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THE RELATION OF CULTURE TO DIFFERENCES IN DEPRESSIVE SYMPTOMS AND COPING STRATEGIES: MEXICAN AMERICANS AND EUROPEAN AMERICAN COLLEGE STUDENTS

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THE RELATION OF CULTURE TO DIFFERENCES IN DEPRESSIVE SYMPTOMS AND COPING STRATEGIES: MEXICAN AMERICAN AND EUROPEAN AMERICAN COLLEGE STUDENTS

by

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This dissertation is dedicated to my mother, Martha Beltran,

the most admirable woman I have ever known.

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THE RELATION OF CULTURE TO DIFFERENCES IN DEPRESSIVE SYMPTOMS AND COPING STRATEGIES: MEXICAN AMERICANS AND EUROPEAN AMERICAN COLLEGE STUDENTS

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This study examined cultural differences in depression and in coping strategies used by a sample of 170 European American and 136 Mexican American college students. Ethnicity, Sex, and Family values were hypothesized to be related to between-group differences in depressive symptoms and coping strategies. Participants completed the following self-administered questionnaires: a demographics questionnaire, Family Attitude Scale-Revised (FAS-R), COPE Inventory, Beck Depression Inventory-II (BDI-II), Center for Epidemiologic Studies Depression Scale CES-D), and somatic items of the Brief Symptoms Inventory (BSI). Results indicated that Mexican Americans obtained higher scores on the BDI-II, $p < .001$, and CES-D, $p < .01$. Mexican Americans were also found to report more traditional family values, $p < .001$, than European Americans. Significant between-group differences were also found in specific depressive symptoms

on the BDI-II and CES-D, $p < .001$. Specifically, Mexican Americans reported more somatic complaints, cognitive symptoms (e.g., punishment feelings), and interpersonal relational problems, $p < .001$, than European Americans. Conversely, European Americans reported more depressive affect symptoms, $p < .001$, on the BDI-II and more readily agreed with positive affect items on the CES-D, $p < .001$, than Mexican Americans. T-tests also revealed significant between-group differences in coping strategies. European Americans reported using Venting, Active Coping, and Substances, $p < .001$ more often; whereas, Mexican Americans reported using Denial, Religion, Restraint, and Acceptance, $p<.001$, more often. Regression analyses revealed that a significant interaction between ethnicity, sex, and family values was related to the report of worthlessness, guilt feelings, punishment feelings, concentration difficulties, and appetite change. This 3-way interaction was also related to the report of Substance Use and Religious coping strategies. Results further indicated that significant 2-way interactions were found between the cross-products of ethnicity, sex, and family values which explained other significant cross-cultural differences in depressive symptoms and coping strategies in this study. Given that the present findings suggest there are possible differences in depressive symptoms and ways of coping between Mexican American and European American College students, they may have implications for primary prevention programs directed at reducing symptoms of depression in Mexican American and European American university students.

TABLE OF CONTENTS

Introduction

Latinos are now the largest ethnic minority group in the United States. There are currently 36.5 million Latinos in the U.S., comprising of 12.9% of the population (U.S. Bureau of the Census, 2002). The rapid growth of the Latino population and a low socioeconomic profile distinguishes them as a population "at risk" for mental health problems (Estrada, 1985). For instance, a wealth of literature has identified substance abuse, anxiety, and depression as mental health concerns among U.S. Latinos (e.g., Comas-Diaz, Rogler, & Malgady, 1993; Golding, Burnham, & Wells; Amadeo & Jones, 1997; Caetano, 1989).

Statement of the Problem

Although the elevated risk for mental health problems among this population is also evident in the increase of utilization of mental health centers by these individuals (Cheung & Snowden, 1990), research has consistently indicated that Latinos continue to use fewer mental health/counseling services than do European Americans. For instance, the Los Angeles Epidemiologic Catchment Area study in the 1980's (Hough, Burnham, Escobar, & Timbers, 1983; Hough, Landsverk, & Karno, 1987) found that Mexican Americans who had experienced significant symptoms of depression within the previous six months were less likely to use mental health services than were European Americans. A more recent study of Mexican Americans residing in Fresno County (Vega, Kolody, Aguilar-Gxiola, & Catalano, 1999) revealed similar results. They found the rate of utilization of mental health services lower for those born in Mexico compared with those born in the U.S. Other studies consistently suggest that Latinos receive less care for

depressive symptomology than do White Americans. Although previous research findings consistently indicated that Latinos use fewer mental health/counseling services than do European Americans, less is known about the reason for this lower usage. This is an alarming gap in the literature given that they are at risk and receiving fewer appropriate services for psychological distress.

In spite of the issues presented above with regards to the mental health status of Latinos residing in the U.S., the literature reviewed by the present author had several limitations that did not allow for a clear understanding of the presentation of psychological/emotional symptoms in Latinos populations. Furthermore, this literature indicated there is a paucity of cross-cultural studies that have investigated differences in emotional/psychological symptoms and differences in ways of coping with these symptoms between Latinos and European Americans. Consequently, little is known about the variations in the experience and expression of depressive symptoms between these two groups. Research in this area would be useful for primary clinicians working with the Latino population because it may identify what emotional/psychological symptoms most distinguish these individuals. Moreover, it may have important implication for primary prevention, as well as the effective assessment of symptoms for persons of Latino background. It is evident that further research is needed to better understand the emotional/psychological status of U.S. Latinos as well as to address the methodological shortcomings of previous research on depressive symptomology conducted with this population. Of particular interest in the present study were Mexican Americans, the fastest growing Latino subgroup in the United States.

Cross-Cultural Studies on Depression

Ethnic Differences in Depression Prevalence Rates

Much of the cross-cultural literature on depression reviewed focused primarily on prevalence rates of major depression among European Americans, Mexicans, Mexican-Americans, and other Latino subgroups (e.g., Golding, Karno, & Rutter, 1990; Munet-Vilaro, Folkman, & Gregorich, 1999; Kolody, Vega, & Meinhardt, 1986). While these studies found that ethnic differences in depression do exist, there were several contradictions in this literature. For example, some researchers found the diagnosis of depression was more common among European Americans than among Mexican-Americans and other Latino subgroups (Golding et al., 1990; Hoppe, Leon, & Realini, 1989; Karno, Hough, & Burnam, 1987; Vernon & Roberts, 1982), while the opposite was reported in the studies reviewed below.

Roberts and Sobhan (1992) reported that Mexican Americans were about 1.5 times more likely to report depressive symptoms than their European American counterparts, even after controlling for the confounding effects of age, gender, perceived health status, and socioeconomic status. Similarly, in a sample from Los Angeles County, Frerichs, Aneshensel, and Clarke (1981) found prevalence rates in 27% of surveyed Latinos, compared to 15.6% of surveyed European Americans. Furthermore, Muñoz and Ying (1993) found lifetime prevalence rates of 14.2% for English-speaking primary-care patients and 25.5% for Spanish-speaking primary-care patients at a public hospital. These authors also found a current (six-month) prevalence rate of 11.8% for English-speaking patients compared to 21.8% for Spanish-speaking patients. Moreover, two California

studies reported that Mexican Americans have higher rates of depressive symptoms when compared with non-Latino whites (Vernon & Roberts, 1982; Vega, Warheit, Buhl-Auth, & Meinhardt, 1985).

As they stand, these results provide a confusing picture with respect to differences in rates of depression between European Americans and Latinos groups. Roberts (1981) attributed the discrepancy in this literature to the varying methods of assessment used across studies to measure depression in members of these populations. For instance, some researchers used the Center for Epidemiologic Studies Depression Scale while others used the Beck Depression Inventory-II to assess level of depression. In addition, most studies classified Latinos from different countries of origin (e.g., Mexico, Cuban, Central and South American) into one Latino group in order to make cross-cultural comparisons of depression rates between Latinos and European Americans. This makes accurate comparisons among studies impossible and, more importantly, does not allow the literature to develop a consistent and clear understanding of depression in a particular Latino subgroup. Consequently, the discrepancy in the results of this literature deserves further attention in order to identify what factors are contributing to contradictory findings in cross-cultural studies.

Ethnic Differences in Specific Depressive Symptoms

Most cross-cultural studies in the literature reviewed focused on overall differences in depression between European Americans and Latinos. Only a handful of cross-cultural studies were found that identified differences in specific depressive

symptoms between European Americans and Latinos. The following is a review of that literature.

One study that investigated such differences examined the variations in the manifestation of depressive symptomatology across racial/ethnic groups (Iwata, Turner, & Lloyd, 2002). The authors conducted analyses of differential item functioning (DIF) on the Center for Epidemiologic Studies Depression Scale (CES-D) separately for African Americans, Latinos born in the U.S., and Latinos born outside the U.S. "Non-Latino whites" (i.e. European Americans) were employed as a reference group. The DIF analyses conducted in the above study indicated the following: (a) about half of the CES-D items functioned differently among non-Latino whites compared to each of the other ethnic groups. That is, as compared to other racial/ethnic groups in the study, European Americans appeared to under-endorse "failure" while over-endorsing "restless sleep," "sad," and "could not get going." Furthermore, (b) African Americans tended to under-endorse the depression scale (i.e. affective symptoms), but to over-endorse the somatic scale on the CES-D, (c) while Latinos tended to over-endorse the interpersonal relations items. Thus, Latinos endorsed more items indicating that difficulty with interpersonal problems contributed to their depressive symptomology. In addition, (d) the manifestations of symptoms seemed to be similar for both Latino groups, except for low positive affect, which was over-endorsed by immigrant-Latinos. That is, immigrant Latinos appeared to inhibit the expression of positive affect, and thus higher scores on the total CES-D were observed within this subgroup when compared to Latinos born in the U.S. subgroup. The authors concluded that the latter finding suggested that foreign

nativity has some influence on the expression of positive affect or feelings. Similarly, in earlier research, Ying (1989) found positive affect, as expressed in feeling good about oneself, feeling happiness, and enjoying life, to be highly salient in the mainstream European American culture.

In general, the above findings appear to suggest that it is more normative for European Americans to notice feelings of positive affect in their daily lives and to express these feelings more often than observed in the Latino culture. Alternatively, the above findings indicated that it is more normative in the Latino culture to notice and be affected by difficulties in interpersonal relationship than in the European American culture.

Another study that focused on the cross-cultural differences in specific depressive symptoms investigated the lifetime prevalence of symptoms of a major depressive episode in Mexican Americans and "non-Latino Whites" (Golding et al., 1990). The authors found that "non-Latino whites" were more likely than Mexican Americans to report the following symptoms of depression on the Beck Depression Inventory-II: dysphoria, hypersomnia, tiredness and fatigue, difficulty concentrating, worthlessness, and suicide ideation. However, Golding and colleagues found no symptoms to be more common in Latinos than in non-Latino whites. The authors concluded that ethnic differences in these specific symptoms may account for the ethnic differences in rates of depression between these two groups.

A third study reviewed by the present author reported the presence and persistence of specific depressive symptoms among a large sample of Mexican American

adults using the Center for Epidemiological Studies Depression Scale (Garcia & Marks, 1988). The authors drew a cross-cultural comparison of depressive symptoms by comparing their findings to the research conducted with European Americans. Garcia and Marks found that, compared to studies of European Americans, a substantially larger percentage of Mexican Americans reported persistent hopelessness about the future, self-depreciation, and lack of enjoyment of life. The authors also found the prevalence of these symptoms was higher among those who had not adapted or "acculturated" to the mainstream American society as assessed by the Acculturation Rating Scale for Mexican Americans-II (Cuellar, Harris, & Jasson, 1980; Cuellar, 1997). The authors concluded that Mexican Americans who had not adapted to or "acculturated" to the European American culture were more likely to experience depressive symptoms than those individuals who had adapted to the mainstream culture.

Results from earlier research on the cross-cultural differences in depressive symptoms suggested that Mexican Americans tend to report dysphoria, in terms of physical complaints, more frequently than European Americans, and this tendency was found more often in working class immigrants (Fabrega, Mezzich, & Jacob, 1988). Similarly, Escobar, Brunman, and Karno (1987) suggested that the primary reason Mexican Americans visited the family doctor instead of a mental health care practitioner was because of the Mexican American tendency to somaticize psychological/emotional problems. Similarly, research conducted with other Latino subgroups residing outside the U.S. (i.e. Peruvians and Colombians) found that Latinos, regardless of their country of origin, were more likely to report somatic symptoms than their European American

counterparts (Escobar, 1987). Although cultural variables were not assessed in these studies, the results indicated that less acculturated individuals or those adhering to more traditional, Latino family values reported more somatic complaints than Latino individuals who were more acculturated or who adhered more to European American values. Though there appeared to be consistency in the above literature indicating that Latinos tend to experience more somatic symptoms, Kolody and colleagues (1986) found that the correspondence of health/physical complaints and depressive symptoms were similar for European Americans, Mexican Americans, and native-born Mexican Americans.

The literature reviewed by the present author also indicated that cross-ethnic analyses have been conducted with the CES-D factor structures. Most cross-ethnic analyses of the CES-D factor structure have focused on adults; these studies provided mixed support for the original four-factor structure (i.e. Somatic/Retarded Activities, Depressed Affect, Interpersonal Relations, and Positive Affect). Roberts, Vernon, and Rhoades (1989) found that a four-factor model fit for both Mexican American and European American psychiatric patients. However, other studies identified different sets of factors in Latino groups. In a pooled sample drawn from three studies of urban Latinos, Posner, Stewart, Marin, and Perez-Stable (2001) found that the four-factor confirmatory model showed a marginally acceptable fit; however, additional analyses indicated that this model fit for Latina women, but not Latino men. In a study of Mexican Americans, the CES-D items "lonely," "sad," and "crying" loaded together on the Negative Affect scale, unlike results with Anglo samples (Garcia & Marks, 1989).

Similarly, in a comparison of African Americans, Anglo Americans, and Mexican Americans, some negative affect and somatic items loaded together for the Mexican Americans, but not the other groups (Roberts, 1980). Finally, Golding and Aneshensel (1989) reported high conceptual equivalence of items among Anglo Americans and both U.S.-born and Mexico-born Mexican Americans but small differences in factor structure. The sleep disturbance item loaded on the Somatic factor for U.S.-born Mexican Americans, on the Negative Affect factor for Mexico-born Mexican Americans, and on both factors for Anglo Americans. These studies indicate that the four-factor solution fits in some cases, but not others and fits better for African Americans and Anglo Americans than for Latino Americans. There appear to be subtle, but interesting differences in factor structure between Anglo and Mexican Americans, indicating possible differences in depressive symptomology.

In general, the above literature reported that there were significant cross-cultural differences in specific depressive symptoms. However, these findings still do not provide a clear and consistent pattern of differences in depressive symptomatology between European Americans and Mexican Americans. The above inconsistency in findings in the cross-cultural literature may be related to the different samples used with respect to socio-demographic variables. Furthermore, the differing assessment measures used across studies, as mentioned earlier, may also prevent researchers from finding a consistent pattern of depressive symptoms across studies. In addition, only a handful of the studies reviewed above focused solely on one specific Latino subgroup (i.e. Mexican Americans), while the remainder of the studies categorized all their Latino participants

into one "Latino" group regardless of country of origin. Given that there is much diversity between Latino subgroups with respect to sociodemographic and cultural variables, this is a significant limitation in the Latino research.

