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RELIGION, ACCULTURATIVE STRESS AND IMMIGRANT GENERATIONS AMONG HISPANICS IN THE TEXAS-MEXICO BORDER: PREDICTORS OF ATTITUDES TOWARD SUBSTANCE USE

A Thesis

by

DIANA KAREN VAQUERA SANTOS

Submitted to Texas A&M International University in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

May 2017

Major Subject: Counseling Psychology



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Chair of Committee, Gilberto Salinas Committee Members, Ediza Garcia Elizabeth Terrazas Marcus Ynalvez

Head of Department, Jose Lozano

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Major Subject: Counseling Psychology



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ABSTRACT

Religion, Acculturative Stress, and Immigrant Generations in a Hispanic Population:

Predictors of Attitudes toward Substance Use (May 2017)

Diana K. Vaquera Santos, B.A., Psychology, Texas A&M International University;

Chair of Committee: Dr. Gilberto Salinas

Understanding Hispanic cultural aspects and their influence on mental health will be

crucial to better serve Hispanics (Kouyoumdjian, et al., 2003). Alcohol and drug use disorders

have been identified as a major health problem in the U.S. Hispanic population (Vega, Sribney,

& Achara-Abrahams, 2003). Regarding substance use, religiosity tends to be a protective factor

among Hispanics. Acculturation and acculturative stress have been found as additional factors

associated with substance use. Moreover, an individual's intentions to engage in certain behavior

can be defined by their attitudes toward this behavior and their perceived subjective norms

regarding such behavior (Lorenzo-Blanco, et al., 2016). This study investigated the impact

acculturative stress, religion, and immigrant generation has on substance use attitudes. Data of

the current study showed religious commitment to be a protective factor against pro-drug

attitudes and acculturative stress as a risk factor of drug risk perception.

Keywords: Acculturation, Acculturative Stress, Religion, Substance Use Attitudes

ACKNOWLEDGEMENTS

This has been a challenging and wonderful journey at the same time. But, without the help and advice of my committee it could not have been done. I would like to express my sincere appreciation to them: Dr. Gilberto Salinas, Dr. Ediza Garcia, Dr. Elizabeth Terrazas, and Dr. Marcus Ynalvez. Thank you for your time, guidance, and patience in this learning process.

I would like to especially express my gratitude to Dr. Sara Castro-Olivo and Mr. Robert Garcia, for being awesome mentors since day one and keep sharing their knowledge and experience with me. Also, Mr. Ray Garza, you are always so helpful in answering my questions, I am so grateful for your help.

To my colleagues, you definitely made my journey much easier. Andrea Almaguer, Kristine Gonzalez, Laura Mendez, Daniela Gonzalez, Edwin Rodriguez, thank you for giving me your company, words, and encouragement and to always remind me to keep going. You were right, it was not that bad after all..we did it!

Por último, pero no menos importante, quiero dar gracias infinitas a mi familia en México. Mis padres, por dejarme volar y creer siempre en mí. El amor, apoyo y ejemplo de ustedes me ayudo a estar donde estoy hoy. Mis abuelos, en la tierra y en el cielo, les debo un mundo. Gracias a mis amigas en México, por ser pacientes en mis ausencias y mostrarme su apoyo y cariño aun a distancia.

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INTRODUCTION

Hispanics are categorized as the largest minority group in the United States and are expected to represent 25% of the United States population by 2050 (Perez, 2011). Hispanics living in the United States come from 20 different Spanish-speaking countries located in Latin America or the Caribbean (Perez, 2011). In addition, the Hispanic population in the country is rapidly increasing. Consequently, stronger efforts are being made by researchers to guarantee they receive the services they need (Kouyoumdjian, Zamboanga & Hansen, 2003). For instance, mental health services in the United States are underutilized by Hispanics. Therefore, there is a necessity to better understand how to address mental health concerns in Hispanic families (Kouyoumdjian, et al., 2003).

Although Latinos share some characteristics, they are a very heterogeneous group where their place of origin, cultural values, socioeconomic status, and English language competency vary. In order to better comprehend the psychopathology of Latinos, it is vital to understand the level of influence cultural aspects have on mental health (Kouyoumdjian, et al., 2003). Hence, investigation of cultural variables (e.g. acculturation levels, acculturative stress factors) may facilitate a better understanding of how to develop responsive changes in the community mental health care system and improve the delivery of services for this population (Kouyoumdjian, et al., 2003).

Recent studies found higher rates of depression, depressive symptoms, and diagnosed mental illness in the Latino population (Kouyoumdjian, et al., 2003). In addition, Hispanics present higher rates of high-risk drinking among ethnic minorities. Once alcohol dependence

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occurs, Hispanics show higher rates of recurrent and persistent dependence (Chartier & Caeteano, 2010). Research investigations have found different risk factors among the Hispanic population being linked to increased odds of alcohol and drug use disorders (Otiniano, Grella, Amaro & Gee, 2014). In the present, the Hispanic community in the United States is considered a young population, with 40% being under the age of 20; therefore, reducing health disparities (i.e. alcohol and other illicit substance use) in the young Hispanic population will be a goal to consider in order to improve the future health of the United States population (Schwartz, et al., 2013).

Substance Use

Substance use is an important public health concern. Surveys have continuously found young adults to have the highest rates of substance use. For example, daily marijuana use has steadily increased among college students in the past two decades; heavy alcohol use is reported higher among college students than non-college peers and intoxication is higher among college students than non-college students (Johnson, O'Malley, Bachman & Schulenberg, 2016). Other studies have investigated negative consequences of substance use and excessive drinking during emerging adulthood and college. Negative consequences on their physical and psychological well-being, including fatal and nonfatal injuries, academic failure, violence and other crime, unintended pregnancies, sexually transmitted diseases, and impaired driving can be caused as a result of heavy drinking (White, Labouvie & Papadaratsakis, 2005). Moreover, rising rates of crime and substance abuse in young people has developed concern in the United States (Fergusson, Swain-Campbell & Horwood, 2002). Intimate partner violence has been found to increase when one or both partners abuse alcohol or other drugs (Stewart, Golden & Schumacher, 2003). Thoroughly, understanding which factors contribute or prevent substance

use in the Hispanic population could provide needed improvements in the intervention, treatment or prevention arenas.

