THE RELATIONSHIP BETWEEN ACCULTURATION, COLLECTIVISM,

INDIVIDUALISM AND ALCOHOL USE IN MEXICAN DESCENT

ADULTS LIVING IN THE KANSAS CITY REGIONAL AREA

A DISSERTATION IN
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by
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ABSTRACT

Several research studies have consistently reported that as Hispanic immigrants become acculturated to American society, their risk for alcohol use disorders increases sharply. However, many of these studies have used only proxy measures of acculturation, and most of them have used a one-dimensional paradigm of acculturation. This study examined the role of individualism and collectivism in the relationship between acculturation and alcohol use in a sample of 236 Mexican descent adults living in the Kansas City regional area. A bilinear model of acculturation where the level of enculturation is taken into account was incorporated in my analysis. The results of a multiple logistic regression analysis showed no significant relationship between individualism, collectivism, acculturation or enculturation level and alcohol use. In my results, I specify potential reasons why my sample did not replicate this consistently reported relationship and discuss possible implications along with directions for future studies in this area.

APPROVAL PAGE

The faculty listed below, appointed by the Dean of the School of Education have examined a dissertation titled "The Relationship between Acculturation, Collectivism, Individualism and Alcohol Use in Mexican Descent Adults Living In The Kansas City Regional Area," presented by Ignacio Alejandro Barajas-Muñoz, candidate for the Doctor of Philosophy degree, and certify that in their opinion it is worthy of acceptance.

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CHAPTER 1

REVIEW OF THE LITERATURE

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Hispanic Population in the United States

Hispanics are the fastest growing minority group in the United States, representing 50.5 million individuals in this country (16% of the U.S. population), as of April 1, 2010 (U.S. Census Bureau, 2011). In the last 20 years, the Hispanic population in the Midwest has increased dramatically as well. Specifically, as of April 1, 2010, Hispanics represented 10% of the population in Kansas, 9% in Nebraska, 5% in Iowa, and 3% in Missouri (US Census Bureau, 2011). The Hispanic community is also growing faster than any other segment of Kansas City, MO's population and comprises 5.2% of Kansas City's population (Fuger et al., 2013).

The term "Hispanic" has been used to identify people from twenty-one countries in Latin-America and the Caribbean with diverse cultures that embrace different mixtures of racial and ethnic lines but share to a certain extent, a common background of Spanish language and customs (U.S. Census Bureau, 2011). Several of these national and racial Hispanic groups have been studied in the context of mental health and alcohol use/abuse, including Mexican descent people (of all races, White, Black/African, Asian, Native American, etc.), which is the population of interest in this study. The importance of researching this population is in part related to its prominence and rapid growth rate. For example, as of April 1, 2010, Mexicans accounted for 63% of the overall Hispanic population in the United States (U.S. Census Bureau, 2011). The Mexican - origin population in the United States also increased by 54% and had the largest numeric change

(11.2 million) among all national origin Hispanic groups, growing from 20.6 million in 2000 to 31.8 million in 2010 (U.S. Census Bureau, 2011). Furthermore, Mexicans accounted for about three-quarters of the 15.2 million increase in the Hispanic population from 2000 to 2010 (U.S. Census Bureau, 2011).

The study of alcohol use and abuse in Mexican descent populations in the United States is important not only due to its rapid growth rate, but also because researchers have demonstrated problematic drinking patterns in this ethnic group (Caetano & Mills, 2011; Grant et al., 2004). Additionally, the rapid growth rate and increased problematic drinking patterns of this population have not been paralleled by the development of information and services that effectively reach them (Substance Abuse and Mental Health Services Administration [SAMHSA], Center for Behavioral Health Statistics and Quality, 2012). More specifically, findings from SAMHSA's 2003 to 2011 National Surveys on Drug Use and Health showed that: (a) Hispanics were more likely than non-Hispanics to have needed substance use treatment in the past year; (b) Hispanics who needed substance use treatment were less likely than non-Hispanics to have received treatment in the past year; and (c) among Hispanics needing but not receiving treatment, only 5.6% perceived a need for treatment (SAMHSA, Center for Behavioral Health Statistics and Quality, 2012). Research on the predictors of alcohol use and abuse among Hispanics is particularly important as the Hispanic population in the United States is expected to account for 30% of the total U.S. population by 2060 (U.S. Census Bureau, 2015). Because of this level of expected growth, it is increasingly important to address their health, and the health care disparities they experience (SAMHSA, Center for Behavioral Health Statistics and Quality, 2012). Furthermore, because people of Mexican origin comprise the majority of the Hispanic

population in the United States, studies on the predictors of alcohol use and abuse among Mexican descent people are necessary in order to allocate the necessary resources for alcohol abuse prevention and treatment (Corbin, Vaughan & Fromme, 2008; Johnson, 2007; SAMHSA, Center for Behavioral Health Statistics and Quality, 2012).

Some elements of the Hispanic culture, such as familism, a traditional value that stresses the importance of family unity, loyalty and respect for the family, have been associated with restraint from substance use and abuse among its members. It has been posited that those features of the Hispanic culture that restrain substance abuse among the immigrant population are weakened among Hispanics born in the United States (Vega, Sribney, & Achara-Abrahams, 2003). In other words, the elements of Hispanic cultural heritage found to protect against health risk behaviors such as substance use and abuse, are less prevalent in Hispanic people born in the Unites States as compared to those born in Latin America and the Caribbean, making Hispanic people born in the United States more susceptible to substance use and abuse than their foreign counterparts. In fact, several research studies have consistently reported that as Hispanic immigrants become acculturated to American society, their risk for alcohol use disorders increases sharply (Akins, Mosher, Smith, & Gauthier, 2008; Caetano, Ramisetty-Mikler, & Rodriguez, 2009; Caetano, Ramisetty-Mikler, Wallisch, McGrath, & Spence, 2008; Johnson, VanGeest, & Cho, 2002; Kasirye et al., 2005). However, many of these studies have used only proxy measures of acculturation, and the nature of the relationship between acculturation and alcohol use remains unsatisfactorily explained.

This study examined cultural factors that may help explain drinking patterns in people of Mexican origin in the United States. Specifically, I examined acculturation, enculturation,

collectivism, and individualism as predictors of alcohol use in people of Mexican origin in the Kansas City area. In this study, I use the terms Hispanic and Latino interchangeably to refer to people from any Spanish speaking country in Latin America and the Caribbean. I was interested in studying alcohol use in this population because Hispanics suffer greater adverse effects from alcohol than other populations (NIAAA, 2007, Strategic Plan to Address Health Disparities). For example, cirrhosis and substance-induced deaths are among the 10 largest disparities for Hispanics (Keppel, 2007). Furthermore, high rates of early alcohol use have been reported in Hispanic young adults (SAMHSA, 2012), which is alarming because Hispanics, in general, are a young population in the United States, with a median age of 27 years as of 2010 (U.S. Census Bureau, 2011). In 2013, the median age of the Mexican descent population in the United States was 26 years (Pew Research Center, 2013).

The Hispanic population has typically been characterized by its immigrant roots. That is, immigration accounts for most of the growth in the Hispanic population in the United States. However, immigration from Latin America has declined in the past decades and the immigrant share among each of the Hispanic national origin groups is in decline (the proportion of foreign born Hispanics in the United States is smaller); now Hispanics born in the United States account for most of the growth in the Hispanic population in the U.S.A. (Pew Research Center, 2013).For Example, only one-third of Mexicans in the United States are foreign born, as compared to 35% of all Hispanics and 13% of the U.S. population overall (Pew Research Center, 2013). Roughly 42% of Mexican immigrants have been in the United States for over two decades, and approximately one-quarter of Mexican immigrants (26%) are U.S. citizens (Pew Research Center, 2013).

General Hispanic Values, Beliefs and Attitudes toward Alcohol Use and Abuse

Attitudes toward alcohol use and its acceptability have been shown to vary across ethnic groups and country of birth (Wallace et al., 2003). For example, Hispanics born outside the United States tend to drink less than Hispanics born in the United States (Caetano et al., 2009; Farabee, Wallisch, & Maxwell, 1995; Galvan & Caetano, 2003). In addition, Hispanics have been found to have more conservative norms and attitudes toward alcohol use as compared to mainstream White Americans (Caetano & Clark, 1999; Galvan & Caetano, 2003), and these differences are more pronounced for women. For example, Hispanic men tend to use less alcohol than mainstream White American men do. Also, Hispanic women tend to drink less than mainstream White American women do. However, the difference in the typical amount of alcohol use reported by Hispanic women versus mainstream White American women is much larger than the difference between Hispanic men versus mainstream White American men (Gilbert & Collins, 1997).

Research findings also suggest that some specific ethnic/cultural differences (Fromme, Corbin & Kruse, 2008) and personal values influence drinking patterns (Corbin, Vaughan & Fromme, 2008). For example, Fromme et al. (2008) found differences in drinking patterns by gender and ethnicity in a sample of 2,245 undergraduate students from a southwestern university (59.9% female). Asian American, African American, and Hispanic/Latino students reported lower levels of alcohol use than White students did.

Using the same sample as Fromme et al., Corbin et al. (2008) developed a follow-up study to explore the possible role that perceptions of same-gender family member drinking, perceptions of same-gender peers drinking, as well as personal drinking values could play as mediators in the gender and ethnic/racial differences in drinking patterns previously found by

Fromme et al. (2008). Although their sample was primarily White (55%), it also included a relatively large number of other ethnicities that resembled the overall university's ethnic distribution based on enrollment records for the year in which the study was conducted. Specifically, 55.0% of their sample identified as Caucasian, 18.4% as Asian American, 15.5% as Hispanic/Latino, 4.2% as African American, and 6.8% as Multiracial. However, only the Hispanic/Latino and White groups were used in their final analysis because there were not enough members of all other ethnicities to allow for multigroup SEM, which was the statistical multivariate analysis technique used in this study for the purpose of hypothesis testing. The authors predicted that there would be differences in drinking patterns between men and women and between Hispanic and White students, and that those differences would be explained by the students' perceptions of family and peer drinking as well as personal drinking values. The authors did a preliminary analysis using hierarchical multiple regression to test for differences in alcohol use by gender and ethnicity, as well as to test for the interaction between gender and ethnicity, while controlling for other socioeconomic variables known to predict alcohol use. The results of their multiple regression analysis showed significant interactions of gender by ethnicity for contrasts between White and Latino students. Concomitant simple main effects tests showed that female Latina students reported significantly lower levels of alcohol use as compared to male Latino students and White women. A subsequent SEM analysis was used to explore the role of perceptions of family and peer drinking as well as personal drinking values as mediators in the relationships among gender, ethnicity and alcohol use. The results of the SEM analysis confirmed their mediation hypotheses, where perceptions of same-gender family members' drinking and perceptions of peer drinking exerted indirect effects on alcohol use via personal drinking values.

Specifically, from the overall sample, those who perceived higher drinking by same-gender family members and same-gender peers expressed more permissive values toward drinking and reported higher alcohol consumption. However, when comparing Hispanic/Latino versus White students they found that peer influence (perceptions of same-gender peer drinking) exerted stronger direct and indirect effects (through personal drinking values) on alcohol use for White students as compared to Hispanic/Latino students, and family influence (perceptions of same-gender family members' drinking) was only significant for Hispanic/Latino students but not for White students (Corbin et al., 2008).

Additionally, some authors have proposed that identification with traditional Hispanic gender roles can be linked to differences in the acceptance of alcohol use and its consumption (Galanti, 2003; Redondo-Churchward, 1998). For example, Machismo, a term commonly associated with the traditional Hispanic male gender role, may encourage heavy drinking, as heavy drinking and a man's ability to 'hold his alcohol' are masculine traits that are both socially acceptable and proof of manhood within traditional Hispanic cultures (Galanti, 2003; Redondo-Churchward, 1998).

In agreement with the previous findings, many studies have shown that women from Hispanic background have more conservative norms and attitudes towards alcohol use and tend to drink less than Hispanic/Latino men (Abraido-Lanza, Chao, & Flórez 2005; Akins et al., 2008; Caetano et al., 2009; Canino, 1994). For example, Hispanic women are expected to be nurturing, selfless, morally and spiritually superior to men, and self-sacrificing for the benefit of their family, a conservative Hispanic gender role referred to as Marianismo (Sue & Sue, 2007). I believe higher levels of Marianismo could potentially explain lower rates of alcohol use among Hispanic women. Additionally, it has been reported in the literature that

Hispanic men from Mexico and Central America tend to drink less frequently but more heavily (called "fiesta drinking") than men from the general U.S. Population (Worby & Organista, 2007).

Problematic Alcohol Use and Alcohol Use Disorders

The National Institute of Alcohol Abuse and Alcoholism defines low-risk drinking as having no more than seven drinks per week or no more than three drinks per occasion for women; and no more than 14 drinks per week or no more than four drinks per occasion for men (National Institute of Alcohol Abuse and Alcoholism, 2015a). According to these guidelines a drink contains about 0.6 fluid ounces or 14 grams of "pure" alcohol and is the equivalent of:

- twelve ounces of regular beer;

- eight to nine ounces of malt liquor;

- five ounces of wine;

- or one and a half ounces of 80 proof distilled spirits.