Sex Differences in Depression

Sex differences in depression are widely known and have long been acknowledged. One of the most robust findings in psychiatric epidemiology is that the prevalence of depression is greater among women than men. In a report on the epidemiology of depression, Lehmann (1977) asserted that the female-to-male ratio is about 2:1 for depressive illness in Europe and North America. Weissman and Klerman (1977) thoroughly document significant sex differences in primary affective disorders; in her monograph on the epidemiology of depression, Silverman (1968) concluded that there appears to be no exceptions to the generalization that depression is more common in females than males.

Sex differences have also been identified in the cross-cultural literature. Studies have found that, regardless of ethnic group, women report more symptoms of depression than men (Burnam, Hough, Karno, Escobar, & Telles, 1987; Canino, et al., 1987; Moscicki, Locke, Rae, & Boyd, 1989). Studies with both European American and Latino clinical and community samples have consistently reported a higher rate of depressive symptoms and depressive disorders in women than men. Weissman and Klerman (1977) reviewed over 40 community studies from 30 countries and found few exceptions to the female-to-male ratio on depression rates (about 2:1 to 3:1). Similarly, higher depression scores were found in U.S.-born Mexican American women compared to men (Golding &

Burnam, 1990). In the above findings, sex role differences, cultural conflict, and sex role changes were factors found to be associated with sex differences among the Latino population. Alternatively, some cross-cultural studies in developing countries suggested that the ratio of depression between women and men is almost equal (Culbertson, 1997). Furthermore, some researchers state that it is unclear whether women are in fact more depressed than men, or whether male and female's experiences with depression differ in ways that lead women to express symptoms, cope with, seek help, or receive labels of depression in ways different from men (Salokangas, Vaahtera, Pacriev, Sohlman, & Lehtinen, 2002; Seiffge-Krenke & Stemmier, 2002).

The possibility of sex differences in specific depressive symptoms experienced between Mexican American males and females was also noted in previous literature (Posner et al., 2001). Posner and colleagues found that different factor structures were identified in men and women. They concluded that this reflected cultural differences in the expression of depressive symptoms in Latino men and women.

In summary, the cross-cultural literature on depression conducted within the Latino culture indicated that only one consistent trend emerged. Across most studies Latinos were more likely to report somatic/physical complaints than their European American counterparts. Moreover, sex differences were consistently reported in the literature regardless of ethnicity. However, other differences in depressive symptomology were not consistently reported across studies.

Culture and Depressive Symptoms

Another factor that may be contributing to the inconsistency in findings may be related to the lack of consideration of cultural variables (e.g., family (cultural) values) that may be related to specific findings in the literature. Opler's (1959) earlier research laid the groundwork and provided evidence for the importance of acknowledging and identifying how culture is related to cultural differences in psychopathology. In this earlier work, Opler stated, "When one turns to the Diagnostic and Statistical Manual on Mental Disorders, one finds no clue to a cultural etiology" (p. 134). In more current literature, several converging lines of evidence continue to point to the possibility that the experience and conceptualization of depressive symptoms may differ across cultural groups (Jenkins, Kleinman, & Good, 1991; James & Prilleltensky, 2002). Cross-cultural research has raised the possibility that mental health and illness are contextually based and culturally embedded (e.g., Kleinman, 1986). According to the sociosomatic formulation in medical anthropology, "a person's context...influences the severity and type of symptoms experienced" (James & Prilleltensky, 2002, p. 1134); in addition, cultural categories may influence which symptoms are culturally acceptable.

Even though most cultures have concepts of sadness (a basic human emotion) and grief (a common human experience), they may not have a concept of depression similar to the mainstream European American culture. Even if they do, the symptoms associated with the core notion of sadness may differ. Furthermore, some syndromes may be linked to specific cultures, identified as culture-bound syndromes in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (American Psychiatric

Association, 1994). To provide a concrete example, Mexican culture includes a concept of nervios, an emotional affliction that is related to anxiety and depression but is recognized as distinct (Salgado de Snyder, Diaz-Perez, & Ojeda, 2000).

It is apparent that the question of cultural differences in mental disorders has existed for decades. However, few researchers have truly focused on the problem addressed by Opler to understand the role culture plays in how diverse ethnic groups may express the same psychological/emotional problem through different symptoms. Although the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders acknowledges culture, this does not provide a better understanding of what cultural variables may affect the expression of particular psychological symptoms.

Another area identified in the literature that needs to consider cultural variables is the assessment of psychological/emotional symptoms. In cross-cultural research, considering cultural variables is important because they may interact with psychological adjustment and expression of symptoms thus mediating how depression is assessed. Sue (2003) stressed this issue by reporting that cultural sensitivity in assessment is crucial, but may be a complex issue because test users need to be conscious of culturally specific behaviors or areas of development, such as family values, cultural orientation, and acculturation that have not been viewed as significant concerns in test theory or development. Furthermore, Cuellar (1998) stressed that such cultural variables are believed to be valuable in increasing the reliability and validity of cross-cultural assessment and to add meaningfully to the interpretation of psychological findings. Consequently, the discrepancies in the depression prevalence rates found in the literature

may not only be due to the different measures used across studies, but also to the fact that these studies did not acknowledge and/or investigate culture as it related to differences in depressive symptoms between mainstream European Americans and Latinos.

Coping Literature Review

Common Coping Strategies

Coping strategies are defined as the cognitive and behavioral efforts to manage internal or external demands seen as taxing or exceeding one's resources (Lazarus & Folkman, 1984). According to Lazarus' theory of stress and coping, the outcome of stressful events depends largely on our coping efforts (Lazarus & Folkman, 1984). However, the above authors also noted that coping is not restricted to the successful mastery of stressful encounters, but, rather, encompasses all behaviors and thoughts aimed at the management of the actual situation (i.e. problem-focused coping) and the concomitant emotional reactions (i.e. emotion-focused coping). Among the many different coping strategies that have been examined in the literature, three kinds of strategies have emerged as being significant for mental health, namely, problem focusing, seeking social support, and avoidance coping. These responses are active or passive coping behaviors that manage problems, or avoidant behaviors that ease the emotional distress experienced. Furthermore, in the stress and coping literature, active coping strategies have also been termed problem-focused coping whereas avoidant coping is also referred to as emotion-focused coping (Carver, Scheier, & Weintraub, 1989; Holahan & Moos, 1987).

In the literature avoidant coping is often depicted as a dysfunctional, counter-productive response to life stresses. Relying on avoidant strategies was found to be associated with poorer mental health and with situations of low controllability (Terry, 1994). Furthermore, avoidance coping was also found to be associated with different symptoms of mental disorders (Billings & Moos, 1984). This type of coping response was identified as a heterogeneous class of coping comprised of cognitive strategies, such as day-dreaming and wishful thinking (Coyne, Aldwin, & Lazarus, 1981); distractive behaviors, such as watching TV or sleeping; and strategies that remind the individual of their mental illness, such as taking medication (Parker & Brown, 1982), taking alcohol or drugs (Carver et al., 1989), or blaming oneself (Aldwin & Revenson, 1987). Aldwin and Revenson demonstrated that negative effects of avoidance on different criteria for mental health exist. Therefore, avoidance coping is considered to be maladaptive and a risk factor for psychological adjustment by many authors (Carver et al., 1989; Felton & Revenson, 1984; Holahan & Moos, 1987).

Approach coping strategies (i.e. problem-focused coping strategies), such as problem solving and seeking information, have been found to moderate the adverse influence of life stressors (Holahan, Moos, & Schaefer, 1996). The literature further identified the beneficial effect of problem-focused coping strategies. According to several studies, problem-focused coping strategies show a negative relation to concurrent symptoms of mental disorders (Billing, Cronkite, & Moos, 1983). The literature defined seeking social support as the perception of emotional sustenance, informational guidance, and tangible assistance and derives from various sources, including both the family and

broader social network (Davidson, 1987). Social support was found to be associated with mental and physical health, with speedier recovery from illness, and with the likelihood of remaining healthy when stressors occur (Cohen, 1992; Thoits, 1992).

Culture and Coping

McCrae (1984) argued that cultural norms tend to lead people within one culture to appraise events in a similar manner, and thereby respond with similar coping mechanisms. Similarly, Lazarus and Folkman proposed that understanding an individual's internalized cultural and social norms would enable predictions to be made as to how that individual would cope with various stressors. Based on these arguments, it is reasonable to suggest that to a certain extent coping styles are learned behaviors that become part of the coping repertoire of an individual through daily interaction and socialization processes. Earlier researchers, Brein and David (1971) stated that Coping strategies, viewed as socially acquired and culturally mediated, tend to produce a characteristic "modus operandi" in individuals who share similar cultural values and norms. That is, individuals from similar cultures tend to cope in ways that are congruent with the cultural milieu and also shared by other members of that culture.

As mentioned earlier, the research literature on coping among Latinos is scarce. According to Cervantes and Castro (1985), there are two factors contributing to the lack of knowledge in this area; first, only a small number of researchers have devoted their attention to the study of Latino mental health in general; and secondly, many studies are plagued by conceptual and methodological limitations. The following is an overview of the literature that has focused on coping styles used by Latinos, cross cultural differences

in coping styles between European Americans and Latinos, and discrepancies in this literature.

Coping and Latinos

Several studies have portrayed Latinos as tending to manage their external and internal resources in a "passive" or "self-modifying" way when confronted with stressful life events (Diaz-Guerrero, 1975). Diaz-Guerrero was one of the first investigators to characterize Mexicans as "passive endurers of stress" (p. 122). He identified characteristics such as obedience, self-sacrifice, submission, dependence, politeness, and courtesy, as indicative of a passive style in managing life stressors.

Other researchers have pointed to the reliance of Latinos on religious practices to reduce stress, a coping response deemed by some researchers as an emotion-focused strategy (Vega, Hough, & Miranda, 1985). Vega and colleagues cite two research studies describing the reliance on Puerto Ricans on espiritismo (Garrison, 1977) and of Cubans on santeria and of Mexican Americans on curanderismo (Sandoval, 1977) as ways of coping. According to Vega and colleagues such religious practices may provide a sense of control over situational stress and hope for an affective resolution. The literature has also reported that traditional folk medicine, self-control, and a strong belief in the healing power of God are sources of help for mental health problems among individuals of Mexican origin (MasCondes & Caraveo, 1991; Cohen, 1985; Keefe, 1981). Other investigators reported that Mexicans and Mexican Americans use members of their social network whether it is family or close family friends (i.e. seeking social support) to assist in the healing process by listening to problems and offering advice, as well as by

recommending the use of religion and herbal remedies (Salgado de Snyder, Diaz-Perez, & Maldonado, 1995).

There have been attempts in the literature to explore Latinos preferred ways of coping. Sociodemographic variables, which characterize most Latinos, have been linked to the use of emotion-focused coping strategies in some research studies (e.g.,, Pearlin & Schooler, 1978; Billings & Moos, 1981). For example, Latinos in the United States are over-represented at the bottom of the socioeconomic ladder (Bean & Tienda, 1987) and they have been found to lag behind other ethnic groups in educational attainment (O'Hare, 1989). Therefore, they tend to score higher than European Americans in the external dimension of locus of control scales (Mirowsky & Ross, 1984). Pearlin and Schooler as well as Billings and Moos observed that low educational attainment was related to the use of emotion-focused strategies.

Another salient finding in the literature is that Latinos tend to resort to avoidance to manage situational stressors, which is considered to be maladaptive and a risk factor for psychological adjustment by many authors (Carver et al., 1989). However, fatalistic avoidance has also been described by other researchers as a possible adaptive response to severe emotional distress in disadvantaged populations (Aranda, Castañeda, Lee, & Sobel, 2001). Aranda and colleagues indicated that for Mexican Americans and other U.S. Latino groups, avoidance coping responses might have an added significance. For example, they stated that avoidance coping strategies (e.g., cognitive avoidance, resignation, and emotional discharge) could be regarded as very practical responses to multiple stressors inherent in the Mexican American experience (e.g., discrimination,

acculturation stress) and in the short term can alleviate the initial stressor. Thus, fatalistic avoidance can be adaptive, if not prolonged, in the sense that it may actually increase an individual's sense of control over stressful situations that are socially constructed and out of their control (Varghese & Medinger, 1979, as cited in Aranda et al., 2001). Overall, the cross-cultural literature investigating coping styles appears to indicate that what may be adaptive coping in one culture may be viewed as maladaptive in another culture.

Cross-Cultural Differences in Coping

The review of the literature revealed that there are only a handful of studies describing cultural differences in coping strategies used by U.S. Latinos and European Americans (e.g., Emmitte & Diaz-Guerrero, 1973, 1983, 1995). This is a crucial gap in the literature, given that Latinos may experience depression and situational stressors differently than European Americans; therefore, they may also turn to culturally specific ways of coping with their depressive symptoms and stressors.

The results of one cross-cultural study reviewed conducted with Mexican American dementia caregivers, found that both men and women were more likely to use avoidance coping significantly more than their white and black counterparts even after controlling for age, income, and education (Adams, Aranda, & Kemp, 2002). The authors speculated that a sense of culturally-prescribed fatalism regarding the dementia caregiving situation may predispose Mexican Americans to rely more on avoidance coping compared to other ethnic groups. Alternatively, an earlier study on the cross-cultural differences in copings styles revealed no significant differences in coping between European Americans and individuals of Mexican descent (Diaz-Guerrero, 1995).

The author hypothesized that people from Mexico would differ from European Americans along a dimension of "active" versus "passive" coping strategies in response to stress. The "passive" approach was described by Diaz-Guerrero as an approach in which the person engages in "passive endurance" or "self-modification." On the other hand, the "active" coping style was described as one in which the person attempts to modify the outer environment; that is, the person attempts to modify the external source of stress. The author assumed this approach to be preferred in the European American culture. The results of this study indicated that European American women did not differ from the Latino women in use of active or passive coping strategies.

Another study reviewed on cross-cultural differences in coping styles between Mexican Americans and European Americans found evidence to support the presence of a response set for depressed Mexican American immigrant females (Prelow, Tein, Roosa, & Wood, 2000). In general, Prelow and colleagues found that Mexican American immigrant females tended to rate items endorsing restraint coping, seeking support for instrumental reasons, seeking social support for emotional reasons, acceptance, focus on venting emotion, and humor lower than European American females. In addition, the authors found that Mexican American immigrant females tended to rate items higher on the denial scale than European American females.

Sex Differences in Coping

Studies on sex differences in coping have produced mixed results. Some researchers have proposed that women may cope with life events differently than men. According to Vingerhoets and Van Heck (1990), there are reasons to make such a

prediction. They suggested that the research literature has portrayed women as possessing personality characteristics, which in one way or the other have been associated with the use of emotion-focused coping responses. Some of those personality characteristics are neuroticism, social inadequacy, rigidity, hostility dependency, and trait anxiety. To test their hypothesis, Vingerhoets and Van Heck administered Lazarus and Folkman's Ways of Coping Checklist to a random sample of males and females. They concluded that women in fact use more emotion-focused coping and seeking-support coping strategies. Males, in turn, scored higher than females in the use of problem-focused coping responses. Contrary to Vingerhoets and Van Heck (1990) and Lazarus and Folkman (1994), Billings and Moos (1981) observed no sex differences in the use of problem-focused coping. Furthermore, other studies found women make greater use of problem-focused coping strategies compared to men (Vitaliano, Russo, Carr, Mauro, & Becker, 1985). The authors noted that such discrepancies in the literature could be attributed to the fact that problem-focused coping, contrary to the implementation of emotion-focused strategies, are directed towards the situational context. Since the situational context tends to change from study to study, it is difficult to generalize based on differences in the use of coping strategies.