Substance Use in Hispanics

Alcohol and drug use disorders have been identified as a major health problem in the U.S. Latino population (Vega, Sribney, & Achara-Abrahams, 2003). The Latino population shows similar prevalence rates of dependence as the White American population however, Latinos tend to remain dependent on substances more than White Americans (Vega, et al., 2003). Moreover, researchers have concluded that there is a need for effective, culturally-informed substance abuse prevention and treatment programs for the Hispanic (Schwartz et al., 2014).

Gloria & Peregov (1995), mentioned how intervention programs designed for particular groups (i.e. Latinos) need to include a socio-cultural worldview and apply it. In addition, programs have to consider the heterogeneity of Latinos; as these groups vary in language, cultural, and attitudinal commonalities. Furthermore, Latino subgroups vary in terms of migration and sociodemographic characteristics. Understanding of Latino cultural characteristics could greatly inform medical training because, it will bring knowledge on how to best integrate those variables into a comprehensive treatment plan (Antshel, 2002).

Research studies have explored potential risk and protective factors regarding mental health among Hispanics (Hernandez, Plant, Sachs-Ericson & Joiner, 2004). Protective factors are distinct constructs that predict outcomes by modifying risk, which can manipulate outcomes in various manners. They can diminish a specific behavior, create new opportunities, mediate risk in a chain of risk and protective factors, and moderate the relation in existent risk factors (Hodge, Cardenas & Montoya, 2001). Regarding substance use, research mentions that religiosity tends to be a protective factor. For example, participation in religious activities is correlated with an



inhibition of alcohol use (Hodge, et al., 2001). Religion is not the only factor associated with substance use within the Hispanic population because acculturation and acculturative stress have been found as additional factors associated with substance use (e.g. alcohol, cocaine, tobacco, other illicit drugs) (Castro, et al., 2007).

Acculturation

As previously mentioned, acculturation is a factor which may contribute to differences in substance use among Hispanics. Acculturation refers to the process in which immigrant groups adapt their cultural practices as a result of interactions with the majority or dominant culture (Antshel, 2002). Some evidence indicates that progression on the acculturation process may depend on the amount of exposure the individual has with the host culture. Therefore, border Latino acculturation outcomes may be mediated by the reduced host culture exposure because of the close proximity to the country of origin (Guinn, Vincent, Wang & Villas, 2011). Generally, acculturation has been assessed by comparing their generational status, language capability, and years of residence in the United States and age of arrival (Rogler, Cortes & Malgady, 1991).

According to Caetano, Ramisetty-Mikler, Wallisch, McGrath & Spence (2008), acculturation has been linked to an increased prevalence of alcohol-related problems. While most of the pertinent research has been conducted on Hispanic populations who are located in areas of the U. S. where there is exposure to other ethnicities, none was conducted on Hispanics on the U.S.-Mexico border. Caetano et al. (2008) concluded that acculturation is related to lower rates of alcohol use disorders among men and a higher frequency of heavy episodic drinking among women. Furthermore, inconsistent findings are present in studies examining the relation between acculturation and alcohol use among Latinos, some studies found positive associations, negative associations or no relation (Zamboanga, Raffaelli & Horton, 2006). With the intention of better



understanding the relation and direction of acculturation and its effect among Latinos, and since the Latino population is a heterogeneous population and consists of several ethnic subgroups, it is suggested to researchers to now examine behaviors in specific Latino groups (i.e. Mexican-Americans) (Zamboanga et al., 2006). And, use measures that include the multicultural and psychological dimensions of acculturation status (Zamboanga et al., 2006).

Immigration generation status is acknowledged as one of the most important variables related to acculturation. Recent research findings explain that immigrant generation status is related to mental health outcomes including alcohol use, illicit substance use, and depression (Pena, et al., 2008). For instance, studies have reported that Latino youth and adults classified as first-generation, present lower rates of alcohol and drug use, substance use disorders, and depressive symptoms, than the US-born generations (second and third generations) (Pena, et al., 2008). In other words, results have shown substance use increases across all three generations. Eitle, Gonzalez Wahl & Aranda (2009) also stated that US born Mexican adolescents drink more than their foreign-born counterparts. In the Mexican population case, acculturation level influenced their alcohol use and binge drinking habits. Research suggests further studies to target the collection of a nationally representative data for Latino ethnic groups (McNulty & Bellair, 2003). Because group differences exist between immigrant generations, there are differences in how certain ethnic subgroups are adapting their family lives to the life in their new country (McNulty & Bellair, 2003). In short, acculturation level and immigrant generation status may be factors that play a role in substance use among Hispanics.

Acculturative Stress

Researchers have found a relationship between acculturative with negative mental health outcomes among Hispanics in the United States (Cervantes, Padilla, Napper & Goldbach, 2013).



Acculturative stress occurs when individuals experience problems during their acculturation process. In addition, acculturative stress can be developed by incongruent cultural values or practices, language difficulties, and discrimination. Later generations of Latinos as well as college students are exposed to acculturative stress (Crocket, et al., 2007). Additional factors which may contribute to acculturative stress among Hispanics are: cultural and linguistic barriers, poverty, unsafe living conditions, and stress associated with racism (Cervantes et al. 2013). In the same way, Hispanic Americans are more exposed to acculturative stress when family acculturation discrepancies are present (Unger, Schwartz, Huh, Soto & Baezconde-Garbanati, 2014). Consequently, while Hispanics attempt to navigate their acculturation challenges, maladaptive behaviors like substance use can arise (Unger et al., 2014).

Previous studies have explored association between cultural factors (i.e. acculturative stress and perceived discrimination) and substance use among the Hispanic population in the United States with the intention of understanding the risk and protective factors for substance use within these immigrant and/or minority groups (Unger et al., 2014). Nevertheless, the results of research exploring the associations between acculturation and substance use for Latinos have been inconsistent. Some results of these explorations find high levels of acculturation to play a role of a predictor of substance use, while other studies find the opposite. For this reason, there is a need of exploring the association between acculturation stress and substance use in Hispanics. Moreover, acculturation stress has been associated with language conflict, language behavior, perceived ethnic discrimination, lack of commitment to the family, and culture of origin (Buchanan & Smokowski, 2009).