In this paper I use the term problematic alcohol use to refer to drinking above the National Institute of Alcohol Abuse and Alcoholism's guidelines for low-risk drinking, including binge drinking, heavy drinking, and drinking that is accompanied by negative or unpleasant consequences even when the person does not meet criteria for DSM Alcohol Use Disorder. Drinking above the NIAAA guidelines places individuals at risk and is considered problematic because it increases the chances of being injured or even killed (National Institute of Alcohol Abuse and Alcoholism, 2015a). For example, alcohol is a factor in about 60% of fatal burn injuries, drownings, and homicides; 50% of severe trauma injuries and sexual assaults; and 40% of fatal motor vehicle crashes, suicides, and fatal falls (National

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Institute of Alcohol Abuse and Alcoholism, 2015a). Moreover, heavy drinkers have a greater

risk of liver disease, heart disease, sleep disorders, depression, stroke, bleeding from the

stomach, sexually transmitted infections from unsafe sex, and several types of cancer

(National Institute of Alcohol Abuse and Alcoholism, 2015a). Also, people who drink above

these guidelines may have problems managing diabetes, high blood pressure, and other

conditions (National Institute of Alcohol Abuse and Alcoholism, 2015a). Additionally, a

person's problematic alcohol use can become so severe to the point that the person reaches

DSM criteria for diagnosis of Alcohol Use Disorder.

The results from the National Survey of Drug Use and Health indicate that in

2012 a little over half (52.1%) of the population in the United States age 12 and older

reported being current drinkers of alcohol in 2012, which translates to about 135.5 million

current drinkers. Also, almost one quarter (23%) of surveyed persons age 12 and older

reported they had participated in binge drinking at least once in the 30 days prior to the

survey in 2012, which translates to an estimated 59.7 million people. Binge drinking is

defined as having five or more drinks on the same occasion (i.e., at the same time or within a

couple of hours of each other). Additionally, 6.5 % of the population age 12 and older (17

million people) reported heavy drinking. Heavy drinking is defined as binge drinking on at

least 5 days in the past 30 days (SAMHSA, 2012).

Alcohol use disorders (i.e., alcohol abuse and dependence) represent one of the

most prominent mental health disorders leading to disability worldwide (Babor, Biddle-

Higgins, Saunders, & Monteiro, 2001), and are among the most prevalent mental health

disorders in the United States (Grant et al., 2004). According to the National Institute of

Alcohol Abuse and Alcoholism approximately 7.2% or 17 million adults in the United States

ages 18 and older had an Alcohol Use Disorder in 2012 (11.2 million men and 5.7 million women), and an estimated 855,000 adolescents ages 12 to 17 had an Alcohol Use Disorder in 2012 (National Institute of Alcohol Abuse and Alcoholism, 2015b).

The prevalence of DSM-IV alcohol abuse and dependence in the United States in 2001 to 2002 was 4.7% and 3.8%, respectively (Grant et al., 2004) and by 2011, 6.5% of the U.S. population age 12 and older (16.7 million persons) were dependent on or abused alcohol according to the criteria specified in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) (SAMHSA, 2011). DSM-IV characterized substance abuse and dependence as maladaptive patterns of drinking, leading to clinically significant impairment or distress. Alcohol abuse comprised one or more of the following symptoms: recurrent drinking resulting in failure to fulfill major role obligations; recurrent drinking in hazardous situations; recurrent drinking-related legal problems; and continued drinking despite recurrent social or interpersonal problems caused or exacerbated by drinking.

DSM-IV alcohol dependence is characterized by seven diagnostic criteria: tolerance; the withdrawal syndrome or drinking to relieve or avoid withdrawal symptoms; drinking larger amounts or for a longer period than intended; persistent desire or unsuccessful attempts to cut down on drinking; spending a great deal of time obtaining alcohol, drinking, or recovering from the effects of drinking; giving up important social, occupational, or recreational activities in favor of drinking; and continued drinking despite the development of negative outcomes including physical, psychological or interpersonal problems resulting from drinking (American Psychiatric Association, 1994).

Recent changes in the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) which are intended to increase its validity and utility, present a newer

perspective to understanding substance use in general, including alcohol use (American Psychiatric Association, 2013). These changes in the DSM diagnostic criteria for Substance Use Disorders (SUDs) in DSM-5 include the omission of the criterion "recurrent legal problems," and the addition of a "craving" criterion. Additionally, in the DSM-5 the use of the words "abuse" and "dependence" have been replaced with the terms: mild substance use disorder (when two or three of 11 criteria are met), moderate substance use disorder (when four or five of 11 criteria are met), and severe substance use disorder (when six or more of 11 criteria are met). In other words, the DSM-5 combines 11 criteria into a single continuum to designate the level or severity of the alcohol use disorder. These 11 criteria are:

- use of alcohol in larger amounts or over longer periods of time than intended;

- desire or unsuccessful effort to cut down or control alcohol use;

- great deal of time using or recovering;

- craving or strong urge to use alcohol;

- role obligation failure;

- continued use despite social/interpersonal problems;

- sacrificing important activities to use or because of use;

- use in situations where it is physically hazardous to be impaired;

- continued use despite knowledge of having a physical or psychological problem caused or exacerbated by use;

- tolerance;

- and withdrawal.

Prevalence of Alcohol Use Disorders in Hispanic Population Living in the United States

The prevalence of Alcohol Use Disorders in Hispanic populations living in the

United States seems to have changed over a decade. Data from National Household Surveys on Substance Abuse in 1991, 1992, and 1993 indicated that the rate of alcohol use disorders among the Hispanic/ Latino population did not differ from those of the overall U. S. population (SAMHSA, 1998a). However, the results of the 2001-2002 National Epidemiologic Survey on Alcohol and Related Conditions conducted by the National Institute on Alcohol Abuse and Alcoholism showed that the rate of alcohol dependence was higher for Hispanic than the overall U.S. population (for Hispanic men was 5.9% and for all men was 5.4%) (Grant et al., 2004).

Additionally, findings from the SAMHSA's 2003 to 2011 National Surveys on Drug Use and Health show that: a) Hispanics (of all races) were more likely than non-Hispanics to have needed substance use disorder treatment in the past year; b) Hispanics who needed substance use disorder treatment were less likely than non-Hispanics to have received treatment in the past year; and c) among Hispanics needing but not receiving treatment, only 5.6 percent perceived a need for treatment (SAMHSA, Center for Behavioral Health Statistics and Quality, 2012).

Furthermore, some researchers have shown that U.S.-born Hispanics present higher rates of mental health problems, and higher alcohol use, abuse and dependence rates compared to foreign-born (less acculturated) Hispanics (Caetano, Ramisetty-Mikler, & Rodriguez, 2009; Farabee, Wallisch, and Maxwell, 1995; Johnson, VanGeest, & Cho, 2002; Kasirye et al., 2005). Research has also identified demographic factors that may predict problematic drinking patterns in Hispanic populations. These include gender and socioeconomic status (Caetano et al., 2009). Although the relationship between Hispanic ethnicity and alcohol use disorders has been studied, many research studies that have

investigated this relationship have not included data on important cultural determinants such as acculturation and enculturation (Ortega, Rosenheck, Alegría, & Desai, 2000).

Predictors of Problematic Drinking Patterns in Hispanic Populations

In addition to potential cultural variables, research has shown that some demographic factors have consistently predicted problematic drinking patterns in Mexican Americans (Abraido-Lanza et al., 2005; Akins et al., 2008; Caetano et al., 2009; Caetano et al., 2008; Johnson et al., 2002). For example, Mexican women tend to drink less than Mexican men (Abraido-Lanza et al., 2005; Akins et al., 2008; Caetano et al., 2009; Canino, 1994). Additionally, in a study developed by Black and Markides (1993), Mexican American women with higher levels of education were more likely to be drinkers and to drink more frequently than those with less education. I believe this difference in Mexican American women's alcohol rates based on level of education could be at least partially explained by changes in levels of Marianismo. As previously stated, I believe that higher levels of Marianismo, one of the most prominent conservative gender roles for Hispanic women, could potentially explain lower rates of alcohol use among Hispanic women. It seems reasonable to hypothesize that women with higher levels of education would be exposed to more diverse cultural values and gender roles that could in turn generate changes in gender roles and a decrease in levels of Marianismo, leading to higher alcohol use rates among those women with higher levels of education. SES has also been studied, with poverty exhibiting a negative relationship with binge drinking (Akins et al., 2008). However, Caetano et al. (2009) found higher income to be a protective factor against alcohol dependence. These demographic variables are included in this study's examination of the relationship between cultural variables and alcohol use in people of Mexican descent.

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Acculturation and Acculturation Models

In addition to demographic predictors of alcohol use, researchers have begun to examine cultural determinants of drinking such as acculturation and enculturation. Acculturation has been consistently found to be among the most important predictors for alcohol use disorders in Mexican and Mexican American people living in the United States (Abraído-Lanza et al., 2005; Akins et al., 2008; Bekteshi et al., 2015; Black & Markides, 1993; Caetano et al., 2008; Caetano et al., 2009; Farabee et al., 1995; Johnson et al., 2002; Kasirye et al., 2005; Koneru et al., 2007; Schwartz et al., 2011). As the awareness of the effect of culture on people's psychological health increases among counseling psychologists, the interest in research studies that explore how cultural differences relate to etiology and expression of psychological distress continues to increase as well (Vera & Speight, 2003). Therefore, it is of prime importance to continue studying the role of cultural factors (such as acculturation and enculturation) in the relationship between Hispanic ethnicity and alcohol use disorders. It is also important to consider that the potential relationship of these cultural factors (acculturation and enculturation) with the development of alcohol use disorders, operate within the context of multiple environmental stressors Hispanics face as they are adapting to American culture. Among these stressors are experiences of discrimination, racism, intolerance of difference, and other forms of oppression (Weinreich, 2009). Additionally, studies have also shown that contact with mental health services in the United States, and the stigma associated with mental illness, interact with Hispanic immigrants' cultural beliefs affecting their perceptions and experiences of psychological distress (Bekteshi et al., 2015).

Definition of Acculturation and Acculturation Strategies

In this study, I define culture as a set of objective and subjective elements including buildings, tools, social norms, roles, beliefs and values of a particular group of people (Triandis, 1980). Acculturation is defined as the process that leads to changes in the original patterns of life and culture that happens as a result of contact between peoples of different cultures (Sam & Berry, 2006). Acculturation was once believed to be a one-dimensional construct, where a person could fluctuate from being completely immersed in his/her original (native) culture, to being completely immersed in the new host culture (Sam & Berry, 2006). This conceptualization of acculturation was later found to be inadequate in describing bicultural individuals (Miller, 2007; Yoon et al., 2013), who retain both elements of their original culture and embrace aspects of the host culture. For example, from a bilinear perspective of acculturation, Hispanics could (a) learn to speak English and use English in some social contexts while continuing to use Spanish to communicate in other social contexts of their quotidian life, or (b) learn, adopt, and practice American customs and traditions while retaining and practicing customs and traditions from their country of origin, etc.) (Sam & Berry, 2006).

The former one-dimensional conceptualization of the process of acculturation left no room for the coexistence of both cultures (original/native and new/host culture) within an individual, as acculturating individuals were seen as continually needing to give up aspects of their original culture in order to become more acculturated, providing a partial (fragmented) view of the process of acculturation (Cabassa, 2003; Yoon et al., 2013). Consequently, this one-dimensional model of acculturation was abandoned by some and replaced by a more complex Bi-dimensional Model (Berry, 1997; Yoon et al., 2013). This Bi-dimensional Model

allowed for the co-existence of both cultures (original and host) within an individual,

providing a more complete view of the process of acculturation. It also brought other

benefits, such as the opportunity to explore and identify protective factors within diverse

cultures. It helped move away from deficit-based views where low acculturation was viewed

as a cultural deficit, and made possible to demonstrate the benefits of enculturation for

immigrant populations (Berry, 1997; Berry 1998; Berry & Sam, 1996; Cuellar, Arnold, &

Maldonado, 1995; Marin & Gamba, 1996; Miller, 2007). Results from empirical studies have

shown nonsignificant to moderate associations between the two cultural orientations (r range

= –.12 to –.41), which supports their relative independence from each other, adding

credibility to the bidimensional model (Lee, Yoon, & Liu-Tom, 2006; Tsai, Ying, & Lee,

2000). Furthermore, using confirmatory factor analysis, Miller (2007) tested several unilinear

and bilinear models of acculturation and enculturation. His results showed that bilinear and

multidimensional models of acculturation consistently outperformed the unilinear models,

exhibiting a better fit to the data (Miller, 2007). In Miller's conceptualization the term

"multidimensional" denotes the multiplicity of areas in which acculturation occurs (across

behaviors, values, knowledge, identity, etc.). Miller (2007) suggested that in order to improve

theoretical clarity, I use the term unilinear versus bilinear, instead unidimensional versus

bidimensional, when describing a dependent versus independent relationship between

acculturation and enculturation.

      The Bilinear Model of acculturation proposed by Berry views individuals as

moving along two independent continuums, one pertaining to their original culture

(enculturation) and one pertaining to the host culture (acculturation) (Berry, 1997; Yoon et

al., 2013). This model predicts that individuals would adopt one of four different

acculturation strategies: assimilation, separation, integration, or marginalization. Assimilated individuals are those who show a high level of interaction and participation with the host (dominant) culture, while showing no interest in maintaining their culture of origin. Separated individuals are those who show a strong orientation towards their culture of origin and no interest or evading participation in the dominant culture. Integrated individuals are those who embrace and value both their original culture and the new dominant culture. And finally, Marginalized individuals are those who experience voluntary or forced exclusion from both the culture of origin and the host culture (Berry, 1997; Yoon et al., 2013).