In summary, the literature on coping conducted with Latinos reviewed above indicated that two issues have been raised regarding coping behavior among Latinos. First, Latinos tend to rely on emotion-focused and avoidance coping strategies to a greater extent than European Americans. Second, the use of such strategies may be related to the values and life styles typical in the Latino culture and factors related to their

sociodemographic characteristics. Although these two issues are recurrent themes in the Latino stress and coping literature, the literature has produced mixed results. In addition, the literature reviewed by the present author revealed that there is a paucity of research on how Latinos cope with depression and/or situational stressors. Consequently, little is known about the coping strategies used by Latinos to manage depressive symptoms relative to what is known about how the mainstream, European American population copes from the literature reviewed (e.g.,, Folkman & Lazarus, 1980; Folkman, Lazarus, Dunkel-Schetter, Delongi, & Guren, 1986). Thus, further research is needed to clarify the cultural differences in coping strategies used by European Americans and Mexican Americans.

Family Values in the Latino Culture

There are several cultural characteristics that may be related to differences in depressive symptoms and in coping between Latinos and European Americans. However, this study focused on family values given that the endurance of traditional Latino cultural values and mores has been consistently noted in studies within the Latino culture (e.g., Diaz-Guerrero, 1975; Ramirez, 1987; Bean & Tienda, 1987). According to Ramirez (1987), Mexican Americans and European Americans have distinct value systems because both populations come from different historical backgrounds and sociopolitical systems. The cross-cultural literature has consistently supported the hypothesis that Mexican Americans and European Americans differ along a traditionalism/modernism dimension and that this dimension transcends many sociodemographic characteristics, which include rural-urban environments (Diaz-Guerrero, 1975; Ramirez, 1987). Ramirez

and Castañeda (1974) noted that Mexican Americans by definition were a part of a "traditional" culture embedded within a "modern" society. The following section provides information on the value orientations of Latinos described in the literature.

First, family and family cohesiveness are described to play a significant role in traditional Cuban American, Mexican American, and Puerto Rican societies (Boswell & Curtis, 1983; Comas-Diaz, 1993). Ties beyond the nuclear family are strong and extensive with all relatives, including grandparents, aunts, uncles, cousins, and padrinos (godparents). These authors stated that a sense of self-confidence and security arises from the close family bond, exemplifying the value of familism. Furthermore, Bean and Tienda (1987) stated that cohesiveness within the ethnic community was also an important factor in the integration of these minority groups in this country. They found that group cohesiveness facilitated adjustment and a successful transition into new surroundings. Given the importance of family cohesiveness, Bean and Tienda concluded that a Cuban American, Mexican American, and Puerto Rican individual from a traditional setting is likely to consult with the family in times of trouble and will find it difficult to rely on impersonal, secondary relationships for help. In contrast to traditional cultures, Ramirez noted that modern societies value the individual identity above and beyond the family. Whereas the European American child is prepared and trained to become independent of the family and face the world as an individual, the Mexican American child is trained to respect the family as an institution and reference the family throughout life.

Second, respect for family members and for the reputation of the family as a whole is an important value for traditional Latino families. Bean and Tienda reported that a double standard for men and women at work and at home exists in traditional Latino families. For example, they found that individuals from traditional families reported tasks in their home that was undertaken solely by women, such as child rearing and housekeeping; whereas, the role of the man was to provide income for the household and to make major family decisions. More traditional families were also found to demonstrate cultural pattern of machismo by a man's show of courage and manliness. Identification with traditional male sex identity may partly be responsible for the documented tendency to somaticize in the Mexican American culture. Currently, these traditional family values have been challenged by the experience of economic difficulties in Latino families. Consequently, changes in the traditional patterns have emerged where women are entering the workforce in increasing numbers.

Third, Latinos tend to prefer interpersonal relationships in groups that are nurturing, loving, intimate, and respectful. The cultural value of allocentrism emphasizes these needs. Researchers have associated allocentrism with high levels of conformity, mutual empathy, willingness to sacrifice for the welfare of the group, trust among members of the group, and high levels of personal interdependence (Marin & Marin, 1991). Similarly, simpatia is described in the literature as an important value in the Latino culture and emphasizes the need for behaviors that promote pleasant and nonconflicting social relationships. Triandis, Marin, Lisansky, and Betancourt (1984) found this value to encourage Latinos to show a certain level of conformity and to avoid conflictive

circumstances. Therefore, these authors concluded that the influences on the individual of both allocentrism and simpatia should be recognized in mental health as part of the client's culture. This recognition allows us to develop a better understanding of how to effectively work with various interpersonal issues, such as familial conflict.

Fourth, religion was also recognized in the literature as a very important part of life for traditional Latinos residing in the United States. The majority of Latinos are Catholic and religion is seen more as personal rather than as institutional. Religious beliefs are an important dimension in Mexican American culture, with profound implications for the Mexican American conception about life, death, health, and illness. Mexican American Catholics have traditionally believed that their destiny is hardship and suffering and that reward come in the next world rather than this one. To make life better and to save one's soul, one is submissive to and compliant with God's will. There is little, if anything, which one can do about the course of life's event and any active or conscious attempt to alter events is considered as thwarting God's will or playing the role of God. Earlier researchers identified the following three beliefs about mental illness withheld in traditional Mexican culture (Bruhn and Fuentes, 1977): (1) it may be suffering imposed by God since suffering is destiny, (2) mental illness can be the castigo (punishment) brought about through sin or from disobeying God's commandments, and (3) mental illness may be related to the belief that the world is a just place and fair place where people usually get what they deserve.

Moreover, Spiritualism was noted to serve as a system of psychological health for many Mexican Americans and Puerto Ricans (Sandoval, 1977). Sandoval described

spiritualism as the belief that the world we can see is surrounded by a world that is invisible. Moreover, he found this belief was held by some Mexican Americans and Puerto Ricans from lower socioeconomic classes. A curandero or curandera is a person who can communicate with a spirit and is knowledgeable about folk medicine. Therefore, there may be instances in which members of these minority groups may seek out the help of a curandero rather than a counselor due to their religious beliefs.

In summary, the above literature describing family values within the traditional Latinos culture suggest that to engage Latinos in mental health services, it is useful for the clinician to demonstrate a high level of cultural sensitivity. It is imperative that a clear understanding exists of the relationship between family values and the expression of emotional/psychological symptoms and coping strategies used by Mexican Americans and other Latinos. Cultural variables should help structure the primary basis of any intervention program (i.e. primary prevention, assessment) when working with Latinos populations. In addition, a proper awareness of the most effective and culturally acceptable solutions (i.e. coping strategies) to the problems of a specific minority population should lead to the greatest benefits for the client.

Study Objectives

The following are the objectives of the study formulated to better understand depressive symptomology and coping in Mexican Americans by comparing them to European Americans. Much is known about depressive symptomology and coping in the mainstream European American population yet the existing literature on depression in Mexican Americans is scarce. Given that they are the fastest growing minority group in

the U.S., the present research was necessary to explore possible mental health problems in this population. Furthermore, the objectives of the study were formulated in an attempt to address the limitations and methodological shortcomings of the literature reviewed.

The first objective of the present study was to provide research findings on depressive symptomology in Mexican Americans that could address the factors contributing to contradictory findings in the literature reviewed with regards to differences in prevalence rates of depression between European Americans and U.S. Latinos. To do this, this study (1) administered both the CES-D and the BDI-II and (2) focused on one specific Latino subgroup, Mexican Americans. These methodological strategies should address the inconsistencies in research design which led to the contradictory findings as they are likely to stem from the disparity in assessment measures used across studies (some studies used CES-D, while other studies used the BDI-II) and the inconsistent sampling of Latino populations. Only a handful of the existing studies focused solely on one specific Latino subgroup; while the remainder of studies reviewed pooled all Latino participants into one "Latino" category regardless of country of origin. This is a major limitation in the literature, given that there is significant diversity between Latino subgroups.

The second objective of the present study aimed to identify the differences in specific depressive symptoms reported by European Americans and Mexican Americans in this sample. In order to make inferences about the experience of or risk for depression in Mexican Americans residing in the U.S., it was necessary to identify which symptoms indicating depression were commonly reported by Mexican Americans and European

Americans. It was hoped that by identifying these symptoms a better understanding of the mental health status of these individuals would emerge that would highlight the usefulness of providing culturally sensitive assessments and interventions to those working with this population. By identifying cultural differences in specific depressive symptoms and family (cultural) values between Mexican Americans and European Americans, it was hoped that the link between culture and depression could be further explored.

The third objective of the present study aimed to identify differences in coping strategies used by Mexican Americans and European Americans to manage depressive symptoms. There is a consensus in the literature that an individual will employ a preferred coping strategy, or a set of coping strategies, when confronted with a stressful situation that might contribute to depressive symptoms (Carver et al., 1989; Fleishman, 1984; Lazarus & Folkman, 1984). Much of the literature on coping has sought to establish whether these preferred coping strategies are the result of specific situational demands (Folkman & Lazarus, 1980), traditional personality traits (McCrae & Costa, 1986), or other stable dispositions (Fleishman, 1984). However, as evidenced by the literature reviewed in this study, only a handful of studies have sought to establish how culture is related to preferred ways of coping. Furthermore, because the little that we know is based on research with European Americans, these research findings may not be applicable to Mexican Americans residing in the United States. In addition, the literature reviewed focused primarily on coping with situational stressors. As a result little is known about coping with depression within the Mexican American culture.

Lastly, the present study aimed to explore cultural differences further by investigating whether ethnicity, sex, and/or family (cultural) values (traditional/modern) were related to depressive symptoms reported more commonly by Mexican Americans and European Americans. To the author's knowledge this is the first study to investigate this relationship. An extensive literature review conducted by the present author indicated that previous researchers had not explored how cultural variables such as family values might be associated with the experience of specific depressive symptoms in a particular population. Similarly, regression analyses were used to investigate whether ethnicity, sex, and/or family (cultural) values (traditional/modern) were associated with common coping strategies employed by Mexican American and European American university students.

The present study focused on family values due to the fact that it is a salient characteristic of the Latino culture. The endurance of traditional Latino family values and mores has been identified as an important area of study within the Latino culture. From a values perspective, Latinos are found to be more traditionally religious and socially conservative than their European American counterparts. Given that family values are deeply embedded in the Latino culture, it was necessary for this study to investigate the association between family values and cultural differences in depressive symptomology reported and coping strategies employed by Mexican Americans and European Americans.

In addition, the findings of the present study may have important implications for primary prevention of depression and in the assessment of depressive symptoms in Mexican Americans. By demonstrating that cultural differences in depressive symptoms

and coping strategies employed by Mexican Americans and European Americans do exist, primary clinicians and mental health workers can better detect symptoms and further assess individuals who are at risk of becoming depressed in these populations. Furthermore, by demonstrating that cultural variables, such as family values, are related to these differences, those working with Mexican Americans can employ a more culturally sensitive assessment approach and more appropriate interventions.

Hypotheses of the Present Study

Cultural Differences in Depression Scores, Somatic Complaints, and Family Values

1. It was hypothesized that there would be significant differences between the depression scores of Mexican American and European American college students on the BDI-II and CES-D. The directionality of this difference was not predicted given the inconsistency in findings of the literature reviewed.
2. Moreover, it was expected that scores on the CES-D and the BDI-II would be positively correlated.
3. Consistent with the literature reviewed, the present study also predicted that sex differences would exist. It was predicted that females regardless of ethnicity would report experiencing more depressive symptoms than their male counterparts.
4. It was further expected that Mexican Americans in this study would endorse adhering to more traditional family values as measured by the FAS-R whereas European Americans where expected to endorse more modern family values.

5. Given the literature reviewed, it was also hypothesized that Mexican Americans would report experiencing more somatic/physical complaints on the BSI than European Americans. In addition, it was predicted that traditional Mexican American family values would be positively correlated with the report of somatic symptoms on the BSI. Moreover, positive correlations between somatic symptoms and depression scores of the BDI-II and CES-D were expected.

Cultural Differences in Specific Depressive Symptoms

6. Consistent with the literature reviewed, it was hypothesized that Mexican Americans would report experiencing more somatic symptoms on the BDI-II and CES-D than European Americans.
7. In addition, given the importance of interpersonal relationships in the traditional Latino culture, it was predicted that Mexican Americans would report more interpersonal relation problems on the CES-D than European Americans.
8. It was further hypothesized that European Americans would express items indicating positive affect more often than Mexican Americans on the CES-D. This is also consistent with the literature conducted with other Latinos subgroups.
9. Furthermore, it was hypothesized that there would be further significant differences in depressive symptomology reported on the BDI-II and CES-D by Mexican Americans and European Americans.

Relation of Ethnicity, Family Values, and Sex to Depressive Symptoms

10. It was predicted that cultural differences in specific depressive symptoms would be related to differences in the endorsement of either modern or traditional family

values by the Mexican American and European American participants. Since Mexican American participants were hypothesized to adhere to more traditional Mexican American values and beliefs than European American participants, the two groups were in turn expected to report the experience of different depressive symptoms on the BDI-II and CES-D.

11. Furthermore, it was expected that within group sex differences would emerge. Given that in the traditional Mexican American culture females are socialized to play sex specific roles, sex differences in the report of specific depressive symptoms as they relate to traditional family values were also expected to emerge.

Cultural Differences in Coping

12. It was further hypothesized that there would be significant differences between Mexican American and European American participants' preferred ways of coping to manage depressive symptoms. The present study examined the following three hypotheses with respect to cultural differences on the COPE questionnaire. These hypotheses were consistent with those found in the literature reviewed:

    1. In light of the literature reviewed, it was hypothesized that Mexican Americans in this study would report the use of avoidance coping strategies (i.e. Denial) more often than European Americans while European Americans would endorse the use of active coping on the COPE questionnaire more often than Mexican American participants.

2. It was further hypothesized that Mexican Americans would report that they rely more on seeking social support from peers and family as well as religion as a way to cope with depressive symptoms than their European American counterparts.
3. Additional ethnic differences were also expected to exist between Mexican Americans and European Americans on the scales of the COPE questionnaire. To this author's knowledge, differences in coping strategies between these two groups other than the ones hypothesized above have not been identified or explored in the literature.

Relation of Ethnicity and Family Values to Coping Strategies

13. It was also predicted that cultural differences in preferred ways of coping identified on the COPE questionnaire would be related to differences in the endorsement of modern or traditional family values between the Mexican American and European American participants. No within group sex differences were predicted given the inconsistency of previous research findings.

Method

Participants

Mexican American and European American college students from The University of Texas at Austin (UT) and Saint Edward's University in Austin participated in the present study (N=306). Participation in the study was limited to college students, between the ages of eighteen to twenty-two, and who were of Mexican American and European American descent.

The participants from UT were recruited through the Center for Mexican-American Studies (CMAS) and the Psychology Department subject pool as well as registered UT student organizations and sororities. The CMAS office released a list of their courses as well as a list of the professors teaching the courses to the principal investigator for purposes of recruitment. After this information was made available, the principal investigator contacted the professors and acquired permission for research assistants to recruit participants during class time. At which time, the general purpose of the study was described by the principal investigator while research assistants distributed a sign up sheet on which volunteers chose a date and time most convenient for their participation. Volunteers were then asked to provide their email addresses in order to receive an email reminder the day prior to participation.