As previously stated, perceived ethnic discrimination is linked to higher levels of acculturative stress. However, perceived discrimination is not only linked with acculturative



stress but to other negative health outcomes such as low self-esteem, depressive symptoms, psychological conflicts and anxiety (Okamoto, Ritt-Olson, Soto, Baezconde & Unger, 2009). Furthermore, Okamoto et al. (2009), stated that perceptions of discrimination are significantly associated with both lifetime and recent use of cigarettes, alcohol, marijuana, and inhalants in Latino adolescents. Association between linguistic acculturation and acculturative stress has been explored in recent studies among Hispanics. Although it represents just one dimension of acculturation, it does compares to multidimensional measures' reliability. Results have shown Spanish-dominant and recently-arrived youth to report higher levels of perceived discrimination (Kulis, Marsiglia & Nieri, 2009). On the other hand, English-dominant and other generations report lower levels of perceived discrimination. In other words, the more linguistically acculturated students reported lower levels of acculturation stress (Kulis, et al., 2009). Previous research examining acculturative stress and substance use focused particularly in the adolescent and Hispanic youth, however, as stated earlier, acculturative stress seems to affect later generations, including college students. For this reason, it will be important to explore the role acculturative stress (i.e. perceived discrimination, linguistic acculturation, etc.) plays among Hispanic college students in the United States.

Religion

According to Hodge, Marsiglia and Nieri (2011), *Religion* is defined as a shared set of beliefs and practices that has been developed in community with people who have similar understandings of the transcendent, which is designed to mediate and individual's relationship with God or the transcendent. Religiosity is a multidimensional phenomenon that has been conceptualized and measured in various manners including, organizational religiosity, religious affiliation, subjective religiosity, religious belief, no organizational religiosity, religious coping,

spirituality and multidimensional religiosity (Chitwood, Weiss & Leukefeld, 2008). Lujan and Campbell (2006) stated that religion occupies a central role in the lives of many Mexican Americans. For this reason, it is important to understand the role of religion or religiosity on the health practices of this fast growing minority population in the United States. Consequently, if health care clinicians understand the role of religion among Mexican Americans, more effective mental health practices can be instituted (Lujan & Campbell, 2006). As stated before, in Latino cultures, religiosity tends to be a protective factor. For example, participation in religious activities is correlated with an inhibition of alcohol use (Hodge, et al., 2001).

For so many years, researchers have been interested in the influence religion has on the use and misuse of alcohol and other psychoactive drugs. Generally, results of investigations have concluded that higher levels of religiosity are associated with a decreased risk of using substances such as alcohol, marijuana and other psychoactive substances (Chitwood, et al, 2008). For instance, a study explored the relationship between spirituality, religious participation, and substance use among a multicultural youth group, results concluded that religious involvement was significantly associated with never using alcohol. Therefore, religious involvement plays a noticeable role in inhibiting the use of alcohol among multicultural adolescents (Hodge, et al., 2001). As Lujan and Campbell (2006) previously mentioned, religion occupies a central role in the lives of Mexican Americans. Indeed, there is a need of exploring the relation and direction of religion and its effect on substance use among ethnic subgroups (i.e. Mexican-Americans).

Substance Use Attitudes

According to Lorenzo-Blanco, et al., (2016), intention to engage in a behavior directly manipulates the decision of an individual to involve in that behavior. Furthermore, an individual's intentions to engage in certain behavior can be defined by their attitudes toward this



behavior and their perceived subjective norms regarding such behavior (Lorenzo-Blanco, et al., 2016).

Alcohol and smoking among youth is correlated to favorable attitudes toward substance use and substance use intention increases depending on their perceived subjective norms (Lorenzo-Blanco, et al., 2016). With the intention of understanding substance use intentions among ethnic subgroups, researchers should focus on the Latino population and include cultural and sociocultural influences on their attitudes and norms (Lorenzo-Blanco, et al., 2016). Previous studies have been interested in identifying the association between substance use attitudes and other factors (i.e. acculturation stress). Kullis, Margsilia & Nieri (2009), found acculturative stress to be positive associated with substance use attitudes.

Given the importance of improving health services to the Latino population in the United States, this study will investigate the impact Hispanic cultural factors, such as acculturative stress, religion, and immigrant generation has on substance use intentions. As mentioned earlier, there are differences among ethnic subgroups and a need in investigating the differences among Hispanics living in the U.S.-Mexico border. Therefore, the purpose of this study is to understand which of these three factors (1) Religion, (2) Acculturative Stress, (3) Immigrant Generation are associated with positive attitudes toward substance use in a Hispanic, mostly Mexican American population located in the U.S.-Mexico border. Second, which of these three factors are stronger predictors of positive attitudes toward substance use? Finding the relationship among these Hispanic cultural factors may make an important contribution to the mental health care system and improve the delivery of services for this population.

PROPOSED RESEARCH

Research Questions

- 1. Is Religiosity associated with positive attitudes toward substance use? If so, which direction?
- 2. Is *Acculturative Stress* associated with *positive attitudes toward substance use?* If so, which direction?
- 3. Is *Immigrant Generation* associated with *positive attitudes toward substance use?* If so, which direction?
- 4. Which of these three factors (Religiosity, Acculturative Stress, and Immigrant Generation) are stronger predictors of positive attitudes toward substance use?

(See Appendix for Framework)

Hypotheses

Based on the current literature, it was hypothesized that:

- 1. Religiosity will be **negatively** associated with positive attitudes toward substance use.
- 2. Acculturative Stress will be **positively** associated with positive attitudes toward substance use.
- 3. *Immigrant generation* will be *positively* associated with *positive attitudes toward substance* use.