According to Berry's model of acculturation strategies (Berry, 1997): (a) Hispanic migrants who use *integration* as their acculturation strategy, accepting the culture of the United States, while continuing to accept their Hispanic culture would benefit in that they would be better prepared to survive and adapt to both cultures, their culture of origin and the U.S. culture; (b) Hispanic migrants who use *assimilation* as their acculturation strategy would benefit in their ability to adapt and survive within the U.S culture, but by cutting ties with their roots, they would hinder their ability to relate with those of their heritage culture; (c) Hispanics who adopt a *separation* strategy, rejecting the U.S dominant culture, would be ill prepared to interact with people from and adapt to the dominant culture, which would impair their ability to survive and prosper in the United States; and finally, (d) Hispanic immigrants who use a marginalization strategy would be the least able to prosper, by rejecting both the U.S. dominant culture and their heritage culture, they would be isolated and ill prepared to interact with people from both cultures (Weinreich, 2009). However, Weinreich (2009) criticized Berry's model as overly simplistic, because: (a) it seems to assume a benign implicit ideology, where both the dominant and heritage cultures are

congenial, without racism, intolerance, xenophobia, and oppression; (b) it does not take into consideration incompatibility or conflict between heritage culture norms and the dominant culture norms; and (c) it assumes people are able to choose among strategies (integration, assimilation, separation, and marginalization). Weinreich (2009) proposes the use of *enculturation* as the more significant process for assessing the changes in identity of migrant populations.

Definition of Enculturation

Enculturation refers to the retention of or cultural socialization of one's culture of origin (Yoon et al., 2013). As previously stated in this paper, research has shown that cultural socialization to mainstream and ethnic cultures occurs relatively independently from each other. It is conceptually experientially possible that an individual develops competence in more than one culture, such as both the U.S. mainstream culture and Mexican culture (Yoon et al., 2013). In a study with U.S.-born college students from immigrant families of diverse ethnic backgrounds, including Hispanic background, enculturation was found to serve as a protective factor against health risk behaviors, such as hazardous alcohol use (Schwartz et al., 2011). In a study with adolescents of Mexican descent, enculturation was found to have a positive effect on their academic success (Dumka, Gonzales, Bonds, & Millsap, 2009). Calzada, Brotman, Huang, Bat-Chava, and Kingston (2009) studied parental levels of enculturation and acculturation and preschool behavioral and socioemotional functioning in a sample of 130 families of immigrant parents from diverse cultural backgrounds (28% Hispanic, 39% non-Hispanic Black, 15% Asian American, and 18% non-Hispanic White). Their results showed that bicultural parents with high levels of enculturation and acculturation (high identity with both their culture of origin and the U.S. culture) had

children with lower levels of internalizing problems and higher levels of adaptive behavior, than parents who were not bicultural. Nevertheless, a meta-analytic study developed by Yoon et al. (2013) yielded mixed findings in the relationship among the constructs of acculturation, enculturation, acculturation strategies, and mental health, with enculturation having positive effects for some ethnicities and negative effects for other ethnicities. However, the results of Yoon et al. (2013) showed that integration was the most favorable acculturation strategy to mental health.

In summary, the enculturation studies referenced above found higher enculturation to be associated with: a) reduced health risk behaviors such as hazardous alcohol use (Schwartz et al., 2011); b) positive mental health such as higher self-esteem, satisfaction with life, and positive affect, and lower negative mental health such as depression, anxiety, psychological distress, and negative affect (Yoon et al., 2013); c) higher academic success (Dumka et al., 2009); and d) lower levels of internalizing problems and higher levels of adaptive behavior (Calzada et al., 2009).

Based on the results of the above referenced studies on enculturation, in this study I expected enculturation to be a protective factor against problematic/risky alcohol use. Additionally, because research has shown that high levels of enculturation are beneficial when the individual is also highly acculturated, I expected the interaction between enculturation and acculturation to be a significant predictor of problematic/risky alcohol use as well.

Acculturation, Enculturation, and the Development of Substance Use Disorders

Generally, research has shown that as Hispanic immigrants become acculturated to American society, their risk of mental illness and alcohol abuse/dependence increases

sharply (Bekteshi et al., 2015). For example, an early study developed by Burnam, Hough, and Karno (1987) showed that highly acculturated U.S.-born Mexican-Americans living in Los Angeles had higher lifetime prevalence scores of major depression, phobia, and dysthymia, as well as a higher prevalence of drug and alcohol abuse/dependence than Mexican-born participants. A later study developed by Farabee et al. (1995) also showed acculturation level to be a significant predictor of mental health problems in Hispanic populations, where higher acculturation scores significantly predicted higher mental health problems, as well as higher alcohol use, abuse and dependence rates for U.S.-born Hispanics (as compared to Mexican-born Hispanics). Specifically, 21% of the individuals with high levels of acculturation had alcohol problems, as compared to 14% of the U.S.-born Hispanics classified as having medium levels of acculturation, and 9% for the Mexican-born Hispanics that formed the lowest acculturation level group.

Many research studies have replicated these findings (Akins et al., 2008; Bekteshi et al., 2015; Black & Markides, 1993; Caetano et al., 2009; Farabee et al., 1995; Johnson et al., 2002; Kasirye et al., 2005; Koneru et al., 2007). One of the current authorities in the field of acculturation and alcohol use disorders in the Hispanic population found, using data from a large National sample (the Hispanic Americans Baseline Alcohol Survey HABLAS), that highly acculturated Hispanics show higher rates of DSM-IV alcohol abuse and dependence, than less acculturated Hispanics (Caetano et al., 2009). In this study, Caetano and his colleagues used birth place and acculturation to predict 12-month rates of DSM-IV alcohol abuse and dependence, after controlling for demographic variables such as gender, age, education and income, in a sample of 5224 Hispanic adults from various countries of origin living in different metropolitan areas across the United States. Consistent with their

hypotheses, results showed that highly acculturated Hispanics demonstrated higher rates of DSM-IV alcohol abuse and dependence, than less acculturated Hispanics. In this study, Caetano and his colleagues also found that U.S.-born Puerto Ricans had 2 and 2.8 times higher rates of DSM-IV alcohol abuse and dependence, respectively, than those born abroad (Caetano et al., 2009). Along this line, Ortega et al. (2000) had also previously found that higher acculturation levels predicted greater risk of having any DSM-III-R disorders for Mexican-Americans and other Hispanics.

Using data from another large sample survey conducted in English and Spanish, Akins and collaborators (2008) studied the relationship between acculturation (measured using English or Spanish language preference) and alcohol use in a sample of 1690 Hispanic adults. They hypothesized that a higher level of acculturation would predict higher alcohol use. Their results were consistent with their hypothesis. After controlling for emotional health and demographic variables (SES, education, rural residence, age, marital status and gender), acculturation was positively and significantly related to binge drinking, with acculturated Hispanics being almost twice as likely as less acculturated Hispanics to binge drink (having five or more drinks in one day for male respondents, and having four or more drinks in one day for female respondents) during the past year. Their analyses also showed acculturation to be a significant and positive predictor of bender drinking (kept drinking for a couple of days or more without sobering up), with acculturated Hispanics being more than three times as likely than less acculturated Hispanics to report bender drinking (kept drinking for a couple of days or more without sobering up) during the previous year (Akins et al., 2008). Three other large National Survey studies that have also reported a positive relationship between acculturation and alcohol use disorders in Hispanic populations are

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those developed by Abraído-Lanza et al. (2005), Johnson et al. (2002), and Black and Markides (1993).

Using data from the National Health Interview Survey (NHIS), Abraído-Lanza et al. (2005), developed a descriptive study to examine the relationship between acculturation and health behaviors/risk factors in a sample of 3100 Hispanic adults. In their analysis they controlled for sociodemographic variables such as age, income and education. They hypothesized that higher levels of acculturation would be related to higher risk factors, such as higher alcohol use. Their results were consistent with their hypotheses, showing a positive relationship between acculturation and alcohol use disorders.

Kasirye et al. (2005) studied the relationship between acculturation and alcohol use disorders in a more local, gender-specific study with Latinas (Latino women) who received pre-natal care in San Joaquin, CA, between 1999 and 2001. Their findings were in agreement with the results of all the previously mentioned National Survey studies, showing acculturation to be significantly associated with a lifetime history of substance abuse. Specifically, their results showed that highly acculturated Latino women were more likely than women with low acculturation to report a history of alcohol use. Using logistic regression analysis they found that the lifetime odds for drinking adjusted for age were 2.4 times greater in moderately acculturated women and 10.3 times greater in highly acculturated women relative to women with low acculturation.

Although research findings have consistently shown that as Hispanic people acculturate into the dominant American culture, their risk for mental illness, drug and alcohol abuse/dependence increases sharply (Akins, Mosher, Smith, & Gauthier, 2008; Black & Markides, 1993; Caetano et al., 2009; Caetano, Ramisetty-Mikler, Wallisch, McGrath, &

Spence, 2008; Farabee et al., 1995; Johnson, VanGeest & Cho, 2002; Kasirye et al., 2005; Koneru, Weisman de Mamani, Flynn, & Betancourt, 2007), the nature of this relationship remains unsatisfactorily explained. Koneru et al. (2007) indicated the need for future research to identify variables that could be potentially mediating the relationship between acculturation and adverse mental health symptoms and outcomes.

It is important to mention that despite the consistency in their findings, most of the previously mentioned studies that have reported a positive relationship between acculturation and alcohol use disorders have several flaws. For instance, most of these studies have measured acculturation only via proxy variables, such as language use, length of residency in the United States and country of nativity. Secondly, they have conceptualized the acculturation process according to the earlier one-dimensional paradigm of acculturation. This restricts the nature of this research because they capture only a partial and/or incomplete view of the construct of interest (acculturation), making their conclusions tenuous.

To date, I have only located one study that uses Berry's (1997) bilinear conceptualization of acculturation in examining the relationship between acculturation and alcohol use disorders in Mexicans and Mexican Americans. Caetano et al. (2008) examined how the acculturation strategies proposed by Berry's model might differentially impact alcohol use disorder outcomes in Hispanic adults from the Texas-Mexico border. Their sample consisted of 956 (472 men) Mexican and Mexican-American adult Texas residents from the Texas-Mexico border. Caetano and colleagues found higher rates of DSM-IV alcohol use disorders among separated and integrated men, as compared with assimilated men. These results are intriguing because they showed that higher levels of acculturation were related to lower prevalence rates of alcohol use disorders in men, which is contrary to

what previous studies in this area have reported. On the other hand, acculturation level did not predict DSM-IV alcohol use disorders in women; however, assimilated women reported higher rates of heavy episodic drinking in the previous 12 months (46% of assimilated women versus 13% to 25% of women in the other categories, although these differences did not reach statistical significance). The authors suggest that the effects of acculturation on individuals' drinking behavior are not uniform, and that this negative relationship where only men in the "very Anglo" group (higher acculturation level) are at lower risk for alcohol use disorders could be unique to the border (a border phenomenon).

Acculturation and Psychological Distress

It is important to consider that the potential relationship between acculturation and the development of alcohol use disorders operates within the context of multiple environmental stressors in the host society (Bekteshi et al., 2015; D'Anna-Hernandez, Aleman, & Flores, 2015; Koneru et al., 2007). For example, during the process of acculturating to the U.S. dominant culture, Hispanics often face environmental stressors such as acculturative stress, experiences of discrimination, racism, and other forms of oppression (D'Anna-Hernandez, Aleman, & Flores, 2015). Bekteshi et al. (2015) also indicated that, due to the high poverty rates among Hispanics in the United States, it remains uncertain to what extent the level of acculturation and poverty interrelate and jointly affect the psychological distress of Mexican descent individuals (Bekteshi et al., 2015). Additionally, some researchers have suggested that the reason why so many empirical studies have linked greater acculturation to poorer mental health outcomes for Hispanics is because acculturation may increase stress or conflict between two competing cultures, or be associated with a reduction of family support (Bekteshi et al., 2015; Koneru et al., 2007). I believe changes in the

cultural values of individualism and collectivism during the process of acculturation could create some of the conflicts or tension between two competing cultures discussed by Koneru et al. (2007). Also, I believe changes in collectivism that result from acculturation of Hispanic individuals into the U.S. dominant culture, could be associated with the reduction of family support discussed by Koneru et al. (2007).

Acculturation, Individualism and Collectivism

There is a clear need for studies that incorporate the bilinear paradigm of acculturation and use validated scales of acculturation (rather than proxy measures of acculturation) to help us better understand the relationship between acculturation and alcohol use disorders. Of equal importance is the need for future studies that account for cultural values in this relationship, because during the process of acculturation an individual is likely to experience modifications in personal identity, cognitions and attitudes, and values as well (Berry, 1990). Individualism and collectivism represent two of the most important and thoroughly described cultural values/dimensions (Kim, Triandis, Kagitcibasi, Choi, & Yoon, 1994). Furthermore, individualism has been proposed as a good predictor for alcohol use disorders by Johnson (2007).