The principal investigator contacted the officers (i.e. President or Vice-President) of different Latino organizations, sororities, and other registered student organizations at UT to recruit participants. Permission was acquired to attend a formal organization meeting to give a brief presentation describing the purpose of the study in order to recruit volunteers. These volunteers also chose a date and time most convenient for their participation. Participants were also recruited through the University of Texas Psychology Department subject pool. These students are required to sign up for research credit hours through the UT Psychology Department website in order to complete their requirement for the course entitled Introduction to Psychology. When these students completed their participation in the present study, the principal investigator signed department documentation of the research hours the student participated.

In order to recruit participants from Saint Edward's University, the registrar's office was contacted to follow appropriate procedure for participant recruitment at this institution. Once permission was granted by the Dean of Students at Saint Edward's University, participants were recruited from classes and student organizations. Flyers were also posted at the university campus. Recruitment of participants from other than UT-Austin was important in order to recruit varying populations with respect to socio-demographic variables. To compensate for their time, all participants were invited to a two hour interactive presentation delivered on two separate dates that provided suggestions on how to apply to graduate programs in Psychology presented by the principal investigator with the aide of research assistants.

All participants in this study were assured their involvement would be confidential. Participants were asked not to include any identifying information (e.g. name or social security number) on the actual questionnaires. Instead, all participants were assigned a number that corresponded to their packet of questionnaires. All study data was maintained in a locked filing cabinet.

Procedure

Participants completed a packet of self-administered questionnaires (See Appendix A). Administration took place in the participants' respective university campus classrooms in an environment void of distractions. Upon arrival at the prearranged location, participants were asked to read a consent form and were informed that the assessment of difficult issues could cause some discomfort. Therefore, they were told to call the Principal Investigator if they had any questions about other risks they may

experience. Furthermore, they were provided with a list of resources they could call with questions or if in need of counseling and/or mental health assistance. Once they signed the consent form, participants were asked to direct any questions to one of the research assistants. When participants completed the packet of instruments, they were debriefed and informed that they could contact the principal investigator with questions regarding the present study.

Measures

Demographic Questionnaire. The Demographic Questionnaire (Ramirez, 2000) used in the present study consisted of questions about sex, age, and ethnicity as well as generation level that best applied to the participant. For example, the demographics questionnaire described a "first generation" individual as a person who was born in Mexico or other country, "second generation" is when the person was born in the United States but one parent was born in Mexico or another country, third generation is when the person and both parents were born in the U.S. but all grandparents were born in Mexico or another country, fourth generation is when the person and parents were born in the U.S. but at least one grandparent was born in Mexico or another country, and fifth generation is when the person as well as parents and grandparents were all born in the United States. In addition, the demographic questionnaire assessed information on the education level of the participant, annual family income, and parents' occupations. Furthermore, the questionnaire asked about religious background of the respondent and the extent of their participation in religious activities.

Family Attitude Scale-Revised (FAS-R). The Family Attitude Scale was developed by Ramirez (1969) and revised by Ramirez and Carrasco (1996). This instrument assesses individuals' degree of identification with traditional Mexican American values and some European American mainstream middle class values. The FAS-R encompasses the following six dimensions of traditional values related to the family: loyalty to the family, strictness in childrearing, respect for adults, and separation of sex roles as well as male superiority and time orientation. Participants can respond to each item on a Likert scale ranging from Strongly Agree to Strongly Disagree. The FAS-R has been used in cross-national studies for parents and adolescent children of Mexican, Mexican American, and European American descent (Rodriguez, Ramirez, Korman, 1999). Data collected from 564 participants in a cross-national study conducted in Mexico and the United States yielded an alpha coefficient of .75 for the entire sample.

Brief Symptoms Inventory (BSI). The Brief Symptoms Inventory (Derogatis, 1993) is a 53-item self-report symptom scale. It asks respondents to rate the level of distress experienced on a five-point scale, ranging from 1="not at all" to 5="extremely." The BSI is scored and profiled in terms of three global indices of distress and nine primary symptom dimensions. The instrument taps the following dimensions: somatization, obsessive-compulsive disorder, interpersonal sensitivity, depression, anxiety, phobic anxiety, paranoid ideation and psychoticism. Psychometric evaluation revealed it to be a reliable short version of the complete scale, the SCL-90-R, (Derogatis & Melisaroots, 1983). Only the somatization scale of the BSI was used for the purpose of

the present study. High convergence between BSI scales and like dimensions of the MMPI-II provide good evidence of convergent validity.

Beck Depression Inventory-II (BDI-II). The BDI-II is a 21-item self-report measure created to assess the severity or intensity of depressive symptoms (Beck & Steer, 1993; Beck, Steer, & Brown, 1996). The BDI-II has been found to be a reliable and valid instrument to measure depression in a variety of normal and psychiatric populations (e.g., Beck, Steer, & Garbin, 1988). According to the manual for the BDI-II, scores ranging from 0 to 13 are considered not depressed, scores from 14 to 19 mildly depressed, 20 to 28 moderately depressed, and 29 to 36 severely depressed. Rather than mandating specific cutoff scores for research purposes, Beck and colleagues recommended choosing cutoff scores carefully, depending on the need for either specificity or sensitivity. They noted that a very conservative cutoff score of 17 yields a true positive rate of 93% and a false positive rate of 18%. They recommended that if the purpose of the study is to identify the maximum number of possible cases of depression, cutoff scores should be set somewhat lower, but still within the range of scores (14 to 19) representing "mild depression." For the purposes of this study item number nine of the BDI-II indicating suicidal thoughts and wishes was omitted.

Several studies have examined the factor structure of the BDI-II in differing populations with varying consistency. Furthermore, the literature has identified a two-factor solution (Cognitive-Affective and Somatic) for psychiatric outpatients (Beck et al., 1996), primary care medical patients (Arnau, Meagher, Norris, & Bramson, 2001), clinically depressed outpatients (Steer, Ball, Ranieri, & Beck, 1999), depressed geriatric

inpatients (Steer, Rissmiller, & Beck, 2000), and college students (Beck et al., 1996; Dozois, Dobson, & Ahnberg, 1998; Whisman, Perez, & Ramel, 2000). The following were the identified Somatic Factor items: tiredness/fatigue, loss of energy, concentration difficulties, changes in sleeping patterns, and changes in appetite. The following were the identified Cognitive-Affective factor items: sadness, pessimism, past failure, loss of pleasure, guilt feelings, punishment feelings, self-dislike, self-criticalness, crying, agitation, loss of interest, indecisiveness, worthlessness, irritability, and loss of interest in sex. Alternatively, a few studies have identified a three-factor solution for the BDI-II with adolescent psychiatric outpatients (Cognitive, Somatic, and Guilt/Punishment; Steer, Kumar, Ranieri, & Beck, 1998) and college students (Negative Attitude, Performance Difficulty, and Somatic Elements; Osman et al., 1997).

Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D (Radloff, 1977) is a widely used self-report measure developed for use in studies exploring the epidemiology of depressive symptomology in the general population. It is composed of 20 items that reflect various aspects of depressive symptomology. Respondents describe their mood over the past week by rating each of 20 items on a scale from 1 [rarely or none of the time] to 4 [most or all of the time]. The measure contains 16 negative items such as "I felt depressed" and four positive items such as "I was happy." Negative items include seven items each for "Depressed affect" and "Somatic and retarded activities" and two items for "Interpersonal relations." For the purposes of the present study, the CES-D factors (See Appendix C) were also used which incorporated Depressive Affect (7 items), Positive Affect (4 items), Somatic and Retarded Activity (7

items), and Interpersonal Problems (2 items) (Randloff, 1977). Furthermore in this study, questions were asked with respect to the preceding two weeks in order for it to be consistent with the BDI-II. The CES-D is used with three types of scoring: ordinal, presence, and persistence. The present study used the ordinal scoring method which utilizes a Likert-type scoring format that is intended to identify the presence and severity of depressive symptoms.

COPE Inventory. The COPE Inventory (Carver, Scheier, & Weintraub, 1989) is a 60-item self-report inventory that measures the following 15 dispositional coping strategies (styles): active coping, planning or thinking about how to confront the stressor, seeking instrumental social support, seeking emotional social support, suppression of competing activities, religion, positive reinterpretation and growth, restraint coping, acceptance, focus on and venting of emotions, denial, mental disengagement, behavioral disengagement, alcohol/drug use, and humor (See Appendix B for full description of COPE scales). Each item on the COPE is a statement worded in the first person that indicates the use of a particular coping response and is rated on a 4-point scale, which ranges from "I usually don't do this at all" to "I usually do this a lot." The discriminant validity of the coping styles with regard to a wide range of personality traits has been demonstrated (Carver et al, 1989). For the purposes of the present study participants were instructed to indicate what they generally do to manage symptoms that they may have endorsed on the BDI-II and CES-D.

Characteristics of the Sample

Table 1 presents characteristics of the sample including means, standard deviations, and significant differences between Mexican Americans and European Americans. A total of 136 (44.4% of the overall sample) college students of Mexican descent and 170 (55.6% of the total sample) European American college students participated in the present study. The mean generational level for Mexican American participants was second generation, meaning the participant was born in the USA with either parent born in Mexico. As expected the mean generational level for European American participants was fourth to fifth generation, meaning the participant and both parents were born in the USA with at least one grandparent born in Mexico or another country. This difference in generational level between the Mexican Americans and European Americans was significant, t (304) = - 28.32, $p < .0001$.

Characteristics of the sample further indicate that there was not a significant difference in annual household income, with Mexican Americans reporting an average of $55,000 to $59,999 combined family annual income; while European American participants reported an average of $60,000 to $64,999. In addition, Mexican Americans reported being significantly more active in religious activities than the European Americans in this sample (t (304) = - 2.91, $p < .05$). No significant differences were found in the BDI-II and CES-D scores between Mexican Americans from The University of Texas at Austin and St. Edward's University. The mean differences indicated that Mexican American participants from the two institutions were reporting similar levels of depressive symptoms on both measures.

Data Analyses Strategy

Prior to any statistical data analyses, a mean score for the FAS-R was calculated for each participant. A mean score on the FAS-R closer to one indicated a higher degree of identification with modern European American values while a mean score on the FAS-R closer to five indicated a higher degree of identification with traditional Mexican American values. A sum of scores for each participant was also calculated for the BDI-II and CES-D to indicate level of depression experienced. Moreover, sum of scores were also calculated for the CES-D factor structures (Somatic and Retarded Activities, Depressed Affect, Interpersonal Relations, and Positive Affect), after the four positive items were reversed scored. For the purposes of this study, no cutoff scores for depression were established. In addition, a sum of scores for each participant was calculated for the somatic subscale of the BSI to indicate level of physical/somatic complaints. A score on the somatic subscale of the BSI closer to five indicated a higher number of somatic symptoms reported while a score closer to one indicated less somatic symptoms. Lastly, a mean score for each of the fifteen COPE scales was calculated to identify preferred coping styles/strategy for each participant.

Next, one way ANOVAs were conducted to investigate significant differences between the means of Mexican Americans and European Americans for the above measures. Then, individual t-tests were computed comparing means of individual items of the depression scales. These analyses were conducted to identify significant differences in specific depressive symptoms between Mexican Americans and European Americans in this sample. Similarly, individual t-tests were conducted on the individual

coping scales sum of scores to identify significant differences in coping strategies used between Mexican Americans and European Americans in this sample. Bonferroni corrections were used in the above mean comparisons to account for experimentwise error rate (inflated alpha level) that results from conducting large number of tests. Hence, the level of significant was adjusted for the number of tests that were conducted.

Once significant differences were established in specific depressive symptoms and coping strategies, general linear regression models were used to further explore the predictors of these between group differences. Specifically, ethnicity, sex, and family values (i.e. FAS-R) as well as the cross-products of these variables were entered as predictor variables into the regression model. Each depressive symptom and coping strategy was entered individually as a dependent variable into the regression model. All first order and second order term were included in the equation. When the higher order interaction in the regression equation was not significant, a step-down procedure was utilized in which the higher order interaction was dropped from the equation and the first order effects were estimated using the equation. Then, estimated marginal means were explored to investigate the directionality of the interaction.

Results

Cultural Differences in Depression, Somatic Complaints, and Family Values

One-way ANOVAs were computed comparing the mean sum of scores of the BDI-II, CES-D, BSI somatic scale, and FAS-R between Mexican Americans and European Americans. Table 2 presents all means and standards deviations for these scales as well as significant alpha levels for between group differences. First, a one-way

ANOVA comparing Mexican American and European American participants' total sum of scores on the BDI-II and CES-D indicated a significant difference between the two ethnic groups, F (1, 304) = 63.45, $p < .0001$ and F (1, 304) = 10.72, $p < .001$, respectively. These results revealed that Mexican Americans reported experiencing significantly more depressive symptomatology on both the BDI-II and CES-D than did European Americans.

Furthermore, to investigate the relationship between subjects' BDI-II scores and CES-D scores a Pearson correlation was calculated. A positive correlation was found, r (304) = .56, $p < .001$, indicating a significant linear relationship between the two measures. Thus, participants who reported experiencing more depressive symptoms on the BDI-II also reported experiencing more depressive symptoms on the CES-D while participants who reported experiencing less depressive symptoms on the BDI-II reported experiencing less depressive symptoms on the CES-D. Moreover, significant sex differences were found in the overall sample, F (1, 304) = 6.13, $p < .05$, indicating that females regardless of ethnicity reported experiencing more depressive symptoms than their male counterparts.

In addition, a one-way ANOVA comparing the mean sum of scores of the FAS-R (family values) indicated a statistically significant difference was found between the two groups, F (1, 304) = 1219.56, $p < .0001$. The mean of Mexican Americans' FAS-R score was significantly higher than the mean of European Americans' FAS-R score suggesting a higher degree of identification with traditional family values; whereas the mean of

European Americans' FAS-R score was significantly lower than Mexican Americans suggesting a higher degree of identification with modern family values.

Moreover, a one-way ANOVA was computed comparing the mean sum of scores of the BSI somatic scale between the two groups. A significant between group difference was found, F (1, 304) = 337.73, $p < .0001$, suggesting that Mexican American participants reported experiencing more physical/somatic complaints than European American participants on the somatic scale of the BSI. Lastly, a Pearson correlation coefficient was calculated to investigate the relationship between subjects' family values, depression (BDI-II and CES-D scores), and somatic complaints endorsed on the BSI. A strong positive correlation was found between family values and somatic complaints, r (304) = .71, $p < .001$, indicating a significant linear relationship between the two variables. That is, participants who reported more traditional family values also reported experiencing more somatic complaints on the BSI. Furthermore, a significant positive correlation was found between depression scores on the BDI-II and the CES-D to somatic complaints, r (304) = .50, $p < .001$ and r (304) = .26, $p < .001$, respectively. These results demonstrated that participants who reported experiencing more depressive symptoms on both measures also reported experiencing more somatic complaints on the BSI. Mexican Americans were more traditional and reported more depressive symptoms on both measures as well as more somatic complaints than European Americans.