METHODS

Participants

A total of 161 Hispanic undergraduate and graduate students were recruited from different classes (psychology, criminal justice, government, etc.) at a university located in the Texas-Mexico border (see Table 1). The student population of this university is reported as 90% Hispanic (Texas A&M International University, 2016). The study sample entailed a total of 57 (35.4%) males and 101 (62.7%) females. In regards to the age of the participants, 51.6% were between the ages 21-24, participant's age ranged from ages 18 to 40. In addition, 49 participants reported a GPA of 3.1-3.5 (30.4%) and 46 students (28.6%) reported a GPA between 3.6-4.0. A total of 5 (3.1%) students were freshmen; 19 (11.8%) sophomore; 45 (28%) junior; 61 (37.9%) senior; and 28 (17.4%) graduate. In addition, the majority of the sample was single (83.2%). 102 students (63.4%) were Catholic, 27 (16.8%) identified with No Religion and 32 (19.8%) classified as other. The sample consisted of 131 (81.4%) participants classified as Middle socioeconomic status; 21 (13%) lower socioeconomic status and 4 (2.5%) upper socioeconomic class. In regards immigrant generation, 86 (53.4%) students were identified as first, 43 (26.7%) second and 29 (18%) third.

Table 1

Demographics for Hispanic participants.

	N	%	M	SD
Age	158		2.11	0.928
18-20	37	23		
21-24	83	51.6		
25+	38	25.4		
Gender	158		1.36	0.482
Male	57	35.4		
Female	101	62.7		
Unspecified	0	0		
GPA	149		2.87	0.939
2.5 Lower	11	6.8		
2.6-3.0	43	26.7		
3.1-3.5	49	30.4		
3.6-4.0	46	28.6		



Table 1 Continued

Demographics for Hispanic participants.

	N	%	M	SD
College Classification	158		3.56	1.019
Freshmen	5	3.1		
Sophomore	19	11.8		
Junior	45	28		
Senior	61	37.9		
Graduate	28	17.4		
Marital Status	156		1.161	0.432
Single	134	83.2		
Ever Married	22	16.8		
Religion	157		4.62	5.473
Catholic	102	63.4		
Other	32	19.8		
No Religion	27	16.8		
SES	158		1.93	0.519
Lower	21	13		
Middle	131	81.4		
Upper	4	2.5		
Immigrant Generation	158		1.64	0.776
First	86	53.4		
Second	43	26.7		
Third	29	18		

Procedures

After obtaining approval from the university's Institutional Review Board (IRB), e-mails were sent to professors at the university to start the recruitment process for the current study. Professors from different departments were contacted via e-mail requesting for permission to conduct the surveys during their class time. Once professors accepted the request, time and place was scheduled for the recruitment process. Undergraduate and graduate students were informed about the study and were invited to voluntarily and anonymously participate in the study. Prior administration of the study, participants were informed about confidentiality and they received an informed consent sheet. Once they read the informed consent and signed it, they received the survey packets. After they once completed the surveys, they were secured in a locked cabinet at

the university. Recruitment process lasted 2 months. A total of 185 students answered the surveys but, 24 of them were removed due to missing data or participants identified as non-Hispanic, having a total sample of 161 Hispanic college students.

Instruments

Demographic questionnaire. Participants answered a demographic questionnaire. This questionnaire allowed the researcher to acquire information about the students background including: age, gender, social economic status, GPA, classification, level of education, ethnic identity, religious affiliation, place of birth, parent's place of birth, grandparent's place of birth, years living in the United States.

The Religious Commitment Inventory-10 (RCI-10) (Worthington et al., 2003). Religiosity was assessed using the RCI-10. The Religious Commitment Inventory-10 is a 10-item self-report scale which uses a 5-point Likert scale ranging from 1 ("not all true of me) to 5("totally true of me"). An example of an item is: I spend time trying to grow and understanding my faith. The RCI-10 assesses the levels or religious commitment of the individual by including membership and non-membership in religious organizations, the degree of participation in religious activities, attitudes and importance of religious experience, and belief in traditional religious creeds (Worthington et al., 2003). The internal consistency for the present study and the RCI-10 is α = .96. Previous research conducted a study with 468 participants, where internal consistency raged from .92-.98 (Worthington et al., 2003).

Multidimensional Acculturative Stress Inventory (MASI) (Rodriguez, Mira, Myers & Garcia, 2002). Acculturative Stress was assessed in the current study using the Multidimensional Acculturative Stress Inventory (MASI). The MASI is a 25-item self-report questionnaire which uses a 5-point Likert scale ranging from 0 ("does not apply"), 1 ("not all



stressful") to 5 ("extremely stressful"). Items measure four different acculturative stress factors: Spanish competency pressures, English competency pressures, Pressure to Acculturate and Pressure against acculturation (Rodriguez, et al., 2002). Internal consistency of the MASI for the current study is α = .86. The MASI was previously tested in research on a Mexican American community sample of 174 adults, where the internal consistency ranged from .77 to .93.

Attitudes toward Drugs. Attitudes toward substances (alcohol and other illicit drugs) were assessed using a self- report questionnaire which included the factors: Pro-Drug Attitudes and Perceived Risk. Internal consistency for Attitudes toward Drugs was divided in the different factors and the results were α =.60 for Pro-Drug Attitudes, α =.80 for Perceived Risk and an overall of α =. 65. Previous studies have reported an internal consistency of α =.79 (Lorenzo-Blanco, et al., 2016).

RESULTS

Standard multiple regression analyses were used to answer the research questions: (a) Is Religiosity associated with positive attitudes toward substance use? If so, which direction?; (b) Is Acculturative Stress associated with positive attitudes toward substance use? If so, which direction?; (c) Is Immigrant Generation associated with positive attitudes toward substance use? If so, which direction?; And (d) which of these three factors (Religiosity, Acculturative Stress, and Immigrant Generation) are stronger predictors of positive attitudes toward substance use?