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Individualism and Collectivism

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Definitions of Individualism and Collectivism

According to Hofstede (1991), an authority in the area of individualism and collectivism, "individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family. Collectivism as its opposite pertains to societies in which people from birth onwards are integrated into strong, cohesive groups, which throughout people's lifetime continue to

protect them in exchange for unquestioning loyalty" (p.51). These two constructs (individualism and collectivism) used to be considered part of one bipolar dimension with each of those constructs at each end of the continuum (Kim, Triandis, Kagitcibasi, Choi, & Yoon, 1994). However, confirmatory factor analysis research using multiethnic samples has shown that these two constructs (individualism and collectivism) coexist independently within each individual and as such should be considered and measures as two distinct dimensions or orthogonal constructs (Singelis, 1994).

Individualism, collectivism and the development of problematic drinking patterns

In general, Hispanic culture is understood as a collectivistic culture, while the dominant U.S. culture is classified as individualistic (Shkodriani & Gibbons, 1995). People from a collectivistic culture are believed to give a much higher importance to family and societal values, norms, laws and expectations compared to people from an individualistic culture. In contrast, people from individualistic cultures tend to give priority to personal goals over family and society. As a person from a collectivistic culture acculturates into the mainstream U.S. culture, they might become more individualistic and/or less collectivistic, giving less importance to family and societal values, norms, laws, and expectations opposed to problem drinking, making him/her more likely to engage in frequent drinking and/or develop an alcohol use disorder. Additionally, research has found that people from a collectivistic culture (Nigeria) have different motives for drinking than people from an individualistic culture (United States) (Gire, 2002). Specifically, participants from the United States were more likely than Nigerian participants to drink alcohol as a way of coping, and Nigerian participants were more likely than U. S. participants to drink for social motives (Gire, 2002).

In a meta-analysis of the potential associations between cultural dimensions and patterns of substance use (including alcohol and illicit drug use) Johnson (2007) found individualism-collectivism and uncertainty avoidance to be independently associated with one or more substance use measures in a diverse sample of 64 nations that included the United States, Mexico and other 11 Latin American countries. More specifically, Johnson in his meta-analysis found individualism to have a positive and statistically significant effect on amount of alcohol consumed per capita among persons 15 and older. However, research in this area is still very limited. Despite the potential associations between cultural variables/dimensions and alcohol use shown in Johnson's meta-analysis, to date I have not yet located any empirical studies that have integrated the cultural variables/dimensions of individualism and collectivism as potential predictors of alcohol use.

Rationale

In summary, the study of alcohol use and abuse in the Hispanic populations is important not only due to the rapid growth rate of Hispanics, but also because researchers have demonstrated problematic drinking patterns in this ethnic group (Caetano & Mills, 2011; Grant et al., 2004). Additionally, the rapid growth rate and increased problematic drinking patterns of this population have not been paralleled by the development of information and services that effectively reach them (SAMHSA's Center for Behavioral Health Statistics and Quality, 2012). It is clear that studies on the predictors of alcohol use and abuse among Hispanic adults are necessary in order to allocate resources for alcohol abuse prevention and alcohol use disorders treatment (Corbin, Vaughan & Fromme, 2008; Johnson, 2007). Acculturation has been consistently found to be among the most important predictors for alcohol use disorders in Hispanic people living in the United States (Abraído-

Lanza et al., 2005; Akins et al., 2008; Black & Markides, 1993; Caetano et al., 2008; Caetano et al., 2009; Farabee et al., 1995; Johnson et al., 2002; Kasirye et al., 2005; Koneru et al., 2007). However, despite the consistency in their findings, most of the previously mentioned studies that have reported a positive relationship between acculturation and alcohol use disorders have several flaws. Flaws include the use of proxy variables, such as language use, length of residency in the United States, and country of nativity to measure acculturation. The use of proxy variables limits the validity of the conclusions made from those studies because it confounds the variable of interest with other variables that correlate with them. Another flaw in those previous studies is the use unilinear models of acculturation. These unilinear models of acculturation have been abandoned in the literature because they capture only a partial and/or inaccurate view of the process of acculturation. Furthermore, conceptualizing the acculturation process according to the dated unilinear models that do not account for enculturation make it difficult to demonstrate the benefits of enculturation for immigrant populations. Therefore, there is a clear need for studies that incorporate the bilinear paradigm of acculturation and use validated scales (rather than proxy measures of acculturation) to help us better understand the relationship between acculturation and alcohol use disorders. Of equal importance is the need for future studies that incorporate cultural values, because during the process of acculturation an individual is likely to experience modifications in personal identity, cognitions and attitudes, and values as well (Berry, 1990). Individualism and collectivism represent two of the most important and thoroughly described cultural values/dimensions (Kim, Triandis, Kagitcibasi, Choi, & Yoon, 1994). Furthermore, individualism has been proposed as a good predictor for alcohol use disorders by Johnson (2007).

In the present study, I focused exclusively on Mexican descent individuals as they represent approximately two thirds (63%) of the overall Hispanic population in the United States (U.S. Census Bureau, 2011). Also, the Mexican origin population in the United States is increasing at a much faster rate than any other national origin Hispanic group, growing from 20.6 million in 2000 to 31.8 million in 2010 (U.S. Census Bureau, 2011). In fact, Mexicans accounted for about three-quarters of the 15.2 million increase in the overall Hispanic population living in the United States from 2000 to 2010 (U.S. Census Bureau, 2011).

Purpose of This Study

With this background, this research project aimed to study the cultural values and orientation represented by the constructs of individualism (giving priority of personal goals over those in the group) and collectivism (giving priority to in-group goals over those of the individual) as possible predictors of alcohol use in people of Mexican descent living in the United States. I believe these core cultural values (individualism and collectivism) could potentially help explain the relationship between acculturation and problematic alcohol use, given that they define the guidelines for individual behavior and determine social and family system functioning. My specific research questions are:

1. Can individualism, collectivism and their interaction predict problematic alcohol use in Mexican descent populations living in the United States?

2. Can acculturation, enculturation and their interaction predict problematic alcohol use in Mexican descent populations living in the United States above and beyond Individualism and collectivism?

My hypotheses are:

1. Problematic drinking will be higher among participants with higher levels of individualism (I expect a positive association between individualism and problematic drinking)

2. Problematic drinking will be lower among participants with higher levels of collectivism (I expect a negative association between collectivism and problematic drinking)

3. Problematic drinking will be higher among participants with higher levels of acculturation (I expect a positive association between acculturation and problematic drinking)

4. Problematic drinking will be lower among participants with higher levels of enculturation (I expect a negative association between enculturation and problematic drinking)

CHAPTER 2

METHODOLOGY

Recruitment and Inclusion Criteria

Convenience sampling was utilized in the current study. This sampling methodology

was important to make this study possible given the limited resources and the intrinsic

difficulties to reach the population of interest, Mexican descent adults living in the Kansas

City area (which included areas of the states of Missouri and Kansas). Hispanics represent

10% of the population in Kansas, 9% in Nebraska, 5% in Iowa, and 3% in Missouri (US

Census Bureau, 2011) and 5.2% of Kansas City, MO's population (Fuger et al., 2013);

Mexicans account for nearly 60% of the overall Hispanic population in the United States

(U.S. Census Bureau, 2011). Participants included Mexican descent adults living in the

Kansas City area as described above, who were either born in Mexico, or were born to and

raised by Mexican-descent parents living in the United States of America. Adults who spoke

either Spanish or English were eligible for participation. This information was obtained by

asking potential participants at recruitment whether they spoke English and/or Spanish.

Other criteria included being at least 18 years old or older. A sample size calculation

following the guidelines proposed by Peduzzi, Concato, Kemper, Holford, and Feinstein

(1996) for logistic regression revealed that a sample size of approximately 225 participants

would be sufficient to detect a medium effect size. This method indicates for that logistic

regression analysis, the minimum sample size is calculated as follows: $N = 10 k / p$, where k

represents the number of predictors and p the smallest of the proportions of cases in my

binary criterion variable within the population, which in this case is .40 (based on previous

research, 40% of the people fall on one side of my binary criterion variable [higher vs lower

problem drinking], and within my sample the smallest proportion within my binary criterion

[higher vs lower problem drinking] was 38%). My analysis includes 9 predictors:

individualism, collectivism, the interaction between individualism and collectivism,

acculturation (adaptation to mainstream U.S. culture), enculturation (maintenance of culture

of origin), the interaction between enculturation and acculturation, sex, age, and SES

(income), which means in this study I required a minimum sample size of: 10 (9) / .40 = 225.

However, it is possible that my analysis methodology may not have had the power to detect

the interaction terms within my model, as interaction terms are notoriously difficult to detect

(J. Marszalek, personal communication, October 27, 2015).

Participants

Participants ($N = 261$) were Mexican descent adults from the Kansas City area (which

included areas of the states of Missouri and Kansas). Of the total sample of 261 only 236

participants were used (25 participants were not used due to invalid responses [e.g., indicated

more than one response] and/or missing data in their questionnaires; all cases with missing

data for any of the variables within my model were deleted). Of the 236 valid participants,

132 reported being cisgender women (55.9%) and 104 cisgender men (44.1%), and their ages

ranged from 18 to 78 ($M = 36.51$, $SD = 11.55$). Thirty (12.7%) participants reported they

were born in the United States and 206 (87.3) reported they were born in Mexico. As far as

survey language preference, 190 (81%) responded to the survey in Spanish, and 46 (19%) in

English (see Table 1 below for more information on sample characteristics).

Table 1
Sample Characteristics

Characteristic	N = 236
Age (years)	*M* = 36.51 (*SD* = 11.55)
Years of education	*M* = 11.30 (*SD* = 3.43)
Sex	*n* (%)
Male	104 (44.1)
Female	132 (55.9)
Gender	*n* (%)
Male	104 (44.1)
Female	132 (55.9)
Religion	*n* (%)
Catholic	158 (66.9)
Christian	29 (12.3)
Jehovah Witness	4 (1.7)
Baptist	1 (0.4)
Adventist	2 (0.8)
Pentecostal	1 (0.4)
Buddhist	1 (0.4)
LDS (Last Day Saints)	2 (0.8)
No religious affiliation	30 (12.7)
None reported	8 (3.4)
Yearly Household Income	*n* (%)
Below $20,000	54 (22.9)
Between $20,000-30,000	56 (23.7)

Between $30,000-40,000	49 (20.8)
Between $40,000-50,000	28 (11.9)
Between $50,000-60,000	16 (6.8)
Between $60,000-70,000	9 (3.8)
Between $70,000-80,000	6 (2.5)
Between $80,000-90,000	5 (2.1)
Between $90,000-100,000	4 (1.7)
Above 100,000	9 (3.8)
Country of birth	*n* (%)
United States	30 (12.7)
Mexico	206 (87.3)
If not born in the United States, length of time here (years)	$M = 15.51$ ($SD = 8.53$)
Generation in the United States	*n* (%)
First	206 (87.3)
Second	21 (8.9)
Third	6 (2.5)
Fourth	2 (0.8)
Above fourth	1 (0.4)
Survey Language Preference	*n* (%)
English	46 (19.5)
Spanish	190 (80.5)

Procedure

Prior to recruitment, an IRB application was filled out and submitted to the SSIRB

board of the University of Missouri-Kansas City. After receiving IRB approval, formal

invitation letters were sent to the authorities of institutions in the Kansas City area that

provide services to the Mexican descent populations from the states of Kansas and Missouri.

Combined, these institutions serve approximately 150 persons of Mexican descent every day.

The letters asked authorities for their permission to recruit voluntary participants at their

institutions. These letters contained a brief description of the study, including the relevance

and applicability of the possible outcomes of the study, and its possible benefits for the

population being targeted. Additionally, I included information on some ethical

considerations for participants in my study such as possible risks for participants,

clarification that participation in my study is voluntary and anonymous, and the rights of

participants to withdraw at any point during the study with no penalty (See Appendix A for a

sample letter sent to institutions to request permission to collect data from individuals served

by the institutions who met my inclusion criteria). Once permission was granted, I set

appointments for several face-to-face individual data collection sessions at each institution, in

accordance with each institution's availability and scheduled activities (number of visits to

each institution varied from two to 14, and each visit lasted approximately three hours). The

principal investigator of this study met participants during data collection sessions. Data were

collected via paper and pencil surveys from participants who agreed to complete the survey.

Copies of the information script were provided to all prospective participants during the face-

to-face recruitment/data collection; the information script (in English and Spanish) document

was read and explained in English or Spanish, according to their language preference.

Potential participants were given an opportunity to ask questions and get clarification.

Following the answering of any questions, participants were asked to complete the survey if

they consented to take part in the study (See Appendix B for a copy of the informed consent). It took participants approximately 15 to 20 minutes to complete the survey. The principal investigator of this study was available to answer questions about the study while participants completed the survey.

All of the scales used in this study were available in English and Spanish, as they have been developed/translated in English and Spanish by their authors (see Measures section below for more information on the scales). The process to translate the informed consent and demographic questions form was as follows: the principal investigator of this study, who is a Spanish native speaker, created parallel consent and demographic forms in English and Spanish. A bilingual (Spanish/English) PhD student back translated the Spanish versions into English and the back translation was reviewed to check for accuracy and loyalty to the original English version and assure equivalency between English and Spanish versions.