Cultural Differences in Specific Depressive Symptoms

Cultural Differences on Somatic/Physical Items. T-tests were conducted on individual items indicating somatic/physical complaints on the BDI-II and CES-D to

investigate significant mean differences between the Mexican Americans and European Americans. A Bonferroni corrected significant alpha level of .0025 was set to adjust for the large sample size and multiple comparisons. Table 3 presents the means and standard deviations by ethnic group for somatic items of the BDI-II and CES-D.

Results show significant between group differences were found for loss of energy (t (304) = 12.25, $p < .001$) and changes in sleep (t (304) = 3.16, $p < .01$) on the BDI-II. Mean differences indicate that Mexican Americans reported the experiences of loss of energy and changes in sleep patterns more often than European Americans in this study. Moreover, findings indicate significant between group differences were found for changes in appetite (t (304) = 11.27, $p < .001$), concentration difficulties (t (304) = 13.63, $p < .001$), and tiredness and fatigue (t (304) = 13.63, $p < .001$) on the BDI-II. As shown in Table 3, the means of Mexican Americans on items indicating these symptoms were significantly higher than the means of European Americans on these items.

Furthermore , a one-way ANOVA comparing the sum of scores of the Somatic Complaints and Retarded Activities factor structure of the CES-D found a significant difference between the two groups, F (1, 304) = 57.33, $p < .0001$. This analysis revealed that Mexican American participants reported significantly more somatic complaints and retarded activities (M = 16.43, SD = 2.81) than European American participants (M = 13.58, SD = 3.59). To further investigate the between group differences of the CES-D factor structure presented above, individual t-test analyses were conducted on individual somatic items of the CES-D and mean differences between Mexican Americans and European Americans were explored. The findings indicated that there was a significant

between group difference for the items "trouble concentrating" (t (304) = 2.68, $p < .01$) and "poor appetite" (t (304) = 11.06, $p < .001$). As shown in Table 3, Mexican Americans' means on both these items were higher than those of European Americans. Results further indicated a significant between group difference for the items "talking less" (t (304) = 4.62, $p < .001$) and "feeling that everything was an effort" (t (304) = 4.63, $p < .001$). Mean differences show that Mexican Americans' scores were higher on these items than those of European Americans.

Cultural Differences on Interpersonal Relational Items. A one-way ANOVA revealed a significant between group difference in the Interpersonal Relations factor structure of the CES-D, F (1, 304) = 40.68, $p < .0001$. This analysis revealed that Mexican American participants reported experiencing significantly more interpersonal relation problems (M = 3.75, SD = 1.32) than European American participants (M = 2.82, SD = 1.23). To further investigate the between group differences of the CES-D factor structure presented above, individual t-test analyses were conducted on individual interpersonal relation items of the CES-D and mean differences between Mexican Americans and European Americans were explored. A Bonferroni corrected significant alpha level of .0025 was set to adjust for the large sample size and multiple comparisons.

An individual t-test indicated that a significant between group difference was found for the item "feeling people were unfriendly" (t (304) = 5.01, $p < .001$). Mean difference show that Mexican Americans (M = 1.88, SD = .85) reported "feeling people were unfriendly" more often than European Americans (M = 1.44, SD = .69). Moreover, an individual t-test indicated that a significant between group difference was found for

the item "feeling people disliked me" (t (304) = 5.97, p < .001). Mean differences show that Mexican American (M = 1.87, SD = .73) reported this item more often than European American participants (M = 1.38, SD = .70).

Cultural Differences in the Expression of Positive Affect. A one-way ANOVA comparing the mean sum of scores of the Positive Affect factor structure revealed a significant between group difference, F (1, 304) = 36.33, p < .0001. This analysis indicated that European Americans reported more positive affect items (M = 11.71, SD = 1.97) than Mexican American participants (M = 10.08, SD = 1.72). To further investigate the between group differences of the Positive Affect CES-D factor, individual t-test analyses were conducted on individual positive affect items of the CES-D and mean differences between Mexican Americans and European Americans were explored. Table 4 presents the means and standard deviations by ethnic group for items of the Positive Affect factor.

Individual t-tests indicated that a significant between group difference was found for the items indicating "feelings of happiness" (t (304) = - 3.23, p < .001), "feeling hopeful" (t (304) = - 10.38, p < .001), and "enjoying life" (t (304) = - 9.31, p < .001). As shown in Table 4, European Americans' mean scores were higher for these items than those of Mexican Americans suggesting they experienced these positive affect items more often than Mexican Americans. Furthermore, an individual t-test indicated that a significant between group difference was also found for the item "feeling as good as others" (t (304) = 7.53, p < .001). Alternatively, this result suggests that Mexican

Americans reported experiencing "feeling as good as others" on the Positive Affect factor significantly more than European Americans.

Further Cultural Differences in Specific Depressive Symptoms. Exploratory t-tests were conducted on the remaining items of the BDI-II and CES-D to investigate other significant mean differences between the Mexican American and European American participants. Table 5 presents the means and standard deviations by ethnic group for these depressive items of the CES-D and BDI-II.

Results show a significant between group difference was found for sadness (t (304) = - 9.79, p < .001). As shown in Table 5, the mean of European Americans for the item indicating sadness was higher than the mean of Mexican Americans on this item. Moreover, results show a significant between group difference was found for loss of pleasure (t (304) = 3.42, p < .001), guilt feelings (t (304) = 18.17, p < .001), and punishment feelings (t (304) = 10.47, p < .001). Mean differences suggest that Mexican Americans reported experiencing loss of pleasure, guilt feelings and punishment feelings more often than European Americans. Furthermore, results indicate that a significant between group difference was found for agitation (t (304) = 5.74, p < .001). The mean difference suggests that Mexican American participants reported the symptom agitation more than European American participants. Results further indicate a significant between group difference was found for the symptom of indecisiveness (t (304) = - 3.39, p < .001). As shown in Table 5, the mean of European Americans for the item indicating indecisiveness was higher than the mean of Mexican Americans on this item. Furthermore, results show a significant between group difference was found for

worthlessness (t (304) = 3.81, p < .001) and irritability (t (304) = 8.82, p < .001). Mean differences indicate that Mexican Americans scored higher on these items than European Americans. A final significant between group difference was found for loss of interest in sex (t (304) = - 10.60, p < .001). Mean differences indicate that European Americans reported these symptoms more than Mexican Americans.

Non-Significant Cultural Differences in Depressive Symptoms. A one-way ANOVA comparing the mean sum of scores of the Depressed Affect factor structure of the CES-D indicated there was not a significant difference between the two groups, F (1, 304) = .15, p = .69. T-tests indicated no significant mean differences were found on the specific items of the Depressive Affect factor structure between European Americans and Mexican Americans in this study (e.g., could not shake of blues, felt depressed, life a failure, felt fearful, felt lonely, crying spells, and felt sad). Moreover, individual t-test analyses indicated that the following symptoms on the BDI-II were not found to be reported significantly different between the two groups: pessimism (.052), past failure (p = .584), crying (p = .27), self-dislike (p = .56), self-criticalness (p = .089), and loss of interest (p = .324).

Relation of Ethnicity, Family Values, and Sex to Depressive Symptoms

General linear regression analyses were conducted in this study to investigate whether family values (FAS-R), ethnicity, and/or sex were related to the depressive symptoms that were identified to be significantly different between Mexican American and European American participants. First, ethnicity, sex, and family values (i.e. FAS-R) as well as the cross-products of these variables were entered as predictor variables into

the regression model. Then, each depressive symptom was entered individually as a dependent variable into the regression model. When the higher order interaction in the regression equation was not significant, a step-down procedure was utilized in which the higher order interaction was dropped from the equation and the first order effects were estimated using the equation. In this study, regression analyses achieved significant results for 3-way and 2-way interactions as well as significant main effects. The significant interactions were explored with complex factorial ANOVA models (by exploring estimated marginal means of interactions).

Regression Analyses for BDI-II symptoms. Table 6 presents regression equations for significant depressive symptoms of the BDI-II that were related to the FAS-R (family values), sex, and ethnicity interaction terms.

Regression results indicate a significant 3-way interaction between FAS-R score (family values), ethnicity, and sex was found for the depressive symptom of guilt feelings (t (305) = - 2.54, $p < .05$). Estimated marginal means suggest that Mexican American females who reported traditional family values were more likely to report guilt feelings (see Table 7 for estimated marginal means of significant 3-way interactions for BDI-II symptoms). A 3-way interaction also emerged for the symptom of punishment feelings (t (305) = 1.97, $p < .05$), which also suggests that Mexican American females who reported traditional family values also reported feelings of being punished. In addition, a significant 3-way interaction between family values, ethnicity, and sex was found for the depressive symptom of worthlessness (t (305) = - 1.92, $p < .05$). Estimated marginal means suggest that Mexican American females who reported traditional family values

were more likely to report experiencing worthlessness. Moreover, significant 3-way interactions were found for the depressive symptoms of changes in appetite (t (305) = - 2.36, p < .05) and concentration difficulties (t (305) = 2.05, p < .05). Alternatively, these findings suggest that Mexican American males who reported traditional family values were more likely to report changes in appetite and concentration difficulties.

Now that all significant 3-way interaction equations were interpreted, two-way interactions were explored. Table 8 provides regression equations predicting depressive symptoms on the basis of ethnicity, sex, and FAS-R (family values) 2-way interaction terms.

Findings show a significant 2-way interaction between ethnicity and family values was found for the depressive symptom of agitation (t (305) = 3.05, p < .01). As shown in Table 9, estimated marginal means suggest that Mexican Americans who reported traditional family values were more likely to report agitation. In addition, a significant 2-way interaction between ethnicity and family values was found for the depressive symptom of tiredness and fatigue (t (305) = 2.59, p < .01). This result also suggests that Mexican Americans in this sample who reported traditional family values were more likely to report experiencing tiredness and fatigue. Moreover, a significant 2-way interaction between ethnicity and family values was found for the symptom loss of pleasure (t (305) = - 2.14, p < .05). Alternatively, this finding suggests that Mexican Americans who reported adhering to modern family values experience loss of pleasure in everyday activities. Similarly, a significant 2-way interaction between ethnicity and family values was found for irritability (t (305) = - 3.40, p < .001) indicated that Mexican

Americans who reported modern family values were also more likely to report experiencing irritability.

Moreover, a significant 2-way interaction was found between ethnicity and sex for the depressive symptom of sadness (t (305) = 5.46, $p < .001$). Estimated marginal means suggest that European American females were more likely to report the experience of sadness on the BDI-II (see Table 10).

To further explore those depressive symptoms that were reported significantly different by the two groups but not predicted by interaction terms, the individual factors were investigated in further regression analyses. Results reveal significant main effects (see Table 11). These findings indicate that ethnicity was related to the report of depressive symptom of loss of interest in sex (t (305) = 7.07, $p < .001$). Estimated marginal means suggest that European Americans' report of loss of interest in sex (M = 1.91, SE = .09) was significantly higher than Mexican Americans' (M = .42, SE = .10) report of loss of interest in sex. Furthermore, findings indicate that ethnicity was also related to the report of loss of energy (t (305) = - 4.26, $p < .001$). Specifically, Mexican Americans reported scored higher on loss of energy (M = 1.80, SE = .06) than European American (M = .82, SE = .05). Alternatively, the report of changes in sleeping patterns (t (305) = - 2.37, $p < .05$) was predicted by family values. In this sample individuals who reported traditional family values (M = .77, SD = .75) reported changes in sleeping patterns more often than individuals who reported modern family values (M = .45, SD = .62).

Regression Analyses for CES-D Symptoms. No significant 3-way interactions were found for CES-D depressive symptoms. Sex did not interact with other factors to predict depressive symptoms on the CES-D. Table 12 presents regression equations for CES-D depressive symptoms that were predicted by the FAS-R score (family values) and ethnicity interaction term. Results indicate a significant 2-way interaction between ethnicity and FAS-R (family values) for the following Somatic and Retarded Activities factor structure items: everything was an effort (t (305) = 2.30, $p < .05$), poor appetite (t (305) = - 2.07, $p < .05$), and talking less (t (305) = - 2.23, $p < .05$). As shown in Table 13, estimated marginal means suggest that Mexican Americans who reported adhering to traditional family values in this sample were more likely to report these symptoms.

Table 12 also indicates a significant 2-way interaction exists between ethnicity and family values for the Interpersonal Relation factor structure items. Specifically, there was a significant 2-way interaction between ethnicity and FAS-R (family values) for "feeling people were unfriendly" (t (305) = - 2.38, $p < .05$) and "people disliked me" (t (305) = - 3.33, $p < .001$). Table 13 also shows that Mexican Americans who reported traditional family values were more likely to report feeling that people were unfriendly and feeling that people disliked them.

A significant interaction term was not found for Positive affect items of the CES-D. Table 14 presents regression equations predicting CES-D positive affect items on the basis of ethnicity. These results indicate that ethnicity was related to the following items: feeling hopeful about the future (t (305) = 3.46, $p < .001$), feeling happy (t (305) = 4.09, $p < .0001$), and enjoying life (t (305) = 2.48, $p < .05$). Estimated marginal means suggest

that European Americans scored higher on feeling hopeful about the future (M = 3.10, SE = .07) than Mexican Americans (M = 2.08, SE = .07). In addition, European Americans scored higher on feeling happy (M = 3.02, SE = .06) and enjoying life (M = 3.31, SE = .07) than Mexican Americans (M = 2.71, SE = .07; M = 2.383.10, SE = .07, respectively). Alternatively the positive affect item of "feeling you were as good as others" was significantly related to family values (t (305) = 4.36, p < .0001). In this sample, individuals who reported traditional family values scored higher on "feeling you were as good as others" (M = 2.79, SE = .07) than those who reported modern family values (M = 2.39, SE = .06).

Ethnic Differences in Coping:

T-tests, with a Bonferroni corrected alpha of p<.0033, were conducted to compare the mean sum of scores of the COPE scales between Mexican American and European American participants. These results indicate that there were significant ethnic differences in coping strategies reported by each group on the COPE scales.

Cultural Differences in Active vs. Avoidance Coping Strategies. T-tests comparing mean scores between Mexican Americans and European Americans found a significant difference between the means of the two groups for Active Coping (t (305) = - 27.83, p < .0001) and Denial (t (305) = 18.57, p < .0001) on the COPE questionnaire. These results suggest that European Americans (M = 3.21, SD = .40) reported more often the use of Active Coping than Mexican Americans (M = 2.01, SD = .33). Alternatively, mean differences between the two groups suggest that Mexican Americans (M = 2.84,

SD = .43) reported the use of Denial more often than European Americans (M = 1.78, SD = .54).

Cultural Differences in Seeking Emotional Social Support & Religious Coping. An independent t-test comparing mean scores between Mexican Americans and European Americans found a significant difference between the two groups for the use of Religion (t (305) = 25.55, p < .0001) as a way of coping. Mean differences suggest that Mexican Americans (M = 3.50, SD = .56) reported the use of religious activities more often as a preferred way of coping with depressive symptoms than European Americans (M = 1.96, SD = .50). However, an individual t-test indicated that there were no significant between group differences for the coping strategy of Seeking Social Support (t (304) = - 1.58, p = .11). The means between Mexican Americans (M = 2.13, SD = .45) and European Americans (M = 2.16, SD = .83) were not significantly different.