Before answering these questions, means and standard deviations for scores on the measures (Attitudes toward drugs, Multidimensional Acculturative Stress Inventory and Religious Commitment Inventory) used in the study are illustrated in table 2. Consecutively, correlation coefficients was assessed to define the relationship between the Attitudes toward drugs, Religiosity, Immigrant Generation, and Acculturative Stress (see table 3). There was a medium, negative correlation between high levels of religion commitment and low levels of drug risk perception (r=-.31, p<.01), proposing that more religiosity commitment is associated with higher levels of drug risk perception. Also, results indicated a weak, negative correlation between high levels of religion commitment and pro-drug attitudes (r=-.24, p<.01). This result, suggests that more religiosity commitment among Hispanic college students is associated with anti-drug attitudes.

Table 2
Means and Standard Deviations for Scores On The ATD, MASI, And RCI-10.

	n	М	SD	
Pro-Drug Attitudes	158	7.56	4.03	
Perceived Risk	158	9.4	4.94	
Multidimensional Acculturative Stress Inventory				
1,10,10,10,10,10,10,10,10,10,10,10,10,10	148	22.68	14.27	
Religious Commitment Inventory	154	22.06	11.93	



Table 3 Correlations of Attitudes Toward Drugs, Religion, Generation, and Acculturative Stress.

Measure	1	2	3	4	5	6	7	8
1. Perceived Risk	-							
2. Pro-Drug Attitudes		-						
3. Religion	31**	-24**	-					
4. Generation				-				
5. Spanish Competency Pressures					-			
6. English Competency Pressures						-		
7. Pressure to Acculturate							-	
8. Pressure Against Acculturation								-
Note. ** Correlation is significant at the 0.0	1 level (2-taile	d) * Corre	lation	is si	onifi	cant	at the	

Note. ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Multiple linear regression was used to assess the ability of religious commitment, immigrant generation, and acculturative stress to predict attitudes toward substance use. The first model (see Model 1 in Table 4) analyzed the ability of the control variables (GPA, socioeconomic status, age, gender, and college classification) in predicting pro-drug attitudes. In 9% of the variance in pro-drug attitudes, of those predictors the only significant variable was GPA (β = -.96, p < .05). In the final model (see Model 2 in Table 4), only religious commitment was statistically significant with pro-drug attitudes, with total level of variance of 16% (β = -.08, p < .01). As illustrated in the table 4, the conversion from M1 to M2, the impact of GPA on pro-drug attitudes disappears. Additionally, it is important to mention that the model became stronger at the final model, since variance increased from 6% to 16%. As mentioned earlier, controlled variables as gender were not associated as predictors of pro-drug attitudes.

Lastly, multiple linear regression analysis was similarly assessed to analyze the ability of the controlled variables to predict perceived drug risk (see Model 1 in Table 5). Control



variables were entered in step 1; explaining 3% of variance, none of the variables were statistically significant. These results suggest that none of the variables (GPA, socioeconomic status, age, gender, and college classification) were predictors of perceived drug risk. However, in the final model (see Model 2 in Table 5), explaining 19% of the variance, two variables showed an ability to predict perceived risk. First, religious commitment was statistically significant with perceived risk where (β = -.13, p < .01) and pressure against acculturation was statistically significant where (β = .54, p < .05). Similarly, the conversion of model 1 to model 5, was now a better model, since from having a total level of variance of 3% it increased to 19%.

Table 4

Taxonomy of Multiple Regression Models: Pro-Drug.

Variables	M1 M2							
		Std.			Std.			
<u>-</u>	В	Error	Beta	Sig.	В	Error	Beta	Sig.
Basic Undergrad	1.24	1.50	0.11	0.411	1.78	1.62	0.16	0.275
Adv Undergrad	0.00	1.08	0.00	0.997	0.25	1.14	0.03	0.824
Single	0.98	0.95	0.09	0.306	1.12	1.03	0.10	0.280
Male	1.01	0.69	0.12	0.147	0.77	0.76	0.09	0.314
Age	0.89	0.59	0.15	0.132	0.98	0.63	0.18	0.121
GPA	-0.96	0.41	-0.23	0.023*	-0.83	0.47	-0.20	0.063
SES	-0.05	0.61	-0.01	0.940	-0.17	0.70	-0.02	0.812
Generation	-	-	-	-	0.2	0.55	0.04	0.711
Religion	-	-	-	-	-0.08	0.03	-0.23	0.012**
NALANGP	-	-	-	-	-0.02	0.06	-0.03	0.740
ENLAGP	-	-	-	-	-0.01	0.06	-0.01	0.907
PRESSAC	-	-	-	-	0.05	0.06	0.08	0.442
PRESSACCA	-	-	-	-	0.04	0.17	0.02	0.833
R ²				0.09				0.16
Adj. R ²				0.05				0.07
N				149				135

Dependent Variable: Pro-Drug Attitudes

Table 5

Taxonomy of Multiple Regression Models: Perceived Risk.

Variables		M1		M2							
		Std.									
	В	Error	Beta	Sig.	В	Error	Beta	Sig.			
Basic Undergrad	0.79	1.93	0.06	0.686	2.46	1.95	0.18	0.209			
Adv Undergrad	0.94	1.40	0.09	0.502	1.91	1.37	0.18	0.165			
Single	0.94	1.23	0.07	0.447	1.06	1.24	0.08	0.395			
Male	1.24	0.90	0.12	0.167	-0.04	0.91	0.00	0.964			
Age	0.20	0.76	0.03	0.793	0.30	0.75	0.04	0.687			
GPA	-0.18	0.54	-0.03	0.741	0.29	0.53	0.06	0.588			
SES	-0.01	0.8	0.00	0.995	0.33	0.84	0.04	0.690			
Generation	-	-	-	-	-0.09	0.66	-0.14	0.888			
Religion	-	-	-	-	-0.13	0.04	-0.31	0.001**			
NALANGP	-	-	-	-	-0.09	0.07	-0.13	0.198			
ENLAGP	-	-	-	-	-0.02	0.07	-0.02	0.819			
PRESSAC	-	-	-	-	-0.10	0.08	-0.15	0.153			
PRESSACCA	-	-	-	-	0.54	0.20	0.27	0.010*			
\mathbb{R}^2				0.03				0.19			
Adj. R ²				-0.02				0.10			
N				149				135			

Dependent Variable: Perceived Risk



18

DISCUSSION

Relationship between Attitudes toward Substance Use and Religious Commitment

This study explored the association of religious commitment and attitudes toward substance use (pro-drug attitudes and drug risk perceptions) in Hispanic college students in a University located in the Texas-Mexico border. Results explained that the more religious commitment the more anti-drug attitudes an individual will present. Also, the more religious commitment, the higher perception of drug risk is believed by the individual. This results, suggest that a higher religiosity is a protective factor against pro-drug attitudes. For instance, Hodge, et al. (2001), reported findings where participation in religious activities plays an important role in inhibiting the use of alcohol. On the other hand, previous research suggests that the individual's personal belief in God rather than religious participation is more important in shaping the relationship between religiosity and attitude towards substance use (Francis, 1997).