Measures

There were parallel measurement instruments in English and Spanish. These surveys contained a few questions on demographic information such as gender, age, and SES (income). Following the demographic questions, there were three very well established measurement scales that measure specifically my constructs of interest (individualism, collectivism, acculturation, enculturation, and alcohol use). These scales are: the Self-Construal Scale (SCS) developed by Singelis (1994), the Bidimesional Acculturation Scale (BAS), developed by Marin and Gamba (1996), and the 2001 World Health Organization's Alcohol Use Disorders Identification Test (AUDIT). All of these scales have been translated into Spanish by the developers and have been successfully used with Latino/Hispanic populations showing adequate reliability and validity in both languages (English and

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Spanish). See Appendix C for a copy of all the scales.

Self-Construal Scale (SCS). The Self-Construal Scale (SCS) was originally developed by Singelis (1994) in English and has been translated into Spanish by the developer, and shown to be appropriate for use with Hispanic populations (Singelis et al., 2006). The SCS measures two different dimensions of self-construal: independent (individualism) and interdependent (collectivism). These two concepts were originally introduced by Markus and Kitayama (1991) and are thought to reflect the emphasis on connectedness and interpersonal relations commonly found in non-Western cultures (interdependent) as well as the separateness and uniqueness of the individual (independent) commonly emphasized in the West. These two dimensions are thought to be independent from each other, yet can and do coexist within an individual and can be measured (Singelis, 1994). The SCS is a 30-item scale, with 15 items measuring each of these dimensions orthogonally (individualism, collectivism). Responses are scored using a rating scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Reliability (in Chronbach's alphas) for each dimension is typically in the middle 60's and the low 70's, in both Spanish and English versions (Singelis, 1994; Singelis et al., 2006). Scores are derived by averaging each subscale item response to yield one independent and one interdependent score per respondent within the range of 1 to 7. Higher scores indicate greater levels of each construct. The validity of the SCS has been established across ethnic groups (Singelis, 1994) and by convergence with other collectivism measures (Singelis, Triandis, Bhawuk, & Gelfand, 1995). For instance, Singelis (1994) tested the construct validity by comparing independent and interdependent scores between Asian Americans and White Americans. They found that the scores for each dimension were approximately normally distributed and, as expected,

Asian Americans were more interdependent than White Americans and White Americans scored higher on the independent dimension than Asian Americans. This construct validity has been replicated by Singelis and Sharkey (1995) and Singelis, Triandis, Bhawuk, & Gelfand (1995). Additionally, the SCS items are based directly on the constructs' definitions, which is an indicator of high face validity for the two SCS subscales (Singelis, 1994).

Bidimensional Acculturation Scale (BAS). The Bidimensional Acculturation Scale (BAS; Marin & Gamba, 1996) for Hispanics was developed through factor analysis by Marin and Gamba (1996). The scale consists of 24 items that yield acculturation scores for two major cultural dimensions: a Hispanic cultural domain that measures enculturation, and a non-Hispanic cultural domain that measures acculturation. It includes 12 items per cultural domain, and responses are scored using a rating scale ranging from 1 (*almost never*) to 4 (*almost always*) for frequency items, and from 1 (*very poorly*) to 4 (*very well*) for proficiency items (Marin & Gamba, 1996). Scores for each cultural domain (Hispanic and non-Hispanic) are derived by averaging the answers to the 12 items that measure each cultural domain. The possible total score rage is from 1 to 4 for each cultural domain (Hispanic and non-Hispanic). The BAS has good internal consistency with Cronbach's alpha coefficients reported by Marin and Gamba (1996) of .90 for the Hispanic domain and .96 for the non-Hispanic domain, in both Spanish and English versions. The BAS was originally developed in both Spanish and English. The metric equivalent of the English and Spanish versions has been replicated by Singelis et al. (2006), who found internal reliabilities on the same order for both languages. The BAS subscales were validated by showing an overall high correlation in the expected directions with: a) generational status; b) length of residence in the United States; c) amount of formal education; d) age at arrival in the United States; e) proportion of respondent's life

in the United States; f) ethnic self-identification; and g) the acculturation score obtained

through the Short Acculturation Scale for Hispanics (SASH; Marin, Sabogal, Marin, Otero-

Sabogal, & Perez-Stable, 1987), a unidimensional acculturation scale that had shown strong

validity and reliability indexes in previous studies and had been referenced in more than 100

publications from 1987 to 1995 (Marin & Gamba, 1996).

Alcohol Use Disorders Identification Test (AUDIT). Finally, to measure

participants' the level of alcohol use, I used the Alcohol Use Disorders Identification Test

(AUDIT), developed by the World Health Organization in English and Spanish (Babor,

Biddle-Higgins, Saunders, & Monteiro, 2001). The AUDIT is a 10-item screening test that

was originally developed to identify persons whose alcohol consumption had become

hazardous or harmful to their health. Three items measure the amount and frequency of

drinking, three measure alcohol dependence and four measure problems caused by alcohol

consumption. Responses for each item are on a 5-point rating scale ranging from 0 to 4 (i.e.,

0 (*Never*) to 4 (*Daily*) for frequency of drinking items; 0 (*1 or 2 drinks*) to 4 (*10 or More*

drinks) for amount of drinking items; and from 0 (*No*) to 4 (*Yes, during the last year*) for

items that endorse problems caused by alcohol consumption.). In the present study, all of the

responses to the ten items were added to yield a total AUDIT score in the range of 0 to 40.

Total AUDIT scores of 4 or more are recommended as indicators of risky alcohol use by the

National Institute on Alcohol Abuse and Alcoholism, NIAAA

(http://rethinkingdrinking.niaaa.nih.gov/); therefore I used this cut-off (scores of 0 to 3 versus

scores of 4 and above) to form the two levels of my binary criterion variable. In general, the

higher the score, the greater alcohol use risks or problems a person might be experiencing.

This test has been used successfully with Hispanic populations living in the United States in

previous studies, showing good internal consistency (Cronbach's α of .80 or higher) and good test-retest reliabilities (r = .86) (Babor et al., 2001). The AUDIT has also shown good content, criterion and construct validity. For example, the AUDIT developers chose its items "on the basis of face validity, clinical relevance, and coverage of relevant conceptual domains (i.e., alcohol use, alcohol dependence, and adverse consequences of drinking)" (AUDIT; Babor et al., 2001, p. 10), and "in the test development samples, a cut-off value of 8 points yielded sensitivities for the AUDIT for various indices of problematic drinking that were generally in the mid 0.90's" (AUDIT; Babor et al., 2001, p. 11).

Reliability of all scales within my sample. Cronbach's α tests were performed for both the English and Spanish versions of each of my scales and subscales independently, and for each scale and subscale with all data from both versions combined (English and Spanish). All scales and subscales in my study showed Cronbach's α reliability coefficients above .70 for their English and Spanish versions, as well as with all data from both versions combined, indicating good reliability within my sample. The following reliability coefficients were found for the Spanish versions of the scales or subscales: Audit α = .872, Bidimesional Acculturation Scale α = .865 (acculturation subscale α = .955, enculturation subscale α = .955), and Self-Construal Scale α = .785 (individualism subscale α = .722, collectivism subscale α = .785). The English versions were found to have the following reliability coefficients: Audit α = .818, Bidimesional Acculturation Scale α = .810 (acculturation subscale α = .886, enculturation subscale α = .886), and Self-Construal Scale α = .928 (individualism subscale α = .890, collectivism subscale α = .928). Combined (English and Spanish) coefficients were: Audit α = .866, Bidimesional Acculturation Scale α = .837 (acculturation subscale α = .966, enculturation subscale α = .879), and Self-Construal Scale α

= .834 (individualism subscale α = .770, collectivism subscale α = .834). Given that the results of the t tests for all relevant variables between English and Spanish versions did not show any concerning differences, and the reliability tests showed good reliability for both versions, and for all data combined, I combined all the data for all subsequent analyses.

Exploratory Factor Analysis (EFA). An exploratory factor analysis was performed on all scales with all data from English and Spanish versions combined, to examine and report the factor structures. I observed factor loadings to determine whether the factor structure was appropriate. Principal Axis Factoring extraction method showed factor loadings above .30 for each item, and explained more than 40% of the variance for the risky alcohol use (Audit), acculturation, and enculturation scales, supporting construct unidimensionality for each measure. Principal Axis Factoring extraction method did not show support for the unidimensionality of construct for the individualism and collectivism scales as some of their factor loadings were below .30 and only explained near 20% of the variance. More specifically, the variance explained on the collectivism scale was quite low, at only 19.3%, and on the individualism scale at 21.4% (See Tables 2, 3, and 4 below for more factor loadings information). However, the validity of the SCS has been established across ethnic groups (Singelis, 1994) and by convergence with other collectivism measures (Singelis, Triandis, Bhawuk, & Gelfand, 1995). For instance, Singelis (1994) tested the construct validity by comparing independent and interdependent scores between Asian Americans and White Americans. They found that the scores for each dimension were approximately normally distributed and, as expected, Asian Americans were more interdependent than White Americans and White Americans scored higher on the independent dimension than Asian Americans. This construct validity has been replicated by Singelis and Sharkey (1995)

and Singelis, Triandis, Bhawuk, and Gelfand (1995). Additionally, the SCS items are based

directly on the constructs' definitions, which is an indicator of high face validity for the two

SCS subscales (Singelis, 1994). Therefore, despite the lack of support my data showed in

regards to the unidimensionality of the individualism and collectivism subscales, given their

wide use and recognition as separate subconstructs in previous research (Singelis et al.,

2006), I used them in my primary analyses as separate subconstructs. Nevertheless, given the

low loading factors, and small variance explained by the individualism and collectivism

subscales in my exploratory factor analysis, interpretation of this subscales' scores within my

sample should be made with caution.

Table 2. *Factor Loadings for Audit Scale*

Item Number	Audit
1.	.71
2.	.65
3.	.79
4.	.67
5.	.66
6.	.52
7.	.73
8.	.64
9.	.30
10.	.69
% Variance Explained	42.1

Table 3. *Factor Loadings for Self-Construal Scale*

Self-Construal Scale

Individualism	
Item Number	
1.	.52
2.	.39
3.	.12
4.	.51
5.	.54
6.	.59
7.	.59
8.	.40
9.	.26
10.	.43
11.	.50
12.	.28
13.	.63
14.	.53
15.	.33
% Variance Explained	21.4

Collectivism	
Item Number	
1.	.29
2.	.56
3.	.43
4.	.34
5.	.56
6.	.31
7.	.69
8.	.32
9.	.24
10.	.32
11.	.33
12.	.30
13.	.61
14.	.66
15	.25
% Variance Explained	19.3

Table 4. *Factor Loadings for Bidimesional Acculturation Scale*

Bidimesional Acculturation Scale	
Acculturation	
Item Number	
1.	.83
2.	.90
3.	.70
4.	.79
5.	.76
6.	.86
7.	.93
8.	.69
9.	.91
10.	.91
11.	.84
12.	.92
% Variance Explained	70.7
Enculturation	
Item Number	
1.	.61
2.	.70
3.	.44
4.	.61
5.	.65
6.	.79
7.	.74
8.	.62
9.	.46
10.	.52
11.	.72
12.	.78
% Variance Explained	41.8

CHAPTER 3

RESULTS

Data Screening

The statistical analyses were performed using Statistical Package for the Social

Sciences (SPSS) Software, version 24. Prior to analysis, a data screening procedure

recommended by Grimm and Yarnold (1995) was performed to ensure my study variables

and design met all assumptions of logistic regression. Specifically, the five conditions that

Grimm and Yarnold list to meet logistic regression assumptions are: a) the criterion is

dichotomous, b) the scores in the outcome are statistically independent, c) the model is

correctly specified, d) the categories in the outcome are mutually exclusive and collectively

exhaustive, and e) the sample size is sufficient. My study variables and design met all

assumptions of logistic regression described by Grimm and Yarnold (1995). My criterion

variable is dichotomous because I am using a cut-off value to divide the AUDIT scores on

two levels of alcohol use. Outcome scores are statistically independent as I collected data

individually from non-related individuals. I have, to the best of my abilities, used previous

research findings and theory to guide the selection of predictors, including interaction terms.

I also performed preliminary analyses with my data to ensure that only control variables that

had a significant correlation with my outcome variable were included in the final model (see

Preliminary Analyses section below for more information on the process of selecting

demographic/control variables to enter the final model based on their correlations with the

outcome variable). The categories in my outcome variable are mutually exclusive and

collectively exhaustive because people can only score either above or below the cut-off value

of the AUDIT. I also ensured that my sample size was sufficient by using a well-established

method of sample size calculation for logistic regression analysis proposed by Peduzzi et al. (1996). This method was described at the end of the Recruitment and Inclusion Criteria subsection of the Methodology chapter above. After confirming all assumptions/conditions for logistic regression described by Grimm and Yarnold were tenable, I checked for missing values and all incomplete questionnaires with missing values or invalid responses (for example, those with more than one response checked for one item) were removed from my final analysis. Outliers were detected by examining bivariate scatterplots; to assess for undue influence of outliers, residual statistics such as Cook's Distances, Leverage values, studentized residual values, standardized residual values, and DFBeta values were examined. Each of these tests indicated that there were no univariate or multivariate outliers wielding undue influence over my model.