Further Cultural Differences in Coping Strategies. Exploratory t-tests were conducted on the remaining coping scales of the COPE questionnaire to investigate other significant mean differences between the Mexican Americans and European Americans in this sample. Table 15 presents means and standards deviations for the remaining COPE scales that were significantly different between Mexican Americans and European Americans.

These results reveal that an independent t-test comparing mean scores of Mexican Americans and European Americans for Venting found a significant difference between the two groups (t (305) = - 9.24, p < .0001). The mean difference indicates that European American participants reported the use of focus on and venting of emotions more often

than Mexican American participants. Moreover, t-tests comparing mean scores between the two groups found significant differences between the groups for Substance Use (t (305) = - 5.46, p < .0001) and Seeking Instrumental Support (t (304) = - 3.92, p < .0001). As Table 15 shows, means suggest that European Americans were more likely than Mexican Americans to report substance use and seeking instrumental support. Moreover, t-tests comparing mean scores between Mexican Americans and European Americans found significant differences between the groups for coping strategies of Acceptance (t (305) = 4.45, p < .0001) and Restraint (t (305) = 7.42, p < .0001). Mean differences suggest that Mexican Americans were more likely than European Americans in this study to report the use of Acceptance and Restraint coping strategies. Finally, the findings suggest that there were no significant differences between Mexican American participants and European American participants in the use of Positive Reintegration and Growth, Behavioral and Mental Disengagement, Planning, Suppression of Competing Activities, and Humor.

Sex Differences in Coping. Furthermore, one-way ANOVAs investigating sex differences indicated that differences were only found for Venting (F (1, 304) = 5.76, p < .0033) and Substance Use (F (1, 304) = 5.45, p < .0033). These results suggest that regardless of ethnicity (M = 2.20, SD = .78), Mexican American and European American females were more likely to use venting to cope with depressive symptoms than their males counterparts (M = 1.80, SD = .066). Whereas, males in both groups (M =2.27, SD = .71) were more likely to resort to substance use as a coping strategy than females (M =1.80, SD = .69).

Family Values, Ethnicity, Sex, and Coping Strategies

General linear regression analyses were conducted in this study to investigate whether family values (FAS-R), ethnicity, and/or sex predicted coping strategies that Mexican Americans and European Americans reported using more often. First, the variables of FAS-R, ethnicity, and sex were entered into the regression model, employing each significant depressive symptom as the dependent variable. Then, the product terms of the aforementioned factors were entered into the model.

Table 16 presents regression equations predicting coping on the basis of ethnicity, sex, and FAS-R (family values). These results show that a significant 3-way interaction between family values, ethnicity, and sex was related to Substance Use coping strategy (t (305) = 2.98, $p < .01$). As shown in Table 17, estimated marginal means suggest that European American males who reported modern family values also reported the use of substances to cope with depressive symptoms. In addition, a significant 3-way interaction between ethnicity, sex, and family values emerged for religious coping (t (305) = - 2.39, $p < .05$). Mean differences suggest that Mexican American females who reported traditional family values also reported the use religious coping.

After exploring the three-way product terms for significance, the two-way product terms were explored. A significant 2-way interaction between ethnicity and FAS-R (family values) was found for Restraint coping strategy (t (305) = - 3.12, $p < .01$). As observed on Table 18, estimated marginal mean differences suggest that Mexican Americans who reported modern family values were more likely to report the use of restraint to cope. There was also a significant 2-way interaction between ethnicity and

FAS-R for Acceptance coping strategy (t (305) = - 1.84, $p < .05$). This result suggests that Mexican Americans who reported traditional family values in this sample were more likely to use acceptance as a way to cope. In addition, a significant 2-way interaction between ethnicity and FAS-R was found for Active Coping (t (305) = 2.48, $p < .05$). Mean differences suggest that European Americans who reported modern family values were more likely to use active coping strategies. A final 2-way interaction between ethnicity and FAS-R was found for Seeking Instrumental Support (t (305) = - 2.14, $p < .05$). As shown in Table 18, mean differences suggest that European Americans who reported modern family values were more likely to seek instrumental support as way to manage and cope.

Moreover, a significant 2-way interaction between ethnicity and sex was found for Venting (t (305) = 2.31, $p < .05$). Estimated marginal means suggest that European American females in this sample were more likely to vent as way to cope (see Table 19). Lastly, the use of denial was predicted by ethnicity (t (305) = - 7.29, $p < .0001$). Means suggest that Mexican Americans (M = 2.83, SE = .04) reported the use denial more often to manage depressive symptoms than European Americans (M = 1.78, SE = .04).

Discussion

Cultural Differences in Depressive Symptomology

The major findings presented supported the primary hypotheses of the present study. First, Mexican Americans endorsed items on the BDI-II and CES-D measures suggesting the report of depressive symptoms in terms of somatic/physical complaints more often than European Americans. This was consistent with findings in the literature

reviewed indicating that Latinos, regardless of their country of origin, were more likely to report somatic symptoms than European Americans (e.g., Fabrega, Mezzich, & Jacob, 1988; Escobar, Brunman, & Karno, 1987; Escobar, 1987). This study specifically identified the following somatic and physical complaints that were endorsed more often by Mexican Americans: loss of energy, tiredness and fatigue, concentration difficulties, changes in appetite, and everything was an effort as well as loss of energy, talking less, agitation, and changes in sleeping patterns. Moreover, Mexican American participants endorsed items on the CES-D indicating difficulties in their interpersonal relationships more often than European Americans. For example, they were more likely to report feeling that people were unfriendly and that people did not like them. Furthermore, the present study supported findings (Ying, 1989; Iwata et al., 2002) in the literature indicating that European Americans tend to endorse items of the CES-D indicating positive affect more readily than Mexican Americans (e.g., feeling happy, enjoying life, and feeling hopeful).

In addition, through exploratory analyses the present study identified other cultural differences in depressive symptomology between Mexican Americans and European Americans. These findings suggest that Mexican Americans reported the experience of guilt feelings, punishment feelings, and worthlessness more often than European Americans in this study. Moreover, the present study found that European Americans reported more negative affect items than Mexican Americans. For example, they were more likely to endorse items indicating sadness, loss of pleasure, irritability, and loss of interest in sex.

Family Values and Cultural Differences in Depressive Symptoms

To the author's knowledge the findings regarding the relationship of family (cultural) values to endorsement of items that reflect depressive symptoms breaks new ground in the literature. Furthermore, the present study found that family values interacted with sex to predict some of the cultural differences in the endorsement of depressive symptoms. The importance of these findings is highlighted by the fact that they provide an understanding of the relation of culture (i.e. family values) to differences in the endorsement of depressive symptoms between Mexican Americans and European Americans.

First, Mexican American females who endorsed more traditional family values were more likely to report guilt feelings, punishment feelings, and worthlessness. Several factors could contribute to the endorsement of these depressive symptoms by traditional Mexican American females. There is a separation of gender roles applied to men and women at work and at home in the Latino culture. For example, while some tasks are undertaken solely by women, the role of the man is to provide income for the household, and he is also to make the major family decisions. However, the literature indicates that during the past 10 to 15 years there have been changes in Latino traditional patterns, mostly due to an economic need for women to enter the workforce (Golding & Burnam, 1990). Consequently, when traditional Mexican American females move away from sex specific roles, they may be at risk for experiencing these particular depressive symptoms secondary to challenging their traditional values and mores. Post-hoc analysis in the present study found a trend in the data suggesting that Mexican American females whose

values were more traditional reported more depressive symptoms on the BDI-II and CES-D than Mexican American males and European American participants. This is consistent with findings in the literature indicating that sex role differences, cultural conflict, and sex role changes were factors associated with sex differences in depression among the Latino population (Golding & Burnam, 1990).

Another factor that may be contributing to the report of guilt feelings, punishment feelings, and worthlessness by Mexican American females who were more traditional in their family values is religion. Religion is noted in the literature as a very important part of the life of traditional Latinos residing in the United States (Bruhn and Fuentes, 1977; Sandoval, 1977). The majority of the Mexican American participants in this study were Catholics and reported being more active in religious activities than their male and European American counterparts. It can be inferred that since traditional Mexican Americans in this study were more active in the Catholic religion, they were more likely to report depressive symptoms that indicated punishment and guilt. Judgmental Christians accuse others of being guilty of all of many things and Catholics have been noted to go around claiming "I am not worthy."

Furthermore, the present study found that Mexican American males who endorsed values that were more traditional were more likely to report changes in appetite and concentration difficulties. In spite of this significant sex difference, a trend in the data indicated that Mexican American females adhering to traditional family values were more likely to report somatic/physical complaints than European Americans. This is

consistent with previous findings that members of traditional cultures tend to express depressive symptoms by way of physical/somatic complaints (e.g., Golding & Aneshensel, 1989; Kolody et al., 1986).

Another salient finding was that the endorsement of traditional family values was related to the report of interpersonal difficulties in Mexican Americans when compared to European Americans in this sample. This finding supports the notion in the literature that Latinos tend to prefer interpersonal relationships in groups that are nurturing, loving, intimate, and respectful (Marin & Marin, 1991). Therefore, they may tend to be more sensitive to interpersonal interactions that negate their cultural values of allocentrism and simpatia, which emphasize the need for mutual empathy and the need for behaviors that promote pleasant and non-conflicting social relationships.

Moreover, this study found that traditional family values were related to the endorsement of items reflecting agitation, tiredness/fatigue, talking less, and poor appetite by Mexican Americans. Alternatively, modern family values were related to the experience of irritability and loss of pleasure in Mexican Americans. The latter findings suggest that Mexican Americans who were in agreement with traditional family values reported depressive symptoms in terms of somatic/physical complaints; whereas Mexican Americans who were in agreement with modern family values reported depressive symptoms in term of depressed affect. Moreover, the expression of positive affect on the CES-D was only related to ethnicity. This is a consistent finding in the literature (Iwata et al., 2002) which suggests that culture has some influence on the expression of positive affect or feelings in mainstream European Americans or that it has some influence in the

inhibition of positive affect in more traditional cultures. However, one exception emerged in the present findings where expression of "feeling as good as others" was related to traditional values rather than to ethnicity.

In summary, the present findings suggest that there are major symptom categories of depression that are commonly endorsed by Mexican Americans in comparison to European Americans. More importantly, some of these cross-cultural differences were found to be related to the adherence of traditional versus modern family (cultural) values. Hence, certain conclusions can be made in regards to the overall cross-cultural differences in depressive symptomology. First, traditional Mexican Americans, tend to report depressive symptoms in terms of physical and somatic complaints. Second, they tend to endorse more difficulties on items indicating interpersonal relationships. Third, traditional Mexican Americans, overall, tend to endorse experiencing cognitive symptoms of overwhelming guilt, punishment feelings, and worthlessness. Alternatively, European Americans who are more in agreement with modern family (cultural) values tend to report symptoms indicating depressed affect and more commonly endorse positive affect items on the CES-D. In spite of the significance of the results presented above, the most unique finding of the present study was that the endorsement of particular depressive symptoms was significantly related to the family values and sex.

Cultural Differences in Coping Strategies

Overall, findings of the present study supported the study hypothesis that cultural differences in coping would also exist between Mexican Americans and European Americans. The major findings of the study indicated that Mexican Americans reported

the use of religious activities as a way to cope more often than European Americans. Furthermore, Mexican Americans reported the use of denial as a way to cope more often than European Americans while European Americans reported the use of active coping strategies more often than Mexican Americans. Moreover, the finding indicated that Mexican Americans reported the use of restraint and acceptance to cope more often; whereas, European Americans were more likely to report using venting of emotions and substances.

However, the findings did not support the hypothesis that Mexican Americans would report relying on seeking emotional social support from peers and family more often than European Americans. This is inconsistent with the notion in the literature that in the Latino culture an individual is likely to seek help with a problem from a family member rather than a secondary source (Bean & Tienda, 1987). The nature of the items of the COPE indicating seeking emotional social support may explain this inconsistency in findings. Only one of the four items measuring this coping strategy refers specifically seeking support from relatives while the remaining three items indicate seeking support from "someone" not specified as family or friends.

Family Values and Cultural Differences in Coping

As with cultural differences in depressive symptoms, the findings also supported the proposal that family values would be related to differences in coping strategies utilized by Mexican Americans and European Americans. First, the present study found that the interaction between family values and sex was related to the report of religious coping and substance use. Specifically, Mexican American females in this sample who

were in agreement with traditional family values were more likely to increase level of participation in religious practices as a way of coping. This is consistent with findings in previous literature indicating that religious affiliation is an important source of emotional and psychological support in traditional Mexican American culture (Keefe, Padilla, & Carlos, 1979; Padilla, Carlos, & Keefe, 1976). Furthermore, the use of substances to cope was reported more often by European American males who agreed with more modern family values. This may be related to the findings in previous literature that Mexican American males and females in general tend to abstain more or to be light drinkers compared to European Americans (Cervantes et al. 1991; Gilbert 1989 & Markides et al. 1988) especially if they are traditional in their value orientation.

Findings of the present study also indicate that family values were related to cultural differences in the use of active coping, restraint, and acceptance. Specifically, European Americans who endorsed modern family values were more likely to endorse the use of active coping as described by taking action and exerting efforts to remove the stressor as well as seeking instrumental support as described by seeking assistance, information, and/or advice of what to do. This was consistent with previous research findings that European Americans are more likely than Mexican American to seek mental health or counseling services for emotional problems (Hough et al., 1987; Vega et al., 1999). Moreover, Mexican Americans who endorsed more modern family values were more likely to use restraint as described by coping passively by holding back one's coping attempts until they can be of use.

Alternatively, Mexican Americans in this sample who reported adhering to traditional family values reported the use of acceptance as described by accepting the fact that the stressful event has occurred and is real. This way of coping may be related to characteristics that Diaz-Guerrero (1975) identified such as obedience, self-sacrifice, submission, dependence, politeness, and courtesy, as indicative of a "passive" style in managing life stressors among Mexicans. These characteristics may be related to the use of acceptance by more traditional Mexican Americans in this study. Furthermore, the use of acceptance by traditional Mexican Americans may be related to religious beliefs within this culture. For example, Bruhn and Fuentes (1977) stated that religious beliefs are an important dimension in Mexican American life, with profound implications for the Mexican American conception of life, death, health, and illness. These authors concluded that in the Mexican American culture it is believed that one must be submissive to and compliant with God's will to make life better. That is, there is little, if anything, which one can do about the course of life's events.

The use of acceptance to cope by Mexican Americans may also be related to external-internal locus of control conceptual frameworks (Rotter, 1966, 1975; Rotter, Seeman, & Liverant, 1962). For example, a person who has an external control orientation anticipates no relation between his or her efforts and the outcome of an event and therefore perceives the outcomes of events as being beyond his or her control. In contrast, a person who has an internal control orientation believes that the outcomes of events are a consequence of his or her actions and are therefore under his or her own

control. Thus, outcomes or reinforcements are seen either as contingent on one's own actions or as determined by chance, fate, or powerful others (Lefcourt, 1966, 1982).

Two other cultural differences in coping strategies identified via exploratory analyses in this study were in the use of venting and denial. Specifically, European American females were more likely to focus on and vent emotions; whereas, Mexican Americans, regardless of sex, were more likely to report the utilization of denial. Overall, two significant findings emerged regarding coping behaviors among Mexican Americans. First, Mexican Americans tend to rely on emotion-focused and "avoidance coping" strategies to a greater extend than European Americans. More importantly, the use of some of those strategies was significantly related to the traditional family (cultural) values in the Mexican American culture and/or to sex.