Relationship between Attitudes toward Substance Use and Immigrant Generation

One of the dimensions of acculturation is immigrant generation, which was used to understand the relationship between first, second, and third immigrant generation with attitudes toward substance use (pro-drug attitudes and drug risk perceptions). The results of this study suggested that substance use attitudes and immigrant generation are not correlated in the population of Hispanic college students in a University located in the Texas-Mexico border. This results contrast to research previous research findings, which suggest that acculturation can influence drinking/smoking attitudes and norms among Hispanic youth (Lorenzo-Blanco et al., 2015). Nevertheless, these previous studies have been conducted in other areas of the United States, not at the Texas-Mexico border. According to Guinn et al. (2011), acculturation may be mediated by the reduced host culture exposure because of the close proximity to the country of



origin. For example, this population: the Texas-Mexico border and the proximity to the host culture and the exposure to it. It will be of importance to understand in further research the mediation of acculturation in the Texas-Mexico border.

Relationship between Attitudes toward Substance Use and Acculturative Stress

Acculturative stress was analyzed in this study to understand the association with attitudes toward substance use (pro-drug attitudes and drug risk perceptions). Acculturative stress was divided in four different dimensions. The results of the analysis indicate that only one of these factors was found to have a significant relationship. Higher pressure against acculturation is affecting drug risk perception. To clarify, the more acculturative stress caused by using American ways in the Texas-Mexico border the perception of drug risk is higher. This result provides a contribution to this area of research, since there are no studies where the relationship among acculturative stress and drug risk perception is studied. But, previous studies suggest that while Hispanics attempt to navigate their acculturation challenges and acculturative stress is present, maladaptive behaviors like substance use can arise (Unger et al., 2014). This relates with previous findings stating that an individual's intentions to engage in certain behavior can be defined by their attitudes toward this behavior and their perceived subjective norms regarding such behavior (Lorenzo-Blanco, et al., 2016). Lastly, the only dimension of acculturation that predicted drug risk perceptions was Pressure against Acculturation, stating that college students in the Texas-Mexico border present acculturative stress, by using their American ways, which consists with the population of the University, mainly Hispanic.

Relationship between Attitudes toward Substance Use and Gender

Previous research has found differences in attitudes toward substance use among women and men. According to Kauffman, Silver & Poulin (1997), prevention and treatment programs



should be designed and accommodated differently to women and men, since findings suggest that women have a higher perception of drug risk and perceive them as more powerful. In addition, in traditional Hispanic culture, it is more usual for males to smoke or drink than females and for females to perceive a higher drug risk (Lorenzo-Blanco, et al., 2016). However, the current study did not find gender as a predictor of attitudes toward substance use. Collectivistic values (Hispanic or Mexican-American) are associated with disapproval of drinking or smoking, which is connected with lower intention of using these substances (Lorenzo-Blanco, et al., 2016). It is possible that male college students in the Texas-Mexico border are maintaining collectivistic factors which could be related to play a role of protective factor. Further investigation of these differences in a Texas-Mexico border University will benefit the development of prevention and treatment programs for this specific population.

Relationship between Attitudes toward Substance Use and GPA

Results of the study, suggest that pro-drug attitudes decrease as GPA increases. In other words, higher college achievement plays a protective factor for pro-drug attitudes among Hispanic college students in a Texas-Mexico border university. Nevertheless, when religious commitment is included in the model, the protective effect of college achievement disappears. As mentioned earlier, collectivistic values (Hispanic or Mexican-American) are associated with disapproval of drinking or smoking, which is connected with lower intention of using these substances. Religious commitment occupies a central role in the lives of many Mexican Americans and it can have a strong positive effect on health practices, including substance use (Lujan & Campbell, 2006). It is possible that religious commitment (psyche traditional traditional) was a much stronger predictor for pro-drug attitudes, which takes away the effect of GPA and college achievement (modern intellectual thinking) on pro-drug attitudes.



LIMITATIONS AND FURTHER RESEARCH

Some limitations were present in the process of this study. First, Hispanics in this sample population do not represent other Hispanics out of the Texas-Mexico border, because of the proximity to Mexico and the homogeneity of the border town population. Laredo, Texas is a border city with a total representation of 94% Hispanics (U.S. Census Bureau, 2010). For this reason, it is suggested to future studies in conducting research is other geographic areas to understand the relationship between acculturation, acculturative stress, religion and attitudes toward substance use.

Hispanic college students compromise a selected population and the findings might not represent all non-college students. Therefore, results cannot be applied to other population of Hispanic adults in the Texas-Mexico border. Additional research should be conducted to other population of non-college students to understand the differences among the two selected populations.

In addition, the majority of this sample is categorized as Catholic and single. If future studies include more variation of other religions and different classifications or marital status, might help to understand if there is a difference if more balance is presented in marital status or religious classification.

Previous studies have provided contributions to understand the Theory of Reason Action (TRA) which states that an individual's intentions to engage in certain behavior can be defined by their attitudes toward this behavior and their perceived subjective norms regarding such behavior (Lorenzo-Blanco, et al., 2016). For this reason, attitudes toward drugs were studied in the current research. However, with the intention of providing a contribution to understand the TRA in a Hispanic college population in the Texas-Mexico border, it will be important for



further research to understand this relationship directly with actual substance use or intentions of substance use.