Preliminary Analyses

Forty-six people (19.5%) completed the Spanish version of my survey and 190 (80.5%) the English version. A series of independent samples t-tests were performed to assess whether there were differences between English and Spanish responders on any of the scales (including subscales) of interest for this study: acculturation, enculturation, individualism, collectivism, and AUDIT dichotomous scores. The significance level was adjusted to account for experiment wise Type I error inflation by dividing .05 by 5, the number of t-tests performed ($p = .01$). None of the t-tests were significant with the exception of acculturation and enculturation (the results are in Table 5 below), which is to be expected given that language use is a proxy for acculturation. In fact, the items of the acculturation and enculturation scales are all associated with English and Spanish language use (see Appendix C for a copy of these scales).

Table 5
Summary of Differences between English and Spanish versions *of all Scales*

Scale	Spanish (N = 190)		English (N = 46)		Levene F	t Test	DF	95% CI		T-Score Difference
	M	SD	M	SD				Lower	Upper	
ACC	2.28	0.79	3.58	0.46	23.04**	-14.63**	116.74	-1.47	-1.12	-1.30
ENC	3.54	0.35	2.96	0.74	38.58**	5.20**	50.06	0.36	0.81	0.58
IND	5.14	0.43	5.18	1.05	n.s.	-0.28	234	-0.30	0.22	-0.04
COL	4.48	0.70	4.81	0.70	n.s.	0.23	234	-0.22	0.28	0.03
AUDIT	4.41	6.03	3.46	4.30	n.s.	1.01	234	-0.90	2.81	0.95

Note. ACC, acculturation; ENC, enculturation; IND, individualism; COL, collectivism; AUDIT, alcohol use disorders identification test. A more conservative p-value of .01 (.05/5) was used due to adjustment for experiment wise Type I error inflation.

* $p < 0.01$, **$p < 0.001$

Bivariate scatterplots, Pearson product moment, and Spearman correlation coefficients were conducted to examine bivariate relationships (almost all correlations are Pearson; the only exception is sex by income, which is Spearman as those are two categorical variables). See Table 6 for the full correlation matrix. There were no non-linear patterns observed in scatterplots of all pairs of variables used in my final model. Only those demographic variables found to be significantly correlated with the outcome variable were controlled for in the primary analyses. Preliminary analyses indicated that two of my three demographic variables, age and sex, significantly correlated with my outcome variable (problematic/risky drinking using dichotomized version of AUDIT scores), $r = -.133$, and, $r = -.419$, respectively. These correlations suggest that younger people and men are at higher risk for problematic drinking than older people and women. These findings are consistent with previous literature and age and sex were thus used as control variables for all primary analyses. Additionally, age and acculturation were significantly negatively correlated, r = -.288 ($p < .05$), which indicates that in general, younger people displayed higher levels of acculturation than older people.

Participants generally scored on the higher end of the scales of individualism and collectivism, close to the middle of the acculturation subscale, and high on collectivism. They also reported low levels of problematic drinking (see Table 6 below for mean, standard deviation, minimum, maximum, and response scale values).

Table 6. *Bivariate Correlations and Descriptives among Study Variables* (N = 236).

Scale Name	1.	2.	3.	4.	5.	6.	7.	8.	*M*	*SD*	*Mini-mum*	*Maxi mum*	*Response scale*
1. Age	_								36.51	11.55	18	78	-
2. Sex	.039	_							-	-	-	-	-
3. Income	.115	-.007	_						-	-	-	-	-
4. Risky Alcohol Use	-.133*	-.419**	-.028	_					0.38	0.49	0	1	0 to 1
5. Acculturation	-.288*	.094	.337**	-.056	_				2.53	0.89	1	4	1 to 4
6. Enculturation	.096	.038	-.251**	-.024	-.376**	_			3.42	0.51	1	4	1 to 4
7. Individualism	-.012	.051	.029	-.069	.022	.123	_		5.15	0.80	1.13	6.93	1 to 7
8. Collectivism	.037	-.111	-.013	.040	-.067	.115	.496**	_	4.84	0.76	1.73	6.87	1 to 7

Note: Risky alcohol use correlations and descriptives were calculated using the dichotomized version of the AUDIT scores. AUDIT continuous score descriptives are as follows: *M* = 4.22, *SD* = 5.74, *Minimum* = 0, *Maximum* = 34, *Response Scale* = 0 to 40. All correlations are Pearson with the exception of sex by income, which is Spearman as those are two categorical variables.
*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Primary Analyses

Hypotheses 1 through 4, and research questions 1 and 2, which explored the influence of

cultural variables on risky drinking, were tested using logistic regression analysis. The

logistic regression analysis included the cultural values and orientation represented by the

constructs of individualism, collectivism, the interaction of individualism by collectivism,

acculturation, enculturation, and the interaction of acculturation by enculturation, after

controlling for demographic variables (sex and age), with risky drinking as the dependent

variable. Total AUDIT scores were transformed into a dichotomous variable using the

NIAAA recommended cut-off for identify risky drinking, where total scores of 0 to 3 were

given a value of "0" and total scores of 4 or above were given a value of "1" (provided the

score of 4 does not come exclusively from item 1, and when that was the case it was given a

value of "0"). Next, a multiple logistic regression analysis was performed where the AUDIT

dichotomous scores (0 or 1) were regressed on sex, age, individualism, collectivism, the

interaction of individualism and collectivism, acculturation, enculturation, and the interaction

of acculturation by enculturation. The predictors were entered in the following order:

Step 1: Covariates (sex and age)

Step 2: Individualism and collectivism scores (measured by the Self-Construal Scale)

Step 3: Product of individualism by collectivism scores (interaction)

Step 4: Acculturation and enculturation scores (measured by the Bidimesional Acculturation

Scale)

Step 5: Product of acculturation by enculturation scores (interaction)

The significance and magnitude of individualism, collectivism, and the interaction of

individualism by collectivism as predictors of risky alcohol use (dichotomous AUDIT

scores) after controlling for sex and age was observed to answer research question 1 and test hypotheses 1 and 2. The significance and magnitude of acculturation, enculturation, and the interaction effect of acculturation by enculturation as predictors of risky alcohol use (dichotomous AUDIT scores) after controlling for individualism, collectivism and their interaction was observed to answer research question 2 and hypotheses 3 and 4. A Hosmer-Lemeshow goodness of fit statistic was used to assess how well my model fit the data. The Hosmer-Lemeshow test was not significant; therefore I proceeded to interpret the results of my analysis. I observed the log-likelihood and associated model chi-square statistic to assess the fit of the model, and the Cox & Snell's R^2, and Nagelkerke's R^2 to gauge the substantive significance of the model. Additionally, I observed exp b, and Wald statistic values (magnitude and significance) to assess the individual contribution of each predictor variable. A classification table was created to compare actual versus predicted outcomes and determine the degree of accuracy of the predictions within my model. This analysis indicated that Hypotheses 1 through 4, and Research Questions 1 and 2 were not supported. That is, the results of the multiple logistic regression analysis showed that individualism, collectivism, the interaction of individualism by collectivism, acculturation, enculturation, and the interaction of acculturation by enculturation did not predict risky/problematic alcohol use in my sample. The Wald statistic for each of those predictor variables and the likelihood ratio statistics/chi-square significance tests for incremental improvement to model fit at each step after those variables were entered into the model were not significant (i.e., steps 2 through 5 described in previous page). However, the covariates sex and age significantly predicted problematic alcohol use, with men being over six times more likely to show risky/problematic alcohol use than women, and older people being about .03 times less likely

to show risky/problematic alcohol use per each year they are older. The Wald statistic for sex was significant at $p<.001$ level and the Wald statistic for age was significant at $p<.05$ level. The exp b value was 6.37 for sex and 0.97 for age. The likelihood ratio statistics/chi-square significance test for incremental improvement to model fit after step 1, where those variables (sex and age) were entered into the model was significant at $p<.001$ level (See Table 7 below). The percentage correct on the predicted outcomes increased from 62.3 % in step 0 (baseline with just the intercept) to 72.5% in the final step, after all the predictors were entered into the model (see classification Table 8 below). Given the non-significance of interaction terms in my model (i.e., the changes in chi-square were non-significant when adding the interaction terms), I ran the logistic regression without the interaction terms to assess if that would change the coefficients for any of the other predictors, or the chi-square significance test for incremental improvement to model fit. The coefficients of all predictors and the chi-square significance test for incremental improvement to model fit didn't change much after dropping interaction terms.

Table 7. *Logistic Regression Analysis Using Age, Sex, Individualism, Collectivism, the Interaction Individualism-Collectivism, Acculturation, and Enculturation, and the Interaction Acculturation-Enculturation to Predict Risky/Problematic Alcohol Use.*

Step and Variables	B (SE)	95% CI for exp b		
		Lower	exp b	Upper
Included				
Constant	0.91 (1.79)			
Covariates				
Age	-.03* (0.02)	0.94	0.97	1.00
Sex	1.80*** (0.31)	3.31	6.03	11.00
Individualism				
	-0.20 (0.22)	0.53	0.82	1.26
Collectivism	0.10 (0.23)	0.70	1.10	1.74
Acculturation				
	-0.17 (0.19)	0.58	0.85	1.24
Enculturation	-0.05 (0.32)	0.51	0.95	1.77

Note: The interaction terms were dropped from the final model as the change in chi-square was not significant when adding them to the model. The model was built step-by-step, as indicated in the text above, but coefficients didn't change much in successive steps and I am reporting only the final model in this table for simplicity.
R^2 = .19 (Cox & Snell), .25 (Nagelkerke). Model χ^2 (8) 48.11, *p*<.001.
* *p*<.05. ** *p*<.01, *** *p*<.001.

Table 8. *Classification Table of Predicted Versus Actual (Observed) Scores of High and Low Risk Drinking at Final Step After All Predictors Were Entered Into The Final Model.*

Actual Group	n	Predicted Group		Percentage Correct
		Low Risk	High Risk	
Low risk	147	111	36	75.5
High Risk	89	29	60	67.4
Overall Percentage				72.5

Note: the probability cut value is .5

Exploratory Analyses

Because the examination of the correlational findings in my preliminary analyses revealed an association of language of survey with acculturation and enculturation, I performed a series of exploratory analyses to test for language interactions with my predictor variables. First, I ran the logistic regression with survey language added in the first step along with the other control/demographic variables (sex and age). The coefficients of all predictors and the chi-square significance test for incremental improvement to model fit didn't change much after controlling for language. Then I ran the logistic regression analysis dropping the interaction terms in steps 3 and 5 described in page 50 above, and added an interaction term of language by enculturation as an additional final step. The coefficients of all predictors and the chi-square significance test for incremental improvement to model fit didn't change much after dropping the interactions terms in steps 3 and 5 in original model described in page 50 above, and adding an interaction term of language by enculturation in an additional final step. I also ran the logistic regression analysis dropping the interactions terms in steps 3 and 5 described in page 50 above, and added an interaction term of language by acculturation as an additional final step. The coefficients of all predictors and the chi-square significance test for incremental improvement to model fit didn't change much after dropping the interaction terms in steps 3 and 5 in original model described in page 50 above, and adding an interaction term of language by acculturation in an additional final step.

Additionally, because of the nonsignificant findings for all hypotheses and research questions, further exploratory analyses were reviewed to test for interactions between sex and main predictors (individualism, collectivism, acculturation, and enculturation). I ran four more logistic regression analyses testing for one interaction term at a time (i.e., sex by

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individualism, sex by collectivism, sex by acculturation, and sex by enculturation). The chi-square significance tests for incremental improvement to the model were non-significant after adding the interaction terms of sex by individualism, sex by collectivism, and sex by enculturation. However, when I ran the model with the interaction term of sex by acculturation, the change in chi-square was significant after adding the interaction ($\chi2$ (1) 20.29, $p<.001$). The Wald statistics for the interaction term sex by acculturation was significant at a $p<.001$ level (see Table 9 below) (Final Model $\chi2$ (7) 68.39, $p<.001$). It is important to note that the significance level was adjusted to account for experiment wise Type I error inflation by dividing .05 by 9, the total number logistic regression analyses performed in this study ($p=.005$). The correct classification rate was 74 % in the final model with the interaction term sex by acculturation (the probability cut value is .5). To interpret the interaction of sex by acculturation, I calculated the probabilities for problematic/risky drinking for each sex category using the logistic regression equation of the final model with the sex by acculturation term in it. Then I created a chart with probabilities for problematic/risky drinking for each sex (see Figure 1 below). This analysis showed that acculturation has opposite effects on men and women. The probability for women to drink above the problematic/risky level increases as they acculturate. And the probability for men to drink above the problematic/risky level decreases as they acculturate.