Implications of the Present Study

The findings of the present study may have implications for primary prevention program directed at reducing symptoms of depression in Mexican American college students who are in agreement with traditional family (cultural) values and in European American college students who are in agreement with modern family values. The nature of the depressive symptoms that these two college populations were more likely to endorse and the preferred ways of coping they reported might make them a population at risk for developing a diagnosable depressive disorder. Given that traditional Mexican American college students were more likely to report depressive symptoms in terms of somatic/physical complaints and interpersonal relational difficulties, health providers may fail to identify these signs as possible depressive symptoms. Furthermore, the fact

that traditional Mexican American college students were more likely to report using denial (i.e. an attempt to escape conflicts and life problems), increased engagement in religious activities, restraint, and acceptance styles of coping with depressive symptoms, may make them less likely to seek traditional mental health services to manage depressive symptoms. They may seek alternative sources of support such as the use of faith healers and members of the clergy when they are in crisis. Consequently, Mexican American traditional support alternatives may need to be considered as resources in programs of primary prevention. Alternatively, European Americans who reported more agreement with modern family (cultural) values in this sample were more likely to use active coping strategies and/or seek instrumental support. As a result, they may be more likely than Mexican Americans to seek traditional Western or European based mental health services. This may partially explain the disparities in use of mental health and counseling services between these two populations discussed in the literature; where Mexican Americans and/or Latinos in general tend to use fewer mental health services than the mainstream European American culture.

Furthermore, the findings of the present study may have important implications for screening and/or assessment of depressive symptoms in Mexican American and European American college students. The findings clearly show that Mexican Americans and European Americans in this study endorsed different symptoms on both the CES-D and BDI-II. This suggests that particular items on both measures may be more culturally sensitive in detecting depressive symptomology in these two groups of university students. The literature indicates there is a relationship between the presence of

depressive symptoms that do not fulfill diagnostic criteria for major depression and the development of depressive disorders later in life (Pine, D.S.; Cohen, E.; Cohen, P; & Brook, J 1999). Therefore, if the items used to assess depressive symptomology are poorer indicators in one group, estimates of risk for a future depressive disorder for that group will be less accurate. Consequently, these results indicate that when the BDI-II and CES-D are used together they may better capture the symptoms of depression that are more commonly reported by traditional Mexican Americans and modern European Americans. However, if used exclusively clinicians may be less likely to detect depressive symptoms in more traditional Mexican Americans and more modern European Americans.

Given that the findings indicated that cultural differences do exist in depressive symptoms and coping, mental health services provided to these individuals should consist of culturally sensitive methods and approaches. Because Mexican Americans and European Americans may experience different depressive symptom patterns/categories, primary clinicians who work with these groups may need to adjust their own concepts of depressive symptomatology to permit primary prevention and/or intervention services that are culturally sensitive. Furthermore, the fact that Mexican American and European American college students in this sample employed different methods of coping also provides evidence for the importance of acknowledging these cultural differences when working with these individuals in primary prevention programs and mental health service settings. Consequently, student services, primary care physicians, and mental health

providers on college campuses should take certain cultural factors into consideration in order to provide adequate services.

Limitations of the Present Study

The present study had several limitations. Recruitment of participants from St. Edwards University (most of who are from the Rio Grande Valle), Latino student organizations, and Mexican American Studies courses at The University of Texas at Austin could have resulted in a skewed distribution. That is, students who are enrolled in Mexican American Studies courses as well as those who belong to Latino student organizations may tend to be more identified with traditional/Mexican culture. It would have been ideal to recruit participants equally from the entire Mexican American population at the University of Texas, which may have provided a sample with a wider range of modern-traditional family values.

Furthermore, the present study was conducted in a Southwestern state that is located relatively close to the U.S.-Mexico border and has a large Mexican American population. Therefore, the findings may not be generalizable to Mexican American college students in other parts of the United States who reside at greater distances from the U.S.-Mexico border. Furthermore, the use of college students may limit the generalizability of findings to Mexican Americans and European Americans in the larger population. Another limitation in this study may lie in the differences in socio-economic status between European Americans and Mexican Americans. Given that there was not a statistically significant difference between Mexican American and European American college students' household income, this sample may not be representative of the

Mexican American population in the United States. In the general population European Americans have significantly higher socio-economic and educational levels than Mexican Americans.

The present study findings suggests that further cross-cultural/ethnic research is of growing importance because psychological symptoms may be both expressed and may be influenced largely by regional sociocultural and environmental stressors. Therefore, additional research with Mexican American and European American university students should be conducted in an attempt to replicate the present study findings. Research should also be conducted with individuals of younger and older age groups than the participants of the present study and with Mexican Americans and European Americans who are not college students.

TABLES

Table 1

Characteristics of the Sample

Variable	Mexican Americans (n = 136)	European Americans (n = 170)
Sex		
Females	n = 78	n = 69
Males	n = 58	n = 101
Institution		
UT	n = 96	n = 170
St. Edwards	n = 40	n = 0
Age (years)	M = 19.52, SD = .19	M = 19.39, SD = 1.72
Generation Level	M = 2.06, SD = 1.01***	M = 4.78, SD = .66***
Years of Education	M = 13.50, SD = 1.04	M = 13.35, SD = .92
Household Income	$55,000-$59,999	$60,000-$64,999
Activeness in Religion	"moderately active"*	"somewhat active"*

*p<.05, ***p<.0001

Note: The p values represent significant mean differences between Mexican Americans and European Americans in this sample.

Table 2

Means Scores and (Standard Deviations) for Family Values, Depression, and Somatic Symptoms

Variable	Mexican Americans (n = 136)	European Americans (n = 170)
BDI-II	16.50 (3.50)***	11.44 (6.72)***
Females	16.90 (2.60)	11.94 (6.10)
Males	15.97 (4.40)	11.08 (7.12)
CES-D	41.40 (4.96)**	39.08 (6.97)**
Females	41.47 (4.60)	39.17 (6.50)
Males	41.35 (5.29)	38.94 (7.66)
FAS-R (family values)	3.74 (.39)***	2.19 (.38)***
Females	3.84 (.36)	2.24 (.35)
Males	3.59 (.39)	2.16 (.39)
BSI	2.56 (.51)***	1.55 (.45)***

**p<.001, ***p<.0001

Note: The alpha values represent significant mean differences between Mexican Americans and European Americans in this sample.

Table 3

Mean Scores and Standard Deviations for BDI-II and CES-D Somatic Items by Ethnicity

Somatic Symptoms	Mexican Americans M (SD)	European American M (SD)
BDI-II Items		
Loss of Energy	1.80 (.64)	.82 (.73)
Changes in Sleep	.72 (.79)	.47 (.60)
Changes in Appetite	1.49 (.57)	.62 (.74)
Concentration Diff	1.69 (.65)	.61 (.72)
Tiredness or Fatigue	1.51 (.88)	.30 (.51)
CES-D Items		
Poor appetite	2.68 (.88)	1.62 (.80)
Trouble concentrating	2.71 (.70)	2.46 (.87)
Everything an effort	2.59 (.65)	2.16 (.90)
Talked less	2.10 (.49)	1.73 (.83)

Table 4

Mean Scores and Standard Deviations for Items of the CES-D Positive Affect Factor Structure by Ethnicity

Factors/Items	Mexican Americans M (SD)	European Americans M (SD)
Positive Affect		
As good as others	2.90 (.76)	2.28 (.70)
Felt hopeful	2.09 (.84)	3.10 (.85)
Happy	2.71 (.89)	3.02 (.78)
Enjoyed life	2.38 (.98)	3.31 (.75)

Table 5

Mean Scores and Standard Deviations for BDI-II and CES-D Items by Ethnicity

	Mexican Americans	European American
BDI-II Symptom	M (SD)	M (SD)
Sadness	.07 (.26)	.88 (.93)
Loss of Pleasure	.79 (.78)	.42 (1.05)
Irritability	.96 (.58)	.26 (.78)
Guilt Feelings	1.83 (.84)	.41 (.52)
Punishment	1.37 (.93)	.25 (.93)
Agitation	.75 (.44)	.39 (.57)
Indecisiveness	.09 (.35)	.28 (.57)
Worthlessness	.85 (.87)	.53 (.62)
Loss of interest in sex	.43 (.83)	1.91 (1.45)

Table 6

Regression equations predicting depressive symptoms on the basis of ethnicity, sex, and FAS (family values) interaction.

Variable	B	SE B	β
Eth x Gen x FAS	- .454	.185	- 1.054
a. dependent variable: guilt feelings			
Eth x Gen x FAS	.568	.289	1.199
b. dependent variable: punishment feelings			
Eth x Gen x FAS	- .418	.218	- 1.270
c. dependent variable: worthlessness			
Eth x Gen x FAS	- .425	.180	- 1.222
d. dependent variable: changes in appetite			
Eth x Gen x FAS	.387	.189	1.009
e. dependent variable: concentration difficulty			

Table 7

Estimated Marginal Means for Significant 3-way interactions between Ethnicity, Sex, and Family Values Predicting BDI-II Symptoms.

	Mexican Americans		European Americans	
Family Values	Males	Female	Male	Female
a. Guilt Feelings				
Modern	.00	1.15	.43	.33
Traditional	1.64	2.05	.33	1.50
b. Punishment Feelings				
Modern	.00	.15	.16	.21
Traditional	1.20	2.20	1.33	1.33
c. Worthlessness				
Modern	.00	.77	.47	.52
Traditional	1.06	1.39	.67	1.50
d. Changes in Appetite				
Modern	.75	1.07	.00	.59
Traditional	1.62	1.55	.67	1.17
e. Concentration Difficulties				
Modern	.38	.85	.61	.60
Traditional	1.90	1.86	.17	1.00

Table 8

Regression equations predicting depressive symptoms on the basis of ethnicity, sex and FAS (family values) 2-way interaction terms

Variable	B	SE B	β
Ethnicity x FAS	.500	.164	.673
a. dependent variable: agitation			
Ethnicity x FAS	.551	.213	.455
b. dependent variable: tiredness and fatigue			
Ethnicity x FAS	-.642	.300	-.479
c. dependent variable: loss of pleasure			
Ethnicity x FAS	-.721	.212	-.703
d. dependent variable: irritability			
Ethnicity x Sex	1.174	.215	1.446
e. dependent variable: sadness			

Table 9

Estimated Marginal Means for Significant 2-way interactions between Ethnicity and Family Values Predicting BDI-II Symptoms.

	Mexican Americans		European Americans	
Symptom	Modern	Traditional	Modern	Traditional
Agitation	.24	.84	.40	.33
Irritability	1.04	.17	.71	.00
Tiredness/Fatigue	.19	1.76	.29	.42
Loss of Pleasure	1.33	.88	.44	.25

Table 10

Estimated Marginal Means for Significant 2-way interaction between Ethnicity and Sex Predicting the Symptom Sadness.

	Mexican Americans	European Americans
Males	.09	.52
Females	.06	1.42

Table 11

Regression equations predicting BDI-II depressive symptoms on the basis of ethnicity, sex, and FAS (family values)

Variable	B	SE B	β
FAS	-.423	.178	-.301
a. dependent variable: changes in sleep patterns			
Ethnicity	-.764	.179	-.449
b. dependent variable: loss of energy			
Ethnicity	2.206	.312	.774
c. dependent variable: loss of interest in sex			

Table 12

Regression equations predicting CES-D depressive symptoms on the basis of ethnicity x FAS (family values) interaction

Variable	B	SE B	β
Somatic/Retarded Activities			
Poor appetite	-.528	.256	-.405
Everything an effort	.582	.253	.529
Talked less	-.479	.214	-.502
Interpersonal Relations			
People unfriendly	-.323	.234	-.309
People disliked me	-.694	.208	-.699

Table 13

Estimated Marginal Means for Significant 2-way interactions between Ethnicity and Family Values Predicting CES-D Symptoms.

	Mexican Americans		European Americans	
Symptom	Modern	Traditional	Modern	Traditional
Somatic/Retarded Acts				
Poor appetite	1.95	2.82	1.60	1.75
Everything an effort	1.43	2.69	2.17	2.16
Talked less	.81	2.04	1.74	1.83
Interpersonal Relations				
People unfriendly	1.52	2.17	1.32	1.50
People disliked me	1.19	1.89	.98	1.16

Table 14

Regression equations predicting CES-D depressive symptoms on the basis of (a) ethnicity and (b) family values

Variable	B	SE B	β
Positive Affect			
(a) Felt hopeful	.760	.219	.384
(a) Happy	.873	.213	.513
(a) Enjoyed life	.454	.222	.232
(b) As good as others	.468	.107	.510

Table 15

Mean Scores and Standard Deviation for Cultural Differences in the COPE Scales

	Mexican Americans	European Americans
Cope Subscale	M (SD)	M (SD)
Venting	1.62 (.54)	2.30 (.71)
Substance Use	1.63 (.50)	2.11 (.60)
Pos. Reinte. & Growth	2.73 (.37)	2.79 (.51)
Mental Disengagement	2.16 (.48)	2.33 (.50)
Instru. Social Support	2.14 (.55)	2.28 (.68)
Humor	1.75 (.83)	1.98 (.75)
Behavioral Disengagement	1.54 (.61)	1.84 (.69)
Restraint	2.47(.43)	2.08 (.48)
Acceptance	2.77(.39)	2.49 (.61)
Supp. of Comp. Activities	2.03(.80)	2.12 (.76)
Planning	2.87(.76)	2.97 (.68)

Table 16

Regression equations predicting coping on the basis of ethnicity, sex, and FAS (family values)

Variable	B	SE B	β
Ethn x Gen x FAS	.590	.198	1.907
a. dependent variable: substance use			
Ethn x Gen x FAS	-.369	.155	-.909
b. dependent variable: religious coping			
Ethn x FAS	.280	.113	.304
c. dependent variable: active coping			
Ethn x FAS	-.465	.149	-.651
d. dependent variable: restraint			
Ethn x FAS	-.298	.162	-.420
e. dependent variable: acceptance			
Ethn x FAS	-.661	.309	-.734
f. dependent variable: seeking instrumental suppor			
Ethn x Gen	.483	.209	.674
g. dependent variable: venting			
Ethnicity	-.937	.129	-.644
h. dependent variable: denial			

Table 17

Estimated Marginal Means for Significant 3-way interactions between Ethnicity, Sex, and Family Values Predicting (a) Religious Coping and (b) Substance Use.

	Mexican Americans		European Americans	
Family Values	Males	Female	Male	Female
(a) Religious Coping				
Modern	1.75	2.02	1.88	2.00
Traditional	3.02	3.52	2.29	1.88
(b) Substance Use				
Modern	1.88	1.54	2.16	1.99
Traditional	1.64	1.67	2.00	1.28

Table 18

Estimated Marginal Means for Significant 2-way interactions between Ethnicity and Family Values Predicting Coping Strategies

	Mexican Americans		European Americans	
Coping Strategy	Modern	Traditional	Modern	Traditional
Restraint	2.98	2.47	2.09	2.00
Acceptance	2.51	2.91	2.50	2.44
Active coping	1.88	2.04	3.24	3.08
Seek. Instru. Sup.	2.32	1.92	2.80	2.33

Table 19

Estimated Marginal Means for Significant 2-way interactions between Ethnicity and Sex Predicting Venting

	Mexican Americans	European Americans
Sex	M (SE)	M (SE)
Males	1.57 (.08)	2.10 (.06)
Females	1.66 (.07)	2.61 (.07)

APPENDIX A

Demographics Questionnaire

Participant Number:_____

Email (not required): _____

The following questions ask about background information. For each question you will be asked to select or provide an appropriate response.