IMPLICATIONS FOR PRACTICE

The results of this study suggest several implications for practice when working with Hispanic college students in the Texas-Mexico border. First, it is important to mental health practitioners to understand how acculturative stress is present in the Texas-Mexico border and this is related to a lower perception of drug risk among Hispanic college students. However, acculturative stress is coming from students who are identifying themselves as Hispanics but, using American costumes or values such as, not being able to practice American values among friends, family members or others. Also, people around them expecting them to know Hispanic ways of doing things or feeling pressure between choosing American and Hispanic ways of doing things. One of the first implications, will be to educate individuals in the Texas-Mexico border about acculturative stress and its effects on the population; particularly among parents and families, to be able to understand the nature of acculturation process and how to manage the stress among their families within different immigrant generations. According to Guinn et al., (2011), additional research should be conducted on acculturation outcomes within highly segregated Hispanic communities, to understand the direction of its effects and this way educate and develop more effective prevention and treatment programs.

Regarding religious commitment, results indicate that religious commitment plays a role of protection for pro-drug attitudes among Hispanic college students in the Texas-Mexico border. Religion is part of the majority of Mexican-Americans life. Mental health practitioners should consider this aspect of the Hispanic culture when creating prevention and treatment programs for this specific community. In addition, educating parents about the importance of integrating children or adolescents to religious networks and the protective effect it creates.



Nevertheless, further research is necessary to understand better the relationship among attitudes toward drugs and religious commitment in this particular community.



CONCLUSION

This investigation explored the association of religious commitment, immigrant generation, acculturative stress and attitudes toward substance use (pro-drug attitudes and drug risk perceptions) in a population of Hispanic college students attending a University located in the Texas-Mexico border. Results of the current study proposed that the more religious commitment the more anti-drug attitudes an individual will present. Also, the more religious commitment, the higher perception of drug risk is perceived by the individual. This results, suggest that a higher religiosity is a protective factor against pro-drug attitudes. In addition, findings indicate that higher pressure against acculturation is affecting drug risk perception. In other words, the more acculturative stress caused by using American ways in the Texas-Mexico border the perception of drug risk is higher. Lastly, immigrant generation did not seem to predict any relationship with attitudes toward drugs among this population. More investigation of the relationship among these variables is needed to better serve this particular community.



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APPENDIX A DEMOGRAPHIC INFORMATION

Instructions: Please provide ONE response for each of the following questions.

- 1. What is your age?
- 2. What is your sex? Female/ Unspecified / Male
- 3. GPA
- 4. What is your college classification? Freshmen/ Sophomore/ Junior/ Senior
- 5. What is your marital status? Single/ Married/ Divorced/ Separated/ Widowed
- 6. Please specify your ethnicity: African American

Asian/ Pacific Islander

Caucasian

Hispanic/Latino

Native American

Other

- 7. Please specify in what countries your parents were born:
- 8. Please specify in what countries your grandparents were born:
- 9. Have you lived outside the United States?
- 10. If so, where?
- 11. How many years?
- 12. What religion do you consider yourself? Catholic

Jehovahs Witness

Seventh Day Adventist

Baptist

Methodist

Lutheran

Other Protestant

Jewish

Muslim

Mormon

Buddhist

Hindu

Other Religion

No Religion

13. Socioeconomic Status

Lower

Middle

Upper



APPENDIX B THE RELIGIOUS COMMITMENT INVENTORY-10 (RCI-10)

Read each of the following statements. Using the scale, choose the response that best describes how true each statement is for you.

- 1. Not at all true of me
- 2. Somewhat true of me
- 3. Moderately true of me
- 4. Mostly true of me
- 5. Totally true of me

1.	I often read books and magazines about my faith	1	2	3	4	5
2.	I make financial contributions to my religious	1	2	3	4	5
	organization					
3.	I spend time trying to grow and understanding my	1	2	3	4	5
	faith					
4.	Religion is especially important to me because it	1	2	3	4	5
	answers many questions about the meaning of life					
5.	My religious beliefs lie behind my whole approach to	1	2	3	4	5
	life					
6.	I enjoy spending time with others of my religious	1	2	3	4	5
	affiliation					
7.	Religious beliefs influence all my dealings in life.	1	2	3	4	5
8.	It is important to me to spend periods of time in	1	2	3	4	5
	private religious thought and reflection					
9.	I enjoy working in the activities of my religious	1	2	3	4	5
	affiliation					
10.	I keep well informed about my local religious group	1	2	3	4	5
	and have some influence in its decisions					

APPENDIX C MULTIDIMENSIONAL ACCULTURATIVE STRESS INVENTORY

Please indicate whether the following statements apply. First, if you have not experienced during the past 3 months, indicate 0 (does not apply). If the event has been experienced during the past 3 months, rate the stressfulness of the event from 1 (not all stressful) to 5 (extremely stressful).

1.	I don't speak Spanish or don't speak it well	Does	Not all stressful				Extremely stressful
		apply	1	2	3	4	5
2.	I feel uncomfortable being around	0	1		3	4	5
۷.	people who only speak Spanish	0	1	2	3	4	5
3.	I feel pressure to learn Spanish	0	1		3	4	3
J.	rieer pressure to learn spanish	0	1	2	3	4	5
4.	I have a hard time understanding						
	other when they speak Spanish	0	1	2	3	4	5
5.	Since I don't speak Spanish well people have treated me rudely or unfairly	0	1	2	3	4	5
6.	It bothers me when people assume that I speak Spanish	0	1	2	3	4	5
7.	I have been discriminated against because I have difficulty speaking Spanish	0	1	2	3	4	5
8.	I don't speak English or don't speak it well	0	1	2	3	4	5
9.	I have been discriminated against because I have difficulty speaking English	0	1	2	3	4	5
10.	Since I don't speak English well people have treated me rudely or unfairly	0	1	2	3	4	5
11.	I feel pressure to learn English	0	1	2	3	4	5
12.	It bothers me that I speak English with an accent	0	1	2	3	4	5
13.	I have a hard time understanding others when they speak English	0	1	2	3	4	5
14.				- <u>-</u>		•	
	people who only speak English	0	1	2	3	4	5
15.	It bothers me when people pressure me to assimilate to the American ways of doing things	0	1	2	3	4	5
16.	It bothers me when people don't respect my Hispanic Latino values e.g. familism	0	1	2	3	4	5
17.	Because of my cultural background I						

