-D and the BDI, which found certain types of responses such as, “Punishment, tearfulness, appearance, inability to work, hopelessness about the future, lack of enjoyment out of life, and depreciation of self in relationships to be more prevalent among Latino participants than Caucasian participants (Azocar, et al., 2001; Garcia & Marks, 1988).” Although, there were no significant effects found, this trend may imply that Latino individuals may be more likely to conceptualize depression as related to their appearance and or performance at work. This could potentially indicate a difference in how the groups conceptualized depression. Future research should reevaluate this possibility with a larger sample size and an equal number of Latino and non-Latino participants and raters. This would help ensure more alignment between raters and address any potential differences in the conceptualization of depression between both Latino and non-Latino participants and raters.
This study was only administered in English and was not intended for monolingual Spanish speakers. Although, this study was not designed for non-English speakers, administering the measures in different languages may have yielded more disparate responses between the two groups. Less acculturated, monolingual Spanish speakers may not share the same conceptualization of depression as more acculturated Latino individuals’ conceptualization. Researchers have concluded that acculturation has an effect on depression rates and more acculturated US-born Latino individuals are diagnosed with depression more often than foreign-born, less acculturated Latino individuals (Narrow, Rae, Moscicki, Locke, & Regier, 1990; Ortega, Rosenheck, Alegria, & Desai, 2000). Future research should administer measures in Spanish to assess the alignment between less acculturated Latino individuals conceptualizations of depression and factors of the CES-D.

Despite the lack of significant results and small sample size, this study has provided valuable information. How culture affects the conceptualization of depression is complicated, multifaceted, and influenced by numerous variables. The results indicated that three of Radloff’s (1977) original factors of the CES-D were aligned with the more acculturated Latino participants’ conceptualization of depression. Although, no firm conclusions can be made from the results of this study, the lack of a significant effect between the Latino and Caucasian groups suggests the CES-D may be appropriate for English speaking Latino individuals. This study also demonstrated the effectiveness of the CES-D without using Likert-type response scales to avoid any potential extreme alternative response biases by the Latino participants (Hui & Triandis, 1989; Marin, Gamba, & Marin, 1992). This study also compared self-generated responses of
depression to factors of the CES-D and avoided direct questions from measures that are based on a Westernized conceptualization of depressive symptoms. Unlike many research studies that tend to utilize Likert-type response scales and questions that are more symptom oriented with Latino individuals, this study allowed for the participants to generate their own responses.

This study demonstrated the complexities of the Latino culture and the importance of accounting for culture when assessing for depression with Latino individuals. With the lack of research addressing the impact of culture on assessment measures, this preliminary study extends the understanding of potential differences in the conceptualization of depression between Latino and Caucasian individuals. The current study found trends in differences in the responses given between the Latino and Caucasian groups that have been illustrated in previous research (Azocar, et al., 2001; Garcia & Marks, 1988) such that the Latino participants’ responses included more appearance and performance related responses than the Caucasian participants’ responses.

The Latino population will continue to grow and it behooves the psychological community to continue to examine potential inadequacies in the current assessment measures of depression that are used with Latino individuals. Although the sample size of the current study was not large enough to detect a significant effect, the trends in the data suggest a possibility of there being a difference in the conceptualization of depression between Latino and Caucasian individuals. Future research should explore the trends found in this current study with a larger sample size to better understand potential differences in how Latino individuals conceptualize depression.
Appendix A

Demographics Questionnaire

1. Gender:
   □ Male  □ Female

2. Age:
   ______

3. What is your racial or ethnic background?
   □ Asian-American
   □ Black/African-American
   □ White/Caucasian
   □ Hispanic/Latino
   □ Native American
   □ Mixed (Please specify):
       ______________________
   □ Other (Please specify):
       ______________________

4. What is your Latino cultural heritage??
   □ No Latino cultural heritage  □ Dominican
   □ Mexican  □ Guatemalan
   □ El Salvadorian  □ Honduran
   □ Cuban  □ Other (Please specify):
       ______________________

5. How many generations has your family lived in the U.S.?
   □ First generation (I was not born here)
   □ Second generation (At least one of my parents were born here)
   □ Third generation (At least three of my grandparents were born here)
   □ Fourth generation (At least three of my great-grandparents were born here)
   □ Other (Please specify): _______________________________

6. What is your highest education level?
   □ Elementary or middle school  □ Graduate degree or advanced training
   □ High school
   □ Some college  □ Other (please specify)_______
   □ Undergraduate degree

7. What is an estimate of your family’s total annual income?
   □ Less than $25,000
☐ Above $25,000 – Under $50,000
☐ Above $50,000 – Under $75,000
☐ Above $75,000 – Under $100,000
☐ $100,000 or more
☐ Don’t know

8. What language do you speak in the home?
☐ English
☐ Spanish
☐ Both
☐ Other (Please specify):
__________________
Appendix B

Depression Conceptualization Measure

Name six things that would help you know if you or someone else is depressed.

#1
#2
#3
#4
#5
#6
References