1. Sex (circle one): Male = 1 : Female = 2

2. Age:_____

3. Ethnicity (circle one): Mexican American = 1 : European American = 2

4. *[Circle the generation that best applies to you. Circle only one]*

1. 1st generation= You were born in Mexico or other country.

2. 2nd generation= You were born in USA; either parent born in Mexico or other country.

3. 3rd generation= You were born in USA, both parents born in USA and all grandparents born in Mexico or other country.

4. 4th generation= You and your parents born in USA and at least one grandparent born in Mexico or other country with remainder born in the USA

5. 5th or greater generation=You and your parents born in the USA and all grandparents born in the USA.

4. How many years of schooling have you completed? (circle one)

Elementary school	junior high	high school	college	graduate school
0 1 2 3 4 5	6 7 8	9 10 11 12	13 14 15 16	17 18 19 20

5. How many years of schooling have your father and mother completed? (circle one)

	Elementary school	junior high	high school	college	graduate school
father	0 1 2 3 4 5	6 7 8	9 10 11 12	13 14 15 16	17 18 19 20
mother	0 1 2 3 4 5	6 7 8	9 10 11 12	13 14 15 16	17 18 19 20

6. What is your and your spouse's/partner's combined income before taxes? If you are a dependent of your parents, provide your parents' combined income before taxes.

[ ] <5,000 [ ] 15,000-19,000 [ ] 30,000-34,999 [ ] 45,000-49,999
[ ] 60,000-64,999 [ ] 5,000-9,999 [ ] 20,000-24,999 [ ] 35,000-39,999
[ ] 50,000-54,999 [ ] 65,000-69,999 [ ] 10,000-14,999 [ ] 25,000-29,999
[ ] 40,000-44,999 [ ] 55,000-59,999 [ ] >70,000

7. What is your religious background?_____
How active are you in your religion?

[ ] very active [ ] moderately active [ ] somewhat active
[ ] minimally active [ ] not active

8. Is English you first language? (circle one) YES NO

If no what is your first language?_____

BDI

Please read each group of statements carefully, and then pick out the one statement in each group that best describes the way you have been feeling during the past two weeks, including today. Pick the number beside the statement you have picked. If several statements in the group seem to apply equally well, pick the highest number for that group. Be sure that you do not choose more that one statement for each group. Remember that all responses will be kept confidential.

1. Sadness
   - 0 I do not feel sad
   - 1 I feel sad much of the time.
   - 2 I am sad all the time.
   - 3 I am so sad or unhappy that I can't stand it.

2. Pessimism
   - 0 I am not discouraged about my future.
   - 1 I feel more discouraged about my future than I used to be.
   - 2 I do not expect things to work out for me.
   - 3 I feel my future is hopeless and will only get worse.

3. Past Failure
   - 0 I do not feel like a failure.
   - 1 I have failed more than I should have.
   - 2 As I look back, I see a lot of failures.

3 I feel I am a total failure as a person.

4. Loss of Pleasure
   0 I get as much pleasure as I ever did from the things I enjoy.
   1 I don't enjoy things as much as I used to.
   2 I get very little pleasure from the things I used to enjoy.
   3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings
   0 I don't feel particularly guilty.
   1 I feel guilty over many things I have done or should have done.
   2 I feel quite guilty most of the time.
   3 I feel guilty all of the time.

6. Punishment Feelings
   0 I don't feel I am being punished.
   1 I feel I may be punished.
   2 I expect to be punished.
   3 I feel I am being punished.

7. Self-Dislike
   0 I feel the same about myself as ever.
   1 I have lost confidence in myself.
   2 I am disappointed in myself.
   3 I dislike myself.

8. Self-Criticalness
   0 I don't criticize or blame myself more than usual.
   1 I am more critical of myself than I used to be.
   2 I criticize myself for all of my faults.
   3 I blame myself for everything bad that happens.

9. Crying
   0 I don't cry any more than I used to.
   1 I cry more than I used to.
   2 I cry over every little thing.
   3 I feel like crying, but I can't.

10. Agitation
   0 I am no more restless or wound up than usual.
   1 I feel more restless or wound up than usual.
   2 I am so restless or agitated that it's hard to stay still.
   3 I am so restless or agitated that I have to keep moving or doing something.

11. Loss of Interest
    0 I have not lost interest in other people or activities.
    1 I am less interested in other people or things than before.
    2 I have lost most of my interest in other people or things.
    3 It's hard to get interested in anything.

12. Indecisiveness
    0 I make decisions about as well as ever.
    1 I find it more difficult to make decisions than usual.
    2 I have much greater difficulty in making decisions than I used to.
    3 I have trouble making any decisions.

13. Worthlessness
    0 I do not feel I am worthless.
    1 I don't consider myself as worthwhile and useful as I used to.
    2 I feel more worthless as compared to other people.
    3 I feel utterly worthless.

14. Loss of Energy
    0 I have as much energy as ever.
    1 I have less energy than I used to have.
    2 I don't have enough energy to do very much.
    3 I don't have enough energy to do anything.

15. Changes in Sleeping Pattern
    0 I have not experienced any change in my sleeping pattern.
    1a I sleep somewhat more than usual.
    1b I sleep somewhat less than usual.
    2a I sleep a lot more than usual.
    2b I sleep a lot less than usual.
    3a I sleep most of the day.
    3b I wake up 1-2 hours early and can't get back to sleep.

16. Irritability
    0 I am no more irritable than usual.
    1 I am more irritable than usual.
    2 I am much more irritable than usual.
    3 I am irritable all the time.

17. Changes in Appetite
    0 I have not experienced any change in my appetite.
    1a My appetite is somewhat less than usual.
    1b My appetite is somewhat greater than usual.
    2a My appetite is much less than usual.

2b My appetite is much greater than usual.
3a I have no appetite at all.
3b I crave food all the time.

18. Concentration Difficulty
    0 I can concentrate as well as ever.
    1 I can't concentrate as well as usual.
    2 It's hard to keep my mind on anything for very long.
    3 I find I can't concentrate on anything.

19. Tiredness or Fatigue
    0 I am no more tired or fatigued than usual.
    1 I get more tired or fatigued more easily than usual.
    2 I am too tired or fatigued to do a lot of the things I used to do.
    3 I am too tired or fatigued to do most of the things I used to do.

20. Loss of Interest in Sex
    0 I have not noticed any recent change in my interest in sex.
    1 I am less interested in sex than I used to be.
    2 I am much less interested in sex now.
    3 I have lost interest in sex completely.

CES-D

The next set of questions is related on how you felt or behaved in the PAST WEEK. Using the scale below, please choose the number which best describes how often you felt or behaved this way DURING THE PAST WEEK.

1 rarely or none of the time	2 some or little a little of the time	3 a moderate amount of the time	4 most or all of the time

1.	You were bothered by things that usually don't bother you.	1	2	3	4
2.	You did not feel like eating; your appetite was poor.	1	2	3	4
3.	You felt that you could not shake off the blues even with help from your family and friends.	1	2	3	4
4.	You felt that you were just as good as other people.	1	2	3	4

5. You had trouble keeping your mind on what you were doing.	1	2	3	4
6. You felt depressed.	1	2	3	4
7. You felt that everything you did was an effort.	1	2	3	4
8. You felt hopeful about your future.	1	2	3	4
9. You thought your life had been a failure.	1	2	3	4
10. You felt fearful.	1	2	3	4
11. Your sleep was restless.	1	2	3	4
12. You were happy.	1	2	3	4
13. You talked less than usual.	1	2	3	4
14. You felt lonely.	1	2	3	4
15. People were unfriendly.	1	2	3	4
16. You enjoyed life.	1	2	3	4
17. You had crying spells.	1	2	3	4
18. You felt sad.	1	2	3	4
19. You felt that people disliked you.	1	2	3	4
20. You could not get "going."	1	2	3	4

COPE

We are interested in how people respond when they are feeling depressed. This questionnaire asks you to indicate what you generally do and feel, when you experience depressive symptoms such as the ones that you have been responding to on the BDI-II and CES-D. Think about what you usually do when you are feeling down or have a problem that is making you sad. Then respond to each of the following items by circling your number choice. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item.

1	2	3	4
I usually don't do this at all	I usually do this a little bit	I usually do this a medium amount	I usually do this a lot

1. I get upset and let my emotions out.	1	2	3	4
2. I concentrate my efforts on doing something about it.	1	2	3	4
3. I say to myself "this isn't real."	1	2	3	4
4. I put my trust in God.	1	2	3	4
5. I discuss my feelings with someone.	1	2	3	4
6. I use alcohol or drugs to make myself feel better.	1	2	3	4
7. I get upset, and I am aware of it.	1	2	3	4
8. I seek God's help.	1	2	3	4
9. I try to get emotional support from friends or relatives.	1	2	3	4
10. I take additional action to try to get rid of the problem	1	2	3	4
11. I try to loose myself for a while by drinking alcohol or taking drugs.	1	2	3	4
12. I refuse to believe that it has happened.	1	2	3	4
13. I let my feelings out.	1	2	3	4
14. I get sympathy and understanding from someone.	1	2	3	4
15. I drink alcohol or take drugs, in order to think about it less.	1	2	3	4
16. I pretend that it hasn't really happened.	1	2	3	4
17. I feel a lot of emotional distress and I find	1	2	3	4

myself expressing those feelings a lot.

18. I take direct action to get around the problem.	1	2	3	4
19. I try to find comfort in my religion.	1	2	3	4
20. I talk to someone about how I feel.	1	2	3	4
21. I use alcohol or drugs to help me get through it.	1	2	3	4
22. I act as though it hasn't even happened.	1	2	3	4
23. I do what has to be done, one step at a time.	1	2	3	4
24. I pray more than usual.	1	2	3	4

FAS-R

After each statement, indicate whether you:

		Response Choices		
1 Strongly Disagree	**2 Disagree**	**3 Neither Agree nor Disagree**	**4 Agree**	**5 Agree Strongly**

1. Parents always know what's best for a child.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

2. A husband should do some of the cooking and house cleaning.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

3. For a child, the mother should be the most-loved person in existence.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

4. People who are older tend to be wiser than young people.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

5. Girls should not be allowed to play with toys such as soldiers and footballs.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

6. Children should be taught to questions the orders of parents and other authority figures.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

7. It is more important to respect the father than to love him.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

8. Boys should not be allowed to play with toys such as dolls and tea sets.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

9. Men tend to be just as emotional as women.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

10. It doesn't do any good to try to change the future, because the future is in the hands of God.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

11. It is all right for a girl to date a boy even if her parents disapprove of him.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

12. It's all right for a wife to have a job outside the home.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

13. Uncles, aunts, cousins, and other relatives should always be considered to be more important than friends.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

14. We must live for today; who knows what tomorrow may bring.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

15. Young people get rebellious ideas, but as they grow older and wiser they give them up.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

16. A person should take care of his or her parents when they are old.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

17. Parents should recognize that a teenage girl needs to be protected more than a teenage boy.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

18. All adults should be respected.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

19. The father should be considered to have the most authority in the family.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

20. A child should not obey his parents if he/she believes that they are wrong.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

21. It is more important to enjoy the present than to worry about the future.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

22. The best time in a child's life is when they are completely dependent on their parents.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

23. The teachings of religion are the best guide for living a good moral life.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

24. We can attain our goals only if it is the will of God that we do so.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

25. A child should be taught to be ambitious.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

26. Fathers should always be respected regardless of any personal problems they might have.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

27. A husband should take over some of the household chores and child-rearing duties if his wife wants to develop her career interests.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

28. A teenage boy needs to be protected just as much as a teenage girl.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

29. Being born into a family that is very well respected in the community is as important as hard work for achieving success.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

30. A person should be satisfied with his/her economic position without always wanting to achieve more.
___ 1 ___ 2 ___ 3 ___ 4 ___ 5

Total Traditionalism Score _____ Total Atraditional Score _____ Balance Score _____

Brief Symptom Inventory

Below is a list of problems that people sometimes have. Circle the number which best represents how much that problem distressed or bothered you during the past 3 months including today.

Not at All	**A little Bit**	**Moderately**	**Quite a Bit**	**Extremely**
1	**2**	**3**	**4**	**5**

1.	Faintness or dizziness.	1	2	3	4	5
2.	Pains in heart or chest.	1	2	3	4	5
3.	Nausea or upset stomach.	1	2	3	4	5
4.	Trouble getting your breath.	1	2	3	4	5
5.	Numbness or tingling in parts of your body.	1	2	3	4	5
6.	Feeling weak in parts of your body.	1	2	3	4	5

Appendix B

COPE Questionnaire Scales

1. Active Coping: Taking action, exerting efforts, to remove or circumvent the stressor.
2. Planning: Thinking about how to confront the stressor, planning one's active coping efforts.
3. Seeking Instrumental Social Support: Seeking assistance, information, or advice about what to do.
4. Seeking Emotional Social Support: Getting sympathy or emotional support from someone.
5. Suppression of Competing Activities: Suppressing one's attention to other activities in which one might engage, in order to concentrate more completely on dealing with the stressor.
6. Religion: Increased engagement in religious activities.
7. Positive Reintegration and Growth: Making the best of the situation by growing form it, or viewing it in a more favorable light.
8. Restraint Coping: Coping passively by holding back one's coping attempts until they can be of use.
9. Acceptance: accepting the fact that the stressful event has occurred and is real.
10. Focus on and Venting of Emotions: An increased awareness of one's emotional distress, and a concomitant tendency to ventilate or discharge those feelings.
11. Denial: An attempt to reject the reality of the stressful event.

12. Mental Disengagement: Psychological disengagement from the goal with which the stressor is interfering, through daydreaming, sleep, or self-distraction.
13. Behavioral Disengagement: Giving up, or withdrawing effort from, the attempt to attain the goal with which the stressor is interfering.
14. Alcohol/Drug Use: Turning to the use of alcohol or other drugs as a way of disengaging from the stressor.
15. Humor: Making jokes about the stressor.

Appendix C

CES-D Factor Structure and Individual Items

Depressed Affect:

Item 3: You felt that you could not shake off the blues even with help from your family and friends.

Item 6: You felt depressed.

Item 9: You thought your life had been a failure

Item 10: You felt fearful.

Item 14: You felt lonely.

Item 17: You had crying spells.

Item 18: You felt sad.

Somatic and Retarded Activities:

Item 1: You were bothered by things that usually don't bother you.

Item 2: You did not feel like eating; your appetite was poor.

Item 5: You had trouble keeping your mind on what you were doing.

Item 7: You felt that everything you did was an effort.

Item 11: Your sleep was restless.

Item 13: You talked less than usual

Item 20: You could not get "going."

Interpersonal Relations:

Item 15: People were unfriendly.

Item 19: You felt that people disliked you.

Positive Affect:

Item 4: You felt that you were just as good as other people.

Item 8: You felt hopeful about your future.

Item 12: You were happy.

Item 16: You enjoyed life.

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VITA

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