Table 9. *Logistic Regression Analysis Using Age, Sex, Individualism, Collectivism, Acculturation, Enculturation, and the interaction Sex-Acculturation to Predict Risky/Problematic Alcohol Use*.
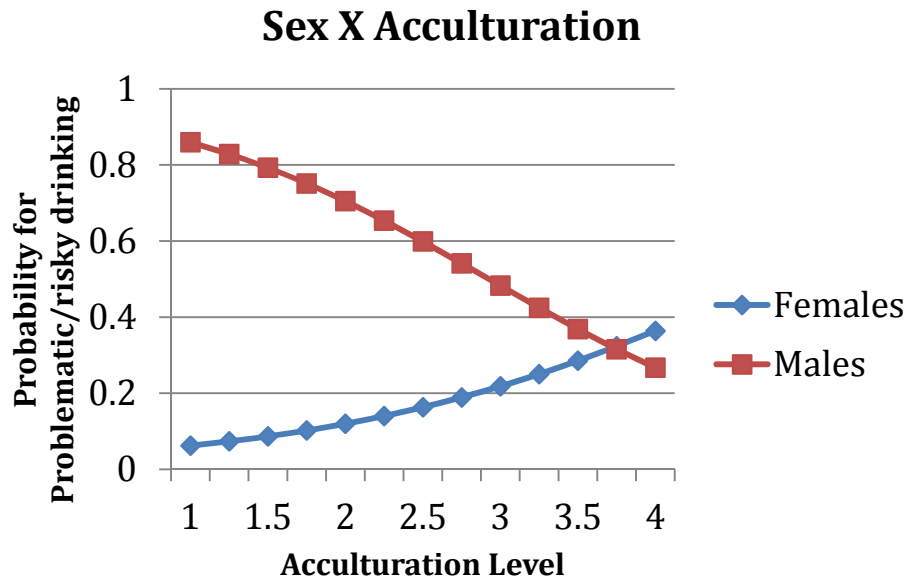
Step and Variables	B (SE)	95% CI for exp b		
		Lower	exp b	Upper
Included				
Constant	-1.92 (1.96)			
Covariates				
Age	-.021 (0.15)	0.95	0.98	1.01
Sex	6.18* (1.13)	52.85	483.44	4422.14
Individualism	-0.30 (0.23)	0.48	0.74	1.17
Collectivism	0.19 (0.24)	0.75	1.21	1.94
Acculturation	0.72 (0.30)	1.14	2.05	3.69
Enculturation	-0.04 (0.32)	0.51	0.96	1.79
Sex X Acc. (interaction)	-1.66* (0.39)	.09	.20	.41

Note: The model was built step-by-step, but coefficients of main predictors did not change much and I am reporting only the final model in this table for simplicity. Significance level was adjusted to account for experiment wise Type I error inflation by dividing .05 by 9, the total number logistic regression analyses performed in this study ($p = .005$).
$R^2 = .25$ (Cox & Snell), .34 (Nagelkerke). Model χ^2 (7) 68.39, $p < .001$.
* $p < .001$.

Figure 1. The interaction of sex by acculturation on problematic/risky drinking

CHAPTER 4

DISCUSSION

The present study examined the cultural values and orientation represented by the constructs of individualism (giving priority of personal goals over those in the group) and collectivism (giving priority to in-group goals over those of the individual) as possible predictors of risky/problematic alcohol use among a sample of 236 Hispanic/Latino adults of Mexican descent living in the Midwestern region of the United States. I believed these core cultural values (individualism and collectivism) could potentially help explain the relationship between acculturation and problematic alcohol use, given that they define the guidelines for individual behavior and determine social and family system functioning. Overall, the hypotheses and research questions were not statistically supported; however, I did find that sex and age significantly predicted risky/problematic alcohol use, with both older age and being female as protective factors for risky/problematic alcohol use.

Individualism and Collectivism

The hypotheses and research question related to Individualism and Collectivism are discussed in this section. Hypotheses 1 and 2 and research question 1, which explored the relationship between Individualism and Collectivism and problematic alcohol use, were not supported. These non-significant findings could be due to the possibility that the effect I am looking for (the effect of individualism and collectivism in alcohol use) might be in fact a smaller effect than I expected when I calculated my minimum sample size to achieve the needed power for detecting a medium size effect. In my preliminary analyses, individualism and collectivism showed very small/negligible correlations with the dichotomous risky alcohol use variable, $r = -.069$, and, $r = .040$, respectively. This means that individualism and

collectivism only shared about 0.4% and 0.2% of their variance, respectively, with the dichotomous risky alcohol use variable. If the effect of individualism and collectivism in alcohol use is in fact small rather than medium size, it could have led to potentially insufficient power to detect the effect, as insufficient power in a study is known to lead to failure on detecting small effects (Field, 2005). The previous study developed by Johnson (2007), which is referenced in chapter one, where the relationship between one of these variables (individualism) and alcohol use has been reported was a meta-analysis that used a much larger sample (Johnson, 2007). Another plausible explanation is measurement error based on the lack of validity the scale I used to measure individualism and collectivism (Self-Construal Scale) showed in my exploratory factor analysis (EFA). Although this measure has been reported to have good validity within my population of interest in previous studies, within my sample it did not seem to be the case (see Table 3 in methods section for EFA results). In my judgement, this scale contains the most subjective and abstract items within my research survey, and participants in my study tended to ask more questions regarding the meaning of items on Self-Construal Scale than on any of the rest of the scales within my study during data collection sessions. In that regard, the Self-Construal Scale seemed to have a low response-process validity within my sample. It seems feasible that the reading level of this scale might have been higher than the general literacy level of participants within my sample. If that is the case, this would have hindered the validity of the Self-Construal Scale within my sample, introducing error variance that would have obscured any potential relationship the constructs of individualism and collectivism might have had with my outcome variable (risky drinking).

Acculturation and Enculturation

The hypotheses and research questions related to acculturation and enculturation are discussed in this section. Hypotheses 3 and 4 and research question 2, which explored the relationship between Acculturation and Enculturation and problematic alcohol use, were not supported. In other words, the logistic regression analysis conducted to assess the relationship between both subscales of Acculturation and Enculturation and problematic alcohol use was nonsignificant. There are a number of reasons for these non-significant findings. First, as mentioned in the individualism and collectivism section above, my sample size, which was just at the minimum to achieve the needed power for detecting a medium size effect, might have been insufficient if the effect I am looking for is in fact a smaller effect. All previous studies where this relationship between acculturation and alcohol use has been reported have used much larger samples (six to ten times larger than ours) (Abraído-Lanza et al., 2005; Akins et al., 2008; Bekteshi et al., 2015; Black & Markides, 1993; Caetano et al., 2008; Caetano et al., 2009; Farabee et al., 1995; Johnson et al., 2002; Kasirye et al., 2005; Koneru et al., 2007; Schwartz et al., 2011).

Additionally, it is possible that the lack of support for my hypotheses about acculturation, enculturation and problematic alcohol use is because the effects of acculturation and enculturation might not be uniform. In other words, it is possible that acculturation and enculturation affect people differently based on their interaction with other moderating variables unaccounted for within my model. For example, acculturation might be a risk factor for both mental health and problematic alcohol use on some people, and serve as a protective factor for other people. These different effects could be due to sex, gender, geographical location, level of life stressors, educational level, etc. Indeed, previous research

has reported contradictory findings regarding the effects of acculturation and enculturation on mental health and alcohol use, sometimes reported as protective factors, and sometimes reported as risk factors for both mental health and problematic alcohol use (Caetano et al., 2008; Yoon et al., 2013).

Caetano et al. (2008) found in a study along the Texas-Mexico border, that very acculturated Mexican descent adult men showed less risk for problematic drinking and alcohol use disorders than their less acculturated counterparts, whereas higher levels of acculturation in Mexican descent women predicted higher risk for problematic/risky drinking. The authors suggest that the effects of acculturation on individuals' drinking behavior are not uniform, and that this negative relationship where only men in the "very Anglo" group (higher acculturation level) are at lower risk for alcohol use disorders could be unique to the border (a border phenomenon). The authors did not identify what is unique to the border that could explain this border phenomenon. However, they highlight several characteristics unique to the border including: (a) a higher prevalence of heavy drinking on the border than nationally; (b) a higher percentage of protestant religious background of acculturated Hispanics as compared with a higher percentage of Catholic religious background of acculturated Hispanics in other part of the country; and (c) higher poverty rates than the rest of the country. These contradictory findings suggest that the effects of acculturation and enculturation on problematic alcohol use might not be uniform and exert their influence through moderating variables such as gender or geographical location (affect differently men and women, or affect differently Mexican descent people living at different geographical locations within the United States). If that is the case, my non-significant results could be due to unaccounted moderating variables within my model such as sex or gender.

Many authors have suggested that the potential relationship of acculturation with the development of problematic drinking, operates within the context of multiple environmental stressors in the host society (Bekteshi et al., 2015; D'Anna-Hernandez, Aleman, & Flores, 2015; Koneru et al., 2007). Hispanics might experience discrimination, racism, and other forms of oppression, as well as acculturative stress during the process of acculturating to the U. S. dominant culture (D'Anna-Hernandez, Aleman, & Flores, 2015). Therefore, I propose that other potentially moderating variables in addition to gender or sex may be perceived family support, acculturative stress, and environmental stressors such as discrimination, racism, intolerance of difference, as well as other forms of oppression Hispanics might face as they are adapting to main stream American culture.

It is also important to consider some of the unique Mexicans' experiences in the Kansas City area compared to other regions in the United States. They are farther from Mexico than many other states where the most of the studies I referenced where conducted (California, Texas, etc.), which might lead to increased homesickness among those recently emigrated individuals with family members and friends back in Mexico. Also, there is a small Hispanic community and low ethnic minority populations in general. Kansas City is also more isolated than other higher Hispanic cities in the Mid-West such as Chicago, which has straight and cheaper flights to Mexico, and has much larger Hispanic communities. Additionally, some anonymous authorities within a large multi-site local institution that provides counseling services to Hispanics in the Kansas City region, indicated that in the data they collect from the people they serve, Hispanics usually report that their reasons for drinking are related to life stressors: bills, marital problems, relief from life, legal status and the inability to see family back in their home country. Because variability on level of life

stressors was not controlled for in my study, this could have hindered my ability to detect the relationship between acculturation and alcohol use due to variability in the outcome variable that was not controlled/accounted for.

Exploratory Findings. One important exploratory finding from the current study was that acculturation was significantly positively associated with problematic alcohol use for women, and negatively associated with problematic alcohol use for men. This finding is consistent with previous research on acculturation and alcohol use in Hispanic adults, which has found that high levels of acculturation are linked to higher problematic/risky alcohol use rates for women, and lower rates of problematic/risky alcohol use for men (Caetano et al., 2008; Kasirye et al., 2005).

Implications for Treatment

The results of this study showed sex and age as significant predictors of risky/problematic alcohol use in Mexican descent adults, with both older age and being female as protective factors for risky/problematic alcohol use. These results are consistent with previous findings that men and younger Mexican descent adults are at higher risk for harmful alcohol consumption (Abraido-Lanza et al., 2005; Akins et al., 2008; Caetano et al., 2009; Canino, 1994). It is also congruent with reports in the literature that Hispanic women tend to drink less than Hispanic men (Abraido-Lanza, Chao, & Flórez 2005; Akins et al., 2008; Caetano et al., 2009; Canino, 1994), due to traditional female gender roles such as Marianismo, which dictate more conservative norms and attitudes toward alcohol use for women as compared to men. The implications of these results for clinical practice include the importance for mental health practitioners and other health providers working with Hispanic populations in the United States to take into account age and sex when assessing for

problematic alcohol use. The results of this study suggest that men, younger people, and more acculturated women within this population are at higher risk for harmful alcohol consumption. It is also important that future researchers and clinicians continue assessing for the possible effects of acculturation on harmful drinking patterns, especially when working with Hispanic women.

Future research

Given the statistical significance of sex to predict alcohol use, and the significant interaction of sex by acculturation found in my exploratory analyses, future studies could run the regression analysis splitting the data by sex, which is consistent with previous studies that have found the relationship between acculturation and alcohol use is stronger for women (Caetano et al., 2008; Kasirye et al., 2005). Therefore, future studies should focus on differential effects of acculturation based on sex (sex differences in the relationship between acculturation and alcohol use) and utilize larger samples to reach enough power to detect these relationships.

Additionally, given the study results, it seems important that future studies with larger and more representative samples continue to investigate the potential role of individualism and collectivism in the relationship between acculturation and problematic alcohol use. For example, 87% of the current sample was born in Mexico, compared to only 13% who were born in the United States, whereas only one-third of Mexicans in the United States are foreign-born (Pew Research Center, 2013). This high proportion of Mexican born participants could have led to a limited representation of acculturation and enculturation levels in my general population. In fact, most of my sample scored on the higher end of the enculturation scale. Also, future research on the relationship between acculturation and

problematic alcohol use could benefit by incorporating other potentially mediating or moderating variables such as partnership status, perceived family support, acculturative stress, and environmental stressors such as discrimination, racism, intolerance of difference, and other forms of oppression Hispanics face as they are adapting to American culture. It is possible that the process of acculturation would become more problematic in the context of higher environmental stressors such as the ones listed above, therefore leading to higher levels of psychological distress, mental health challenges, and greater risk for substance use issues. Additionally, future research on alcohol use could use AUDIT scores as a continuous variable instead of dichotomizing it to improve statistical power.

Strengths and Limitations

Limitations of my study include my sample size, which was just at the minimum to achieve the needed power for detecting a medium size effect, which might have been insufficient if the effect I am looking for is in fact a small one. Additionally, the narrow representation of the population of interest (Mexican descent people living in the United States of America) is yet another limitation of this study. I recruited participants only within organizations in the Kansas City area. Additionally 80% of participants in my sample were Mexican-born, whereas as only one-third (33%) of Mexicans in the United States overall population are foreign-born (Pew Research Center, 2013). This could have restricted the range in acculturation and enculturation levels as people born in Mexico are more likely to have retained more of their culture of origin than those born in the United States. In fact, the mean score within my sample for enculturation scale was 3.42 (SD= .051), and this scale has a response range of 1 to 4. The mean score for acculturation within my sample was 2.53 (SD= 0.89), and this scale also has a response range of 1 to 4. This restriction of range could

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have also further limited my ability to detect the effect I was looking for. Another potential limitation in this study is the loss of statistical power by dichotomizing the AUDIT scores that could be used as a continuous variable. This could have also negatively affected my ability to detect the effects I was looking for.