	have a hard time fitting in with the Whites	0	1	2	3	4	5
18.	I feel uncomfortable when others expect me to know American ways of doing things	0	1	2	3	4	5
19.	I don't feel accepted by Whites	0	1	2	3	4	5
20.	I feel uncomfortable when I have to choose between Hispanic Latino and American ways of doing things	0	1	2	3	4	5
21.	People look down upon me if I practice Hispanic Latino customs	0	1	2	3	4	5
22.	I have had conflicts with others because I prefer American customs over Hispanic Latino ways of doing things	0	1	2	3	4	5
23.		0	1	2	3	4	5
24.	I feel uncomfortable when others expect me to know Hispanic Latino ways of doing things	0	1	2	3	4	5
25.	I feel uncomfortable because my family members do not know Hispanic Latino ways of doing things	0	1	2	3	4	5

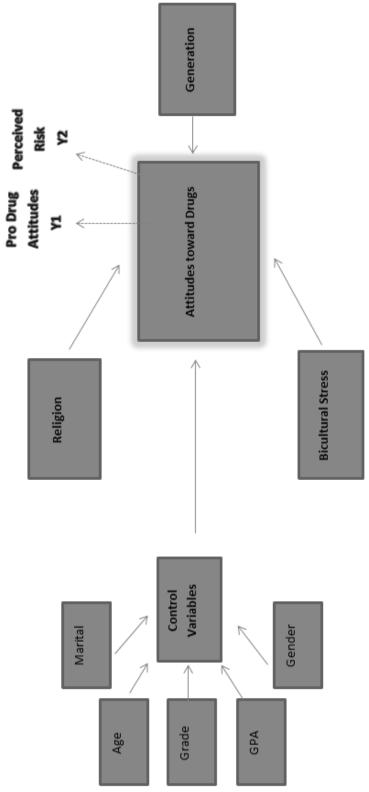
APPENDIX D ATTITUDES TOWARD DRUGS

Read each of the following statements. Using the scale to the right, choose the response that best describes how true each statement is for you.

1.	If I use alcohol or drugs I will have more health problems than other people	Strongly Disagree	Disagree	In the middle	Agree	Strongly Agree
	Treater problems than other people	0	1	2	3	4
2.	If I don't use alcohol or drugs I will be happier	0	1	2	3	4
3.	Smoking cigarettes fits with the kind of life I want to lead	0	1	2	3	4
4.	Getting drunk every now and then fits with the kind of life I want to lead	0	1	2	3	4
5.	Drugs help me function at parties	0	1	2	3	4
6.	My friends think people who use drugs are stupid	0	1	2	3	4
7.	My friends think it is cool to get drunk	0	1	2	3	4
8.	How much do you think people risk	Great	Moderate	Slight	No	Do not
	harming themselves physically or in other	Risk	Risk	Risk	Risk	know
	ways if they try cigarettes once or twice	0	1	2	3	Drug 4
9.	How much do you think people harm themselves physically or in other ways if they smoke cigarettes occasionally	0	1	2	3	4
10.	How much do you think people risk harming themselves physically or in other ways if they try alcohol beverages (beer wine liqueur) once or twice	0	1	2	3	4
11.	How much do you think people risk harming themselves physically or in other ways if they drink alcoholic beverages (beer wine liquor) occasionally	0	1	2	3	4
12.	How much do you think people risk harming themselves physically or in other ways if they try marijuana once or twice	0	1	2	3	4
13.	How much do you think people risk harming themselves physically or in other ways if they smoke marijuana cigarettes occasionally	0	1	2	3	4
14.	How much do you think people harm themselves physically or in other ways if they try other drugs like (crack cocaine heroin pills) once or twice	0	1	2	3	4
15.	How much do you think people risk harming themselves physically or in other ways if they take other drugs like (crack	0	1	2	3	4

	cocaine heroin pills) occasionally					
16.	How many times in the last year have you	None	Once	2-4	More	
	tried to talk with your parents about drug	0	1	times	than 4	
	prevention?			2	times	
					3	
17.	How many times in the last year have you	0	1	2	3	
	tried to talk with close friends about drug					
	prevention					
18.	How many times in the last year have you	0	1	2	3	
	tried to talk with others about drug					
	prevention					

APPENDIX E THEORETICAL FRAMEWORK



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Bachelor of Arts in Psychology with Minor in Dance, Texas A&M International University, Laredo, TX. (December 2013) (Cum Laude).

Associates of Arts, Laredo Community College (LCC), Laredo, TX. (July 2011) (Cum Laude).

Internships

- Texas A&M International University (TAMIU Community Stress Center)
- F. S. Lara Academy (LISD)
- Children's Advocacy Center

CONFERENCE PRESENTATIONS

- Vaquera, D. (2016, October). The Relation between Hispanic Cultural Practices and Attitudes toward Drugs. National Latina/o Psychological Association Biennial Conference, Orlando, Florida.
- Vaquera, D. K., Rodríguez, E. E., González, K. R., Mendez, L. Y., Aviles, J., & Ynalvez, M. (2016, November). The Impact of Culturally Responsive Mental Health Presentation in a U.S. Mexico Bordertown. 13th Annual TAMUS Pathways Student Research Symposium, Texas A&M University, Prairie View, Texas.
- Vaquera, D. (2016, November). Acculturative Stress, Religion and Immigrant Generations in a Hispanic Population: Predictors of Positive Attitudes toward Drugs. 13th Annual TAMUS Pathways Student Research Symposium, Texas A&M University, Prairie View, Texas.
- Vaquera, D., Almaguer, A., Rodriguez, E., & Mendez, L. (2016, April). Promoting Mental Health Literacy in a Hispanic Community on a U.S.-Mexico Border. Lamar Bruni Vergara & Guillermo Benavidez Z Academic Conference, Texas A&M International University, Laredo, Texas.

The typist for this thesis was Diana K. Vaquera Santos