On the other hand, some of the strengths of this study include: (a) that I measured acculturation with well-established acculturation scales (rather than proxy measures typically used in previous studies); (b) that I used an acculturation scale based in a bilinear acculturation model that permitted a more accurate representation of participants' acculturation status by allowing acculturation and enculturation scores to be used as independent continuous variables; (c) that I incorporated specific cultural values such as collectivism and individualism to investigate more specific factors within a larger construct that could potentially account for the relationship between acculturation and alcohol use. An additional strength of this study is the author's familiarity with Mexican culture and Spanish language that helped build rapport and earn the trust of the people participating in the study during face to face data collection sessions.

Conclusions

The current study investigated the potential role of the cultural values of individualism and collectivism in the relationship between acculturation and problematic alcohol use among Mexican descent adults living in the Midwest. My results did not support the hypothesized potential for individualism, collectivism, acculturation, and enculturation to predict problematic alcohol use in Mexican descent adults living in the Midwest. Results provided an impetus for future research in this area, especially in the area of variations on the effects of acculturation on problematic drinking based on sex, gender, perceived family

support, acculturative stress, and environmental stressors such as discrimination, racism, intolerance of difference, and other forms of oppression Hispanics face as they are adapting to American culture. Findings from the current study can be used to inform clinicians of the need to use culturally sensitive interventions that consider age and gender when assessing for risky/problematic alcohol use on Mexican descent populations.

Appendix A

Dear Sir/Madam

This email is to request the assistance from [insert name of institution] on the data collection process of a research project conducted by Ignacio Alejandro Barajas Muñoz, a student in the PhD Counseling Psychology program at UMKC. This research project is to investigate the relationships between cultural factors (such as acculturation) and alcohol use in the Hispanic/Latino populations with a goal of recruiting 225 voluntary adult Hispanic/Latino community residents in the KC area to complete an anonymous survey. The purpose of this study is to learn more about the relationship between culture and alcohol use. The findings of this study will benefit the field of psychology and the substance abuse treatment and prevention fields.

The specific assistance we need from your center/program is to give us the permission to come to your facility/building to recruit potential research participants to complete a survey for the study. The survey takes about 15 minutes to complete and participation in this study is completely voluntary. Participants could stop taking the survey at any time as they wish. I can assure you that the recruitment activity will not interfere with any of your routine work or business operation.

I will be the contact person for this research project. I can be reached via email at barajasmunozi@umkc.edu or at phone number 816-868-8671.

Thank you so much for your time and consideration. Your assistance on this project will be greatly appreciated. Please simply respond to this email to let us know whether you would grant us the permission to recruit potential research participants from your center/program. Please let me know if more information is needed for your decision.

Sincerely,

Ignacio Alejandro "Alex" Barajas-Muñoz, M.S

Graduate Student in the Counseling Psychology Program

barajasmunozi@umkc.edu

Example of response from institutions

Barajas Munoz, Ignacio A.

From:	▓▓▓▓▓▓▓▓▓▓▓▓▓▓
Sent:	Thursday, April 21, 2016 1:17 PM
To:	Barajas Munoz, Ignacio A.
Subject:	Re: Research project conducted by a UMKC research team

We would be delighted to provide your requested assistance.

Sincerely,

▓▓▓▓▓▓▓

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▓▓▓▓▓▓▓

IMPORTANT WARNING: This email, including any attachments, is intended for the use of the person to whom it is addressed and may contain information that is privileged and confidential, the disclosure of which is governed by applicable law. If the reader of this e-mail is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this information is STRICTLY PROHIBITED. If you have received this e-mail message in error, please notify me ▓▓▓▓▓▓▓▓▓▓ ▓▓and delete the related e-mail and any attachments

Note: I covered the name of the individual and institution who granted permission in the email example above to protect their confidentiality.

Appendix B

Information Summary

You are invited to participate in a research survey study that examines the relationships between cultural factors such as acculturation (adoption of mainstream American culture), enculturation (native culture retention) and alcohol use in the Hispanic/Latino populations. The principal investigator of this study is Ignacio Alejandro Barajas Muñoz, a student in the PhD Counseling Psychology program at UMKC, under the supervision of Dr. Laverne Berkel, a faculty member in the Counseling Psychology Program at UMKC who can be reached via email at BerkelL@umkc.edu or at phone number 816-235-2444. This study has been approved by the UMKC campus SSIRB (approval #).

You are eligible to participate only if you are 18 years of age or older and are an individual with Hispanic/Latino cultural background. A minimal sample of 225 Hispanic/Latino adults will participate in this study. Participation requires approximately 15 minutes to complete an anonymous survey. The survey is available in both English and Spanish. Your participation is completely voluntary. There will be no identifying information asked of you on any part of the survey so your responses are completely anonymous. You may skip items or choose to discontinue your participation at any time during the study, even after you have started the survey, without penalty.

The purpose of this study is to learn more about the relationship between culture and alcohol use. The findings of this study will benefit the field of psychology and the substance abuse treatment and prevention fields.

There are no known risks associated with participation in this study. However, should you feel disturbed as a result of participating in this study, you are encouraged to contact professional helping resources, such as the Community Counseling and Assessment Services at UMKC (816-235-2725).

Although it is not the University's policy to compensate or provide medical treatment for persons who participate in studies, if you think you have been injured as a result of participating in this study, please contact the UMKC's Social Sciences Institutional Review Board at 816-235-1764.

While every effort will be made to keep confidential all the information you complete and share, it cannot be absolutely guaranteed. Individuals from the University of Missouri-Kansas City Institutional Review Board (a committee that reviews and approves research studies), Research Protection Program, and Federal regulatory agencies may look at the records related to this study for quality improvement and regulatory function.

We sincerely appreciate your consideration and participation in this study.

If you have any questions about this study at any time, you may contact Ignacio Alejandro Barajas Muñoz at barajasmunozi@umkc.edu or Dr. Berkel at the University of Missouri-Kansas City, School of Education 5100 Rockhill, Kansas City, MO 64110 or you may phone her at 816-235-2444, or e-mail her at BerkelL@umkc.edu and she will be happy to answer any of your questions.

Completing and returning the survey indicates that you give your consent to participate in this study.

Appendix C

Survey Research

General Instructions: This survey includes several demographic items and three individual scales. Each scale has its own instructions. Because no part in the survey will ask for your name or any identifying information, your responses will be completely anonymous. There are no right or wrong answers. Please answer all items.

1. Age _____   2. Sex: ____Male   ____Female   3. Gender_____

4. How many years of education have you completed? (6th grade is 6 years, high school is 12 years, 2 years of college is 14 years) _____

5. In what country were you born? _____

6. How long have you lived in the United States? _____years

7. Marital Status_____

8. State of residence_____

9. What generation are you?

    _____ 1st generation (if you were **NOT** born in the United States)

    _____ 2nd generation (if you were born in the United States but at least 1 parent is not)

    _____ 3rd generation (if at least one grandparent was born in the United States)

    _____ 4th generation (if at least one great-grandparent was born in the United States)

    _____ above 4th generation

10. What is your religion? _____

11. What is your annual family/household income?

    _____ less than $20,000   _____ between $60,000-70,000

    _____ between $20,000-30,000   _____ between $70,000-80,000

    _____ between $30,000-40,000   _____ between $80,000-90,000

    _____ between $40,000-50,000   _____ between $90,000-100,000

    _____ between $50,000-60,000   _____ over $100,000

Listed below are some questions about your use of alcohol. Your answers will remain confidential so please be honest.

Place an X in one box that best describes your answer to each question.

Example:

How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week
How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more

Questions	0	1	2	3	4
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have six or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the last year		Yes, during the last year
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	No		Yes, but not in the last year		Yes, during the last year

Listed below are some questions about your English and Spanish language use. Place an X in one box that best describes your answer to each question.

Questions	1	2	3	4
1. How often do you speak English?	Almost always	Often	Sometimes	Almost never
2. How well do you understand music in English?	Very well	Well	Poorly	Very poorly
3. How well do you understand music in Spanish?	Very well	Well	Poorly	Very poorly
4. How often do you think in Spanish?	Almost always	Often	Sometimes	Almost never
5. How often do you listen to music in Spanish?	Almost always	Often	Sometimes	Almost never
6. How often do you watch television programs in English?	Almost always	Often	Sometimes	Almost never
7. How often do you speak in English with your friends?	Almost always	Often	Sometimes	Almost never
8. How well do you write in Spanish?	Very well	Well	Poorly	Very poorly
9. How well do you read in Spanish?	Very well	Well	Poorly	Very poorly
10. How well do you understand radio programs in Spanish?	Very well	Well	Poorly	Very poorly
11. How well do you understand television programs in Spanish?	Very well	Well	Poorly	Very poorly
12. How often do you listen to music in English?	Almost always	Often	Sometimes	Almost never
13. How well do you write English?	Very well	Well	Poorly	Very poorly
14. How often do you speak Spanish with your friends?	Almost always	Often	Sometimes	Almost never
15. How well do you speak English?	Very well	Well	Poorly	Very poorly
16. How often do you listen to radio programs in Spanish?	Almost always	Often	Sometimes	Almost never
17. How often do you listen to radio programs in English?	Almost always	Often	Sometimes	Almost never
18. How well do you understand television programs in English?	Very well	Well	Poorly	Very poorly
19. How often do you watch television programs in Spanish?	Almost always	Often	Sometimes	Almost never
20. How well do you read English?	Very well	Well	Poorly	Very poorly
21. How often do you speak Spanish?	Almost always	Often	Sometimes	Almost never
22. How often do you think in English?	Almost always	Often	Sometimes	Almost never

23. How well do you speak Spanish?	Very well	Well	Poorly	Very poorly
24. How well do you understand radio programs in English?	Very well	Well	Poorly	Very poorly

INSTRUCTIONS

This is a questionnaire that measures a variety of feelings and behaviors in various situations. Listed below are a number of statements. Read each one as if it referred to you. Beside each statement write the number that best matches your agreement or disagreement. Please respond to every statement. Thank you.

1=STRONGLY DISAGREE	**4=DON'T AGREE OR**	**5=AGREE SOMEWHAT**
2=DISAGREE	**DISAGREE**	**6=AGREE**
3=SOMEWHAT DISAGREE		**7=STRONGLY AGREE**

____1. I enjoy being unique and different from others in many respects.

____2. I can talk openly with a person who I meet for the first time, even when this person is much older than I am.

____3. Even when I strongly disagree with group members, I avoid an argument.

____4. I have respect for the authority figures with whom I interact.

____5. I do my own thing, regardless of what others think.

____6. I respect people who are modest about themselves.

____7. I feel it is important for me to act as an independent person.

____8. I will sacrifice my self interest for the benefit of the group I am in.

____9. I'd rather say "No" directly, than risk being misunderstood.

____10. Having a lively imagination is important to me.

____11. I should take into consideration my parents' advice when making education/career plans.

____12. I feel my fate is intertwined with the fate of those around me.

____13. I prefer to be direct and forthright when dealing with people I've just met.

____14. I feel good when I cooperate with others.

____15. I am comfortable with being singled out for praise or rewards.

____16. If my brother or sister fails, I feel responsible.

____17. I often have the feeling that my relationships with others are more important than my own accomplishments.

____18. Speaking up during a class (or a meeting) is not a problem for me.

____19. I would offer my seat in a bus to my professor (or my boss).

____20. I act the same way no matter who I am with.

____21. My happiness depends on the happiness of those around me.

____22. I value being in good health above everything.

____23. I will stay in a group if they need me, even when I am not happy with the group.

____24. I try to do what is best for me, regardless of how that might affect others.

____25. Being able to take care of myself is a primary concern for me.

____26. It is important to me to respect decisions made by the group.

____27. My personal identity, independent of others, is very important to me.

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____28. It is important for me to maintain harmony within my group.

____29. I act the same way at home that I do at school (or work).

____30. I usually go along with what others want to do, even when I would rather do something different.

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VITA

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Shortly after graduation, Mr. Barajas moved to Kansas City, Missouri, where he completed his Master of Arts degree in Counseling and Guidance at the University of Missouri-Kansas City on his way to his Doctoral degree in Counseling Psychology. For his master's degree, Mr. Barajas focused his academic work on cultural predictors of alcohol use, psychological distress and wellbeing, particularly in college students and the Latino community. After completion of his master's degree in 2013, Mr. Barajas continued in Kansas City working to complete his doctoral training in Counseling Psychology at the University of Missouri – Kansas City. He completed numerous training experiences in psychotherapy and went on to complete his pre-doctoral internship at the University of Kansas Counseling, Assessment, and Psychological Services (CAPS), in Lawrence, Kansas.

The next step on Mr. Barajas' professional journey will include continued post-doctoral training at the University of Central Missouri (UCM) Counseling Center, after which he plans to obtain licensure and continue employment as a psychologist at UCM Counseling Center. Mr. Barajas plans to continue serving college students through clinical work, outreach, research, and social justice advocacy.

